



PLAN CONJUNTO DE LA EPA Y DEL HUD



Prácticas seguras para trabajar con el **plomo** en labores de renovación, reparación y pintura

**Renovador certificado modelo
Curso de capacitación inicial**

**Manual del instructor
EPA-740-R-09-001**

Módulo 1: ¿Por qué hay que preocuparse por la pintura a base de plomo?

Módulo 2: Reglamentos

Módulo 3: Antes de comenzar a trabajar

Módulo 4: Contenga el polvo mientras trabaja

Módulo 5: Mientras trabaja

Módulo 6: Actividades de limpieza y verificación del trabajo

Módulo 7: Administración de registros

Módulo 8: Capacitación para renovadores no certificados

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Manual de
perfeccionamiento
del instructor

EPA-740-R-09-001

Prácticas seguras para trabajar con el plomo en labores de renovación, reparación y pintura
Febrero de 2009

Este curso se publicó inicialmente en junio de 2003 como un esfuerzo conjunto de la Oficina de Prevención de la Contaminación y Sustancias Tóxicas de la Agencia de Protección Ambiental de los Estados Unidos en asociación con la Oficina de Viviendas Saludables y Control de Peligros por Plomo del Departamento de Vivienda y Urbanismo de los Estados Unidos. El curso lo desarrolló originalmente ICF Consulting mediante un contrato con la EPA. En 2008 QuanTech, Inc. modificó el curso extensamente después de la promulgación de la EPA de la regla de renovación, reparación y pintura.

CURSO DE CAPACITACIÓN INICIAL DE RENOVADOR CERTIFICADO
MANUAL DEL INSTRUCTOR
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Prácticas seguras para trabajar con el plomo en labores de renovación, reparación y pintura
Nota a los instructores sobre cómo usar este programa de estudios

Este curso lo desarrolló originalmente la Agencia de Protección Ambiental de los Estados Unidos (EPA), en colaboración con el Departamento de Vivienda y Urbanismo (HUD) de los Estados Unidos para capacitar a contratistas de renovación, reparación y pintura sobre cómo trabajar de manera segura en viviendas con pintura a base de plomo y cumplir con la regla de renovación, reparación y pintura (RRP) de la EPA y la regla sobre viviendas sin plomo del HUD.

Destinatarios: Entre los destinatarios de este curso se incluyen renovadores, remodeladores, pintores, personal de mantenimiento y cualquier otro trabajador que retire o modifique superficies pintadas. Probablemente tomarán este curso para obtener una certificación EPA como renovador certificado, que mejorará sus credenciales como contratistas privados y también cumplirán con los requisitos del HUD de capacitación en controles provisionales en viviendas de interés con ayuda federal. Como instructor, querrá adaptar el curso para destacar la información y los ejercicios que mejor satisfacen las necesidades de sus alumnos. Aunque personalizar el curso para sus alumnos es adecuado hasta cierto punto, el material relacionado con el HUD debe enseñarse a todas las personas en capacitación, incluso si no trabajan actualmente en unidades de vivienda de interés con ayuda federal. Todos los renovadores son posibles contratistas de HUD y deben conocer y comprender esta información.

El programa de estudios y el horario: El programa de estudios consiste en una introducción y ocho módulos de instrucción. La mayoría de los módulos incluye ejercicios interactivos. La duración del curso dependerá de lo que decida hacer el instructor de las actividades y cuánto tiempo es necesario para comentar los requisitos estatales y locales. A continuación se indican dos posibles horarios de curso para un día de duración. El segundo horario concentra la mayoría de los ejercicios en una sola sesión hacia el final del día, antes de la revisión y la prueba. El curso también puede hacerse en varias sesiones más cortas.

Descripción general del programa sugerido (planificación de clase 1)		
Registro y presentación (Incluye toma de fotografías de los alumnos.)	Charla/debate de 15 minutos	8:00 – 8:15
Módulo 1: ¿Por qué hay que preocuparse por la pintura a base de plomo?	Charla de 15 minutos Ejercicio de 5 minutos	8:15 – 8:35
Módulo 2: Reglamentos	Charla de 45 minutos	8:35 – 9:20
<i>Receso</i>	15 minutos	9:20 – 9:35
Módulo 3: Antes de comenzar a trabajar	Charla de 25 minutos Ejercicio de 15 minutos	9:35 – 10:15
Módulo 4: Contenga el polvo mientras trabaja	Charla de 45 minutos Ejercicio de 45 minutos	10:15 – 11:45
<i>Almuerzo</i>	1 hora	11:45 – 12:45
Módulo 5: Mientras trabaja	Charla de 40 minutos Ejercicio de 10 minutos	12:45 – 1:35
<i>Receso</i>	10 minutos	1:35 – 1:45
Módulo 6: Actividades de limpieza y verificación del trabajo	Charla de 40 minutos Ejercicio de 50 minutos	1:45 – 3:15
Módulo 7: Administración de registros	Charla de 20 minutos	3:15 – 3:35
<i>Receso</i>	5 minutos	3:35 – 3:40
Módulo 8: Capacitación para renovadores no certificados	40 minutos	3:40 – 4:20
Repaso	10 minutos	4:20 – 4:30
Prueba	30 minutos	4:30 – 5:00

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Descripción general del programa sugerido (planificación de clase 2)		
Registro y presentación (Incluye toma de fotografías de los alumnos.)	Charla/debate de 15 minutos	8:00 – 8:15
Módulo 1: ¿Por qué hay que preocuparse por la pintura a base de plomo?	Charla de 15 minutos Ejercicio de 5 minutos	8:15 – 8:35
Módulo 2: Reglamentos	Charla de 45 minutos	8:35 – 9:20
<i>Receso</i>	15 minutos	9:20 – 9:35
Módulo 3: Antes de comenzar a trabajar	Charla de 25 minutos Ejercicio de 15 minutos	9:35 – 10:15
Módulo 4: Contenga el polvo mientras trabaja	Charla de 45 minutos	10:15 – 11:00
Módulo 5: Mientras trabaja	Charla de 40 minutos	11:00 – 11:40
<i>Almuerzo</i>	1 hora	11:40 – 12:40
Módulo 6: Actividades de limpieza y verificación del trabajo	Charla de 40 minutos	12:40 – 1:20
Módulo 7: Administración de registros	Charla de 20 minutos	1:20 -1:40
Módulo 8: Capacitación para renovadores no certificados	40 minutos	1:40 – 2:20
<i>Receso</i>	15 minutos	2:20 – 2:35
Actividades prácticas	Ejercicios de 105 minutos	2:35 – 4:20
Repaso	10 minutos	4:20 – 4:30
Prueba	30 minutos	4:30 – 5:00

Preparación para el curso: Lea los materiales del curso mucho antes de dar el curso. Aunque las planificaciones de clase y las diapositivas proporcionan métodos integrales para enseñar este curso, deberá tomar algunas decisiones y preparar algunos materiales. Específicamente:

- Conozca a sus alumnos. Si va a dar este curso a contratistas tome en cuenta su trabajo y necesidades específicas. Escoja ejemplos y estructure los ejercicios en torno a actividades que conocen. Los instructores deben cubrir los requisitos del HUD en todos los cursos que se impartan. Algunos renovadores que no están haciendo trabajos del HUD en el momento de la capacitación pueden hacer trabajos del HUD durante los cinco años de su certificación. En este curso, los requisitos del HUD se cubren en el Módulo 2 y en los cuadros de texto específicos del HUD en las notas de los alumnos para las diapositivas y se resumen en el Apéndice 2.
- Conozca su instalación de capacitación. Cuando la capacitación se realiza en su propia instalación, tiene más control de su entorno y generalmente tiene acceso a muchos más artículos, herramientas y equipos que cuando realiza la capacitación en el salón de un hotel o un espacio de la comunidad. Cuando tome decisiones acerca de los tipos de ejercicios que piensa hacer durante la capacitación tenga en mente su instalación de capacitación, el espacio y las herramientas disponibles y planifique conforme a ello.
- Planifique su horario. Las planificaciones de clase proporcionadas en esta sección son ejemplos de distintas formas de organizar el curso. Aunque los ejercicios prácticos se presentan como partes esenciales de los módulos 3, 4, 5 y 6, (como se muestra en la planificación de clase 1), la mayoría puede impartirse como un único módulo práctico al final del curso (como se muestra en la planificación de clase 2). Tenga presente que estas planificaciones de clase se proporcionan sólo como referencia. El instructor tiene la libertad de crear su propia planificación de clase que combine las diversas opciones de otras maneras, siempre que el contenido y la duración del curso no se modifiquen sustancialmente. Cuando planifique su horario, considere cómo asignarle suficiente tiempo a los recesos y las actividades según si el curso está programado para un día completo, dos medios días o varias sesiones vespertinas. Cuando planifique su tiempo, no debe modificar de manera considerable el tiempo asignado para tratar temas específicos, por

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ejemplo, el contenido del módulo 4: La contención del polvo mientras trabaja debe recibir 90 minutos de tiempo de instrucción total (45 minutos de charla y 45 minutos prácticos), independientemente de si el componente de instalación del trabajo del ejercicio práctico se imparte durante el módulo o con los demás componentes prácticos al final del curso. Puede parecerle que es necesaria la compresión de los módulos a fin de tener suficiente tiempo para comentar los requisitos estatales y locales. Como quiera que se dé el curso, se deben incluir dos horas de capacitación práctica para satisfacer los requisitos de la regla RRP.

- Planifique para administrar la prueba. Además de reforzar el aprendizaje de los participantes y ayudar a evaluar su comprensión, aprobar la prueba del curso es obligatorio para permitir que cada alumno sea un renovador certificado por la EPA. La certificación del renovador es obligatoria para todos los trabajadores y supervisores que trabajan en viviendas de interés con ayuda federal a menos que sean supervisados por un supervisor certificado en reducción. La certificación del renovador incluye la aprobación satisfactoria del curso de capacitación y de la prueba final del curso. Debe elaborar un modelo de prueba a partir del material del curso y enviarlo a la EPA para su aprobación con la solicitud de acreditación.
- Reúna todos los materiales necesarios. En esta sección se proporciona una lista de los artículos y las herramientas recomendados. Asegúrese de que tenga todos los materiales necesarios para realizar las actividades y demostraciones planificadas.

Materiales del curso: Los materiales del curso necesarios para impartir este curso incluyen manuales del alumno, un manual del instructor, diapositivas para proyectar, listas de suministros y una prueba, como se describe a continuación.

Materiales del curso	
Manual del alumno	Cada alumno debe recibir una copia impresa del manual del alumno. El manual del alumno incluye fotografías de todas las diapositivas para proyectar utilizadas en el curso y las notas del alumno. Los manuales del alumno no se deben imprimir sin las notas del alumno; las diapositivas de PowerPoint por sí solas no proporcionan suficiente información a los alumnos. El manual del alumno también tiene apéndices que incluyen ejercicios opcionales y una copia de los <i>Pasos para la renovación, reparación y pintura SEGURAS CON EL PLOMO</i> , que se pueden utilizar en el trabajo para enseñar a trabajadores no certificados cómo trabajar con el plomo de manera segura.
Manual del instructor	El manual del instructor incluye todos los materiales del manual del alumno más las notas del instructor para los instructores. La página de la derecha muestra la diapositiva y las notas del manual del alumno mientras que la página de la izquierda tiene las notas del instructor para esa diapositiva. El manual del instructor también incluye respuestas a los ejercicios. Este manual proporciona varias planificaciones de clase con sugerencias para ejercicios prácticos.
Diapositivas para proyectar	El instructor debe tener diapositivas para proyectar, electrónicas o en transparencias. Las diapositivas están disponibles en PowerPoint y se pueden hacer transparencias con ellas si se desea.
Listas de artículos	El instructor es responsable de crear tres listas de artículos: Instalación, equipos de protección personal y limpieza. Los artículos recomendados para incluirlos en las listas de suministros aparecen en la siguiente tabla.

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Materiales del curso	
Prueba	Este curso incluye una prueba. Los instructores son responsables de desarrollar su propio modelo de prueba y de presentarlo para que se apruebe antes de hacer su solicitud para convertirse en proveedor de capacitación acreditado. Las planificaciones de clase del curso proporcionan 30 minutos para la prueba. Si su modelo de prueba requiere un tiempo de prueba más largo ajuste la planificación de clase conforme a ello.

Artículos y herramientas para la sala de clases: Para impartir correctamente este curso, el instructor necesita artículos de sala de clases estándar así como una serie de herramientas especiales para demostrar las prácticas de trabajo seguras con el plomo y realizar ejercicios prácticos. La siguiente tabla proporciona una lista de artículos recomendados. Reconocemos que los instructores tal vez no sean capaces de transportar todas las herramientas y materiales indicados a continuación a un determinado lugar de capacitación, o la lista de artículos puede variar ligeramente dependiendo de si el instructor va a simular una actividad interior o exterior. En consecuencia, la lista sirve sólo como una lista de verificación de los artículos recomendados. El instructor debe consultar la planificación de clase y cada módulo para determinar cuáles suministros son esenciales para impartir el curso como lo ha planificado.

Suministros recomendados para la sala de clases
• Manual del instructor • Manuales del alumno, uno por alumno • Computadora, computadora portátil o unidad USB • Proyectora de diapositivas o proyector para computadora • Presentación del curso en PowerPoint o transparencias • Pantalla de proyección • Pizarrón, pizarrón blanco o papel para rotafolio y atril • Marcadores adecuados para pizarrón, pizarrón blanco o rotafolio • Cinta de enmascarar • Dípticos con el nombre de cada alumno (un díptico es una hoja de papel grueso de 8½" x 11" que se dobla a lo largo; el papel debe tener el grosor suficiente para que no se aplane cuando se coloque sobre la mesa después de doblarlo) • Bolsa para eliminación de alta resistencia y cinta adhesiva para conductos • Un paquete de edulcorante • Pala y escoba • Juegos de prueba para plomo • Paños de limpieza desechables (de color blanco y cargados electrostáticamente, diseñados para limpiar superficies duras) • Trapeador con mango largo donde se puedan colocar los paños de limpieza desechables • Muestrario laminado de pinturas (1 cm²) en un cartón o en un tubo de ensayo sellado • Enchufe múltiple

Artículos recomendados para las actividades prácticas
Lista de suministros del juego de pruebas • Cubierta de plástico desechable de 2' por 2' • Cubrezapatos desechables • Toallas de limpieza húmedas desechables • Guantes desechables que no sean de látex • kits de pruebas reconocidos por la EPA con instrucciones del fabricante • Bolsas de basura de alta resistencia • Aspiradora aprobada por HEPA con accesorios • Suministros específicos del equipo, según lo necesiten las instrucciones del fabricante • Tarjeta de verificación de pruebas proporcionada por el fabricante con capas de pintura a base de plomo • Superficie de madera pintada sin capa de pintura a base de plomo • <i>Registro de progreso del asistente</i> • Pluma o lápiz • Cinta adhesiva (conductos, para pintores y de protección) • <i>Formulario de documentación del juego de pruebas</i> • Cámara digital (<i>opcional</i>) • Tarjetas de índice numeradas (<i>opcional</i>)
Lista de artículos para la instalación • Cinta de barrera • Mango de escoba, o espigas, o mango de metal o madera de 1" x 1" x 30" • Herramienta cortadora (por ejemplo, navaja, cuchillo cortacartón o tijeras) • Almohadilla adhesiva desechable • Puerta que se usará en la instalación de ingreso al área de trabajo • Estacas de cerca • Lámina plástica de alta resistencia • Cubiertas magnéticas • Conos anaranjados • Cuerda o cinta de barrera (de preferencia de color brillante) • Engrapadora y grapas • Cinta (para conductos, adhesiva protectora y de enmascarar), cinta métrica • Letreros de advertencia • Sistemas de contención diseñados previamente (<i>opcionales para el conjunto de destrezas 2</i>)

Artículos recomendados para las actividades prácticas (continuación)
Lista de artículos para los equipos de protección personal (PPE, por sus siglas en inglés) • Overoles desechables • Guantes desechables que no sean de látex • Cubrezapatos desechables • Protección para los ojos • Guantes de trabajo de lona o cuero • Mascarilla respiratoria N-100 • Bolsas de desperdicio desechables • Cinta para conductos • Instalaciones para lavarse las manos y jabón
Lista de artículos para limpieza • Talco para bebés o almidón de maíz • Tarjeta de verificación de limpieza; cada alumno tomará y guardará una • Herramienta cortadora (por ejemplo, navaja, cuchillo cortacartón o tijeras) • Cubrezapatos desechables • Guantes desechables que no sean de látex • Toallas de limpieza húmedas desechables • Paños de limpieza desechables, de color blanco y cargados electrostáticamente, diseñados para limpiar superficies duras • Linterna • Rociador de jardín • Bolsas de desperdicio plásticas de alta resistencia • Lámina plástica de alta resistencia • Aspiradoras aprobadas por HEPA con accesorios y una barra sacudidora eléctrica • Trapeador con mango largo, diseñado para toallas de limpieza húmedas • Cinta adhesiva (conductos, para pintores y de protección) • Cinta métrica • Balde para trapeador de dos lados con escurridora (o equivalente); cabezas desechables de trapeador; trapeador con mango largo donde se puedan colocar los paños de limpieza desechables; <u>o</u> un sistema de limpieza húmedo. • Reloj de pared o pulsera

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Planificaciones de clase: Las dos planificaciones de clase son ejemplos de distintas formas de impartir el curso. Tenga presente que el instructor tiene la libertad de tomar prestado de estas dos planificaciones de clase lo que mejor se ajuste a las necesidades de un público o una instalación determinada. Sin embargo, para cumplir los objetivos de este curso, el instructor debe cumplir las guías acerca del tiempo asignado a cada tema.

Descripción del curso		
Módulo	Componentes	Ejercicios
Introducción	■ Charla ■ Presentaciones de los asistentes del curso	■ Ninguno
Módulo 1: ¿Por qué hay que preocuparse por la pintura a base de plomo?	■ Charla ■ Ejercicio/demostración (consulte Ejercicios)	■ Ejercicio con muestrario de color de pintura ■ Ejercicio con paquete de edulcorante Nota: Son demostraciones del instructor.
Módulo 2: Reglamentos	■ Charla	■ Ninguno
Módulo 3: Antes de comenzar a trabajar	■ Ejercicio y lista de verificación ■ Demostración del juego de pruebas para plomo y ejercicio (consulte Ejercicios)	■ Demostración de los juegos de prueba y ejercicios prácticos
Módulo 4: Contenga el polvo mientras trabaja	■ Charla ■ Ejercicio de instalación (consulte Ejercicios)	■ El ejercicio se puede realizar durante el módulo 4 o se puede posponer hasta después del módulo 8, junto con los ejercicios prácticos de los módulos 5 y 6.
Módulo 5: Mientras trabaja	■ Charla ■ Ejercicio de equipos de protección personal (consulte Ejercicios)	■ El ejercicio se puede realizar durante el módulo 5 o se puede posponer hasta después del módulo 8, junto con los ejercicios prácticos de los módulos 4 y 6.
Módulo 6: Actividades de limpieza y verificación del trabajo	■ Charla ■ Demostración de sello de cuello de cisne y ejercicio ■ Demostración de verificación de limpieza ■ Demostración de aprobación ■ Ejercicio de limpieza	■ El ejercicio se puede realizar durante el módulo 6 o se puede posponer hasta después del módulo 8, junto con los ejercicios prácticos de los módulos 4 y 5.
Módulo 7: Administración de registros	■ Charla	■ Ninguno
Módulo 8: Capacitación para renovadores no certificados	■ Charla	■ Ninguno
Prueba	■ Prueba	■ Prueba

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Planificación de clase 1: Actividades prácticas que se incluyen en los módulos	
Introducción	15 minutos
1: Prácticas seguras para trabajar con el plomo en labores de renovación, reparación y pintura 2: Programa del curso 3: Descripción general del manual de capacitación 4: Aprenderán a: 5: Este curso...	Mensaje clave: Los renovadores desempeñan una función en la prevención del envenenamiento con plomo. Notas: Este módulo es sencillo. Presente las diapositivas de manera rápida. Enfatique que esta capacitación se aplica a trabajos en viviendas construidas antes de 1978 y que se requieren precauciones adicionales si una propiedad residencial recibe fondos federales. También es posible que existan requisitos adicionales cuando una propiedad recibe fondos estatales o locales. Preparación para este módulo: Revise la lista de alumnos antes de iniciar la sesión, para que sepa algo sobre el público.
Módulo 1: ¿Por qué hay que preocuparse por la pintura a base de plomo?	20 minutos
1-1: Módulo 1: ¿Por qué hay que preocuparse por la pintura a base de plomo? 1-2: ¿Qué es la pintura a base de plomo? 1-3: Riesgos del plomo para la salud 1-4: Los síntomas del envenenamiento con plomo no siempre son obvios 1-5: ¿Por qué el polvo y los escombros constituyen un problema? 1-6: Una pequeña cantidad de polvo puede recorrer largas distancias 1-7: Video sobre un contratista que envenenó a sus propios hijos 1-8: Video sobre el padre de un menor envenenado por una renovación 1-9: Ahora ya saben...	Mensaje clave: El polvo es un problema y los contratistas generan polvo. Al manipular el plomo de manera segura, ustedes pueden marcar la diferencia. Notas: Este módulo incluye una demostración del instructor, seguida de diapositivas. - Charla (15 minutos) - Demostración con paquete de edulcorante y muestrario de colores de la pintura (5 minutos). Preparación para este módulo: Tenga los materiales listos para el ejercicio y la demostración. Materiales necesarios: Muestrario laminado de pinturas, paquete de edulcorante, pala plástica, escoba, juego para limpiar el polvo.
Módulo 2: Reglamentos	45 minutos
2-1: Módulo 2: Reglamentos 2-2: La regla RRP 2-3: La regla RRP: Exclusiones 2-4: La regla RRP: Estipulación de renuncia voluntaria 2-5: La regla RRP: Certificación de empresa	Mensaje clave: Conozca las reglas de la Agencia de Protección Ambiental y del Departamento de Vivienda y Urbanismo. Estas reglas determinan las exigencias específicas y dependientes del desempeño que se deben lograr para conseguir el cumplimiento.

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Planificación de clase 1: Actividades prácticas que se incluyen en los módulos (continuación)	
Módulo 2: Reglamentos (continuación)	45 minutos
• 2-6: La regla RRP: Responsabilidades de la empresa • 2-7: La regla RRP: Certificación individual • 2-8: La regla RRP: Responsabilidades del renovador certificado • 2-9: La regla RRP: Normas de prácticas laborales • 2-10: La regla RRP: Cumplimiento de la ley • 2-11: Regla del Departamento de Vivienda y Urbanismo sobre viviendas sin plomo • 2-12: Regla del Departamento de Vivienda y Urbanismo sobre viviendas sin plomo: Prácticas laborales seguras • 2-13: La regla del Departamento de Vivienda y Urbanismo se refiere a: • 2-14: Conozca las reglas de la Agencia de Protección Ambiental y del Departamento de Vivienda y Urbanismo • 2-15: Reglamentos estatales y locales • 2-16: Ahora ya saben...	Notas: Conozca a su público. Cada contratista debe conocer todos los reglamentos. Preparación para este módulo: Revise los materiales por adelantado. Lea todos los reglamentos federales, estatales y locales.
Módulo 3: Antes de comenzar a trabajar	40 minutos
• 3-1: Módulo 3: Antes de comenzar a trabajar • 3-2: Eduque a los propietarios y residentes • 3-3: ¿Qué tan común es el uso de pinturas a base de plomo en viviendas? • 3-4: Cómo determinar si hay pintura a base de plomo • 3-5: Mediante los kits de pruebas reconocidos por la EPA para verificar la presencia de pintura a base de plomo • 3-6: Ejercicio práctico del juego de pruebas • 3-7: Uso de cuadros lógicos para decidir • 3-8: Ahora ya saben...	Mensaje clave: Planifique antes de comenzar a trabajar. Notas: Este módulo es muy interactivo. Hay un breve contexto que antecede el tema. Los asistentes plantean preguntas antes de hablar sobre el material y de llenar una lista de verificación para la planificación. Los asistentes también aprenden cuándo y cómo usar los kits de pruebas de plomo. • Charla (25 minutos) • Ejercicio práctico (15 minutos): Los alumnos aprenderán cuándo y cómo usar los kits de pruebas de plomo. Consulte el conjunto de destrezas N° 1. Preparación para este módulo: Revise por adelantado el conjunto de destrezas N° 1. Consulte la lista de artículos del juego de pruebas para saber qué materiales se necesitan.

Planificación de clase 1: Actividades prácticas que se incluyen en los módulos (continuación)	
Módulo 4: Contención del polvo mientras trabaja	90 minutos
• 4-1: Módulo 4: Contenga el polvo mientras trabaja • 4-2: ¿Qué es la contención? • 4-3: Mantenga el polvo dentro de la contención • 4-4: Contención interior: Limite el acceso y coloque letreros • 4-5: Contención interior: Retire o cubra las pertenencias • 4-6: Contención interior: Cubra los pisos • 4-7: Contención interior: Cierre ventanas, puertas, sistemas de climatización • 4-8: Contención interior: Trabaje en la puerta de ingreso al área • 4-9: Descripción general de los pasos para la contención interior • 4-10: Contención exterior: Defina un área de trabajo • 4-11: Contención exterior: Cierre ventanas y puertas • 4-12: Contención exterior: Precauciones adicionales • 4-13: Descripción general de los pasos para la contención exterior • 4-14: Ejercicio práctico: Contención interior y exterior (conjuntos de destrezas N° 2-5) • 4-15: Preguntas después del ejercicio práctico • 4-16: Ahora ya saben...	Mensaje clave: Mantenga el polvo en el área de trabajo y facilite la limpieza. Notas: Después de las diapositivas hay un ejercicio. • Diapositivas (45 minutos) • Ejercicio práctico (45 minutos): Los alumnos instalan la contención en un área pequeña. Colocan y fijan el plástico. El instructor demuestra cómo hacer una protección plástica para puerta. Preparación para este módulo: Prepare materiales para un ejercicio práctico e identifique las ubicaciones apropiadas para que los grupos trabajen. Materiales necesarios: Consulte la lista de artículos para la instalación a fin de saber qué materiales se necesitan.
Módulo 5: Mientras trabaja	50 minutos
• 5-1: Módulo 5: Mientras trabaja • 5-2: Las renovaciones tradicionales crean polvo con plomo en el aire • 5-3: Prácticas prohibidas • 5-4: Herramientas especializadas • 5-5: Protéjase • 5-6: Controle la propagación del polvo • 5-7: Limpieza mientras trabaja • 5-8: Ejercicios: Equipos de protección personal (conjunto de destrezas N° 6) • 5-9: Ahora ya saben...	Mensaje clave: Las prácticas tradicionales producen polvo, mientras las prácticas sin plomo lo disminuyen, lo cual aumenta la seguridad de la renovación, reparación y pintura. Notas: Después de las diapositivas se realiza un ejercicio • Diapositivas (40 minutos) • Ejercicio práctico (10 minutos) Preparación para este módulo: Prepare una lista con las tareas que deberán realizar los asistentes y los materiales para el ejercicio práctico. Materiales necesarios: Consulte la lista de suministros para el equipo de protección personal.
Planificación de clase 1: Actividades prácticas que se incluyen en los módulos	

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(continuación)	
Módulo 6: Actividades de limpieza y verificación del trabajo	90 minutos
• 6-1: Módulo 6: Actividades de limpieza y verificación del trabajo • 6-2: ¿Qué es una limpieza eficaz? • 6-3: Requisitos de limpieza interior • 6-4: Procedimiento de inspección visual • 6-5: Procedimiento de verificación de la limpieza (CV) • 6-6: Examen de aprobación referente al polvo • 6-7: Requisitos de limpieza exterior • 6-8: Exterior - Verifique la eficacia de la limpieza • 6-9: Desechado • 6-10: Desechado - Información federal, estatal y local • 6-11: Ejercicio: Procedimiento de limpieza y verificación de la limpieza (conjuntos de destrezas N° 7 – 11) • 6-12: Ahora ya saben...	Mensaje clave: Haga la limpieza correctamente. Utilice trapeadores húmedos y aspiradoras aprobadas por HEPA. Los métodos tradicionales no sirven. Notas: Después de las diapositivas se realiza un ejercicio • Diapositivas (40 minutos) • Ejercicio práctico (50 minutos) Preparación para este módulo: Prepare los materiales para un ejercicio práctico, las demostraciones de verificación y de aprobación de limpieza. Materiales necesarios: Paños de limpieza desechables, tarjetas de verificación de limpieza, materiales de muestreo para toallas de limpieza del polvo y las herramientas enumeradas en la lista de suministros para limpieza.
Módulo 7: Administración de registros	20 minutos
• 7-1: Módulo 7: Administración de registros • 7-2: Registros del lugar de trabajo • 7-3: Administración de registros: Registros educacionales previos a la renovación • 7-4: Confirmación de muestra del recibo de <i>Renovar correctamente</i> • 7-5: Administración de registros: Capacitación para renovador no certificado • 7-6: Administración de registros: Informes del juego de pruebas • 7-7: Administración de registros: Informes posteriores a la renovación • 7-8: Ahora ya saben...	Mensaje clave: Los registros deben estar completos, exactos y organizados. Notas: Este módulo corresponde a una charla. Los asistentes averiguarán qué registros deben conservar. Preparación para este módulo: Repase, para que conozca el contenido.

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Planificación de clase 1: Actividades prácticas que se incluyen en los módulos (continuación)	
Módulo 8: Capacitación para renovadores no certificados	
40 minutos	
• 8-1: Módulo 8: Capacitación para renovadores no certificados • 8-2: La enseñanza de prácticas laborales de seguridad con el plomo significa: • 8-3: Función del renovador certificado • 8-4: Función de los renovadores capacitados pero no certificados • 8-5: Pasos para la enseñanza de seguridad con el plomo en los trabajos de renovación • 8-6: Use la guía de "Pasos" • 8-7: Paso 1: Determine si el trabajo comprende pintura a base de plomo • 8-8: Paso 2: Organícelo de forma segura • 8-9: Paso 2: Organícelo de forma segura (continuación) • 8-10: Paso 3: Protéjase • 8-11: Paso 4: Controle la propagación del polvo • 8-12: Paso 5: Deje limpia el área de trabajo • 8-13: Paso 6: Controle los desechos • 8-14: Paso 7: Verificación o pruebas de aprobación de limpieza • 8-15: Documentación de capacitación • 8-16: Ahora ya saben...	Mensaje clave: Los renovadores certificados enseñan las prácticas laborales de seguridad con el plomo a los renovadores no certificados. Notas: Enfátice que esta capacitación pretende dar a los renovadores certificados las herramientas y destrezas necesarias para efectuar la capacitación de "caja de herramientas" en la obra o la capacitación en aula para renovadores no certificados. Toda la capacitación debe apuntar principalmente a que los alumnos aprendan a efectuar las tareas necesarias para que se puedan desempeñar como renovadores no certificados en el lugar de trabajo. Se deben enfatizar particularmente las destrezas prácticas y las actividades de prácticas laborales seguras con el plomo, utilizando el máximo posible de instrucción práctica. Preparación para este módulo: Repase, para que conozca el contenido.
Repaso	
10 minutos	
• Repase los temas y las reglas principales para la prueba	
Prueba	
30 minutos	
• Tome la prueba (30 minutos)	Los instructores son responsables de desarrollar su propio modelo de prueba y de presentarlo para que se apruebe antes de elevar su solicitud para convertirse en proveedor de capacitación acreditado.
Tiempo total de instrucción	
7 horas 30 minutos	

Prácticas seguras para trabajar con el plomo en labores de renovación, reparación y pintura
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Planificación de clase 2: Actividades prácticas consolidadas en una unidad	
NOTA: Los módulos son los mismos que en la planificación de clase 1 excepto por que todos los ejercicios prácticos de los módulos 4 al 6 se movieron y se combinaron en un solo gran bloque práctico en la sesión de la tarde.	
Introducción	15 minutos
1: Prácticas seguras para trabajar con el plomo en labores de renovación, reparación y pintura 2: Programa del curso 3: Descripción general del manual de capacitación 4: Aprenderán a: 5: Este curso...	Mensaje clave: Los renovadores desempeñan una función en la prevención del envenenamiento por plomo. Notas: Este módulo es sencillo. Presente las diapositivas de manera rápida. Enfatique que esta capacitación se aplica a trabajos en viviendas construidas antes de 1978 y que se requieren precauciones adicionales si una propiedad residencial recibe fondos federales. También es posible que existan requisitos adicionales cuando una propiedad recibe fondos estatales o locales. Preparación para este módulo: Revise la lista de alumnos antes de iniciar la sesión, para que sepa algo sobre el público.
Módulo 1: ¿Por qué hay que preocuparse por la pintura a base de plomo?	20 minutos
1-1: Módulo 1: ¿Por qué hay que preocuparse por la pintura a base de plomo? 1-2: ¿Qué es la pintura a base de plomo? 1-3: Riesgos del plomo para la salud 1-4: Los síntomas del envenenamiento con plomo no siempre son obvios 1-5: ¿Por qué el polvo y los escombros constituyen un problema? 1-6: Una pequeña cantidad de polvo puede recorrer largas distancias 1-7: Video sobre un contratista que envenenó a sus propios hijos 1-8: Video sobre el padre de un menor envenenado por una renovación 1-9: Ahora ya saben...	Mensaje clave: El polvo es un problema y los contratistas generan polvo. Al manipular el plomo de manera segura, ustedes pueden marcar la diferencia. Notas: Este módulo incluye una demostración del instructor, seguida de diapositivas. - Diapositivas (15 minutos) - Demostración con paquete de edulcorante y muestrario de colores de la pintura (5 minutos). Preparación para este módulo: Tenga los materiales listos para el ejercicio y la demostración. Materiales necesarios: Muestrario laminado de pinturas, paquete de edulcorante, pala, escoba, juego para limpiar el polvo.
Módulo 2: Reglamentos	45 minutos
2-1: Módulo 1: Reglamentos 2-2: La regla RRP 2-3: La regla RRP: Exclusiones 2-4: La regla RRP: Estipulación de renuncia voluntaria 2-5: La regla RRP: Certificación de empresa	Mensaje clave: Conozca las reglas de la Agencia de Protección Ambiental y del Departamento de Vivienda y Urbanismo. Estas reglas determinan las exigencias específicas y dependientes del desempeño que se deben lograr para conseguir el cumplimiento.

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Planificación de clase 2: Ejercicios prácticos consolidados en una unidad (continuación)	
Módulo 2: Reglamentos (continuación)	45 minutos
• 2-6: La regla RRP: Responsabilidades de la empresa • 2-7: La regla RRP: Certificación individual • 2-8: La regla RRP: Responsabilidades del renovador certificado • 2-9: La regla RRP: Normas de prácticas laborales • 2-10: La regla RRP: Cumplimiento de la ley • 2-11: Regla del Departamento de Vivienda y Urbanismo sobre viviendas sin plomo • 2-12: Regla del Departamento de Vivienda y Urbanismo sobre viviendas sin plomo: Prácticas laborales seguras • 2-13: La regla del Departamento de Vivienda y Urbanismo se refiere a: • 2-14: Conozca las reglas de la Agencia de Protección Ambiental y del Departamento de Vivienda y Urbanismo • 2-15: Reglamentos estatales y locales • 2-16: Ahora ya saben...	Notas: Conozca a su público. Cada contratista debe conocer todos los reglamentos. Preparación para este módulo: Revise los materiales por adelantado. Lea todos los reglamentos federales, estatales y locales.
Módulo 3: Antes de comenzar a trabajar	40 minutos
• 3-1: Módulo 3: Antes de comenzar a trabajar • 3-2: Eduque a los propietarios y residentes • 3-3: ¿Qué tan común es el uso de pinturas a base de plomo en viviendas? • 3-4: Cómo determinar si hay pintura a base de plomo • 3-5: Mediante los kits de pruebas con reconocimiento de la EPA para verificar la presencia de pintura a base de plomo • 3-6: Ejercicio práctico del juego de pruebas • 3-7: Uso de cuadros lógicos para decidir • 3-8: Ahora ya saben...	Mensaje clave: Planifique antes de comenzar a trabajar. Notas: Este módulo es muy interactivo. Hay un breve contexto que antecede el tema. Los asistentes plantean preguntas antes de hablar sobre el material y de llenar una lista de verificación para la planificación. Los asistentes también aprenden cuándo y cómo usar los kits de pruebas de plomo. Charla: (25 minutos) Ejercicio práctico (15 minutos): Los alumnos aprenderán cuándo y cómo usar los kits de pruebas de plomo. Consulte el conjunto de destrezas N° 1. Preparación para este módulo: Revise por adelantado el conjunto de destrezas N° 1. Consulte la lista de suministros del juego de pruebas para saber qué materiales se necesitan.

Prácticas seguras para trabajar con el plomo en labores de renovación, reparación y pintura
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Planificación de clase 2: Ejercicios prácticos consolidados en una unidad (continuación)	
Módulo 4: Contención del polvo mientras trabaja	45 minutos
• 4-1: Módulo 4: Contenga el polvo mientras trabaja • 4-2: ¿Qué es la contención? • 4-3: Mantenga el polvo dentro de la contención • 4-4: Contención interior: Limite el acceso y coloque letreros • 4-5: Contención interior: Retire o cubra las pertenencias • 4-6: Contención interior: Cubra los pisos • 4-7: Contención interior: Cierre ventanas, puertas, sistemas de climatización • 4-8: Contención interior: Trabaje en la puerta de ingreso al área • 4-9: Descripción general de los pasos para la contención interior • 4-10: Contención exterior: Defina un área de trabajo • 4-11: Contención exterior: Cierre ventanas y puertas • 4-12: Contención exterior: Precauciones adicionales • 4-13: Descripción general de los pasos para la contención exterior • 4-14: Ejercicio práctico: Contención interior y exterior • 4-15: Preguntas después del ejercicio práctico • 4-16: Ahora ya saben...	Mensaje clave: Mantenga el polvo en el área de trabajo y facilite la limpieza. Notas: Después de las diapositivas hay un ejercicio. • Diapositivas: 45 minutos • Ejercicio práctico: Pospuesto para el ejercicio grande de la tarde. Preparación para este módulo: Prepare materiales para un ejercicio práctico e identifique las ubicaciones apropiadas en las que trabajarán los grupos. Materiales necesarios: Consulte la lista de artículos para la instalación a fin de saber qué materiales se necesitan.
Módulo 5: Mientras trabaja	40 minutos
• 5-1: Módulo 5: Mientras trabaja • 5-2: Las renovaciones tradicionales crean polvo con plomo en el aire • 5-3: Prácticas prohibidas • 5-4: Herramientas especializadas • 5-5: Protéjase • 5-6: Controle la propagación del polvo • 5-7: Limpieza mientras trabaja • 5-8: Ejercicios: Equipos de protección personal (conjunto de destrezas N° 6) • 5-9: Ahora ya saben...	Mensaje clave: Las prácticas tradicionales producen polvo, mientras las prácticas sin plomo lo disminuyen, lo cual aumenta la seguridad de la renovación, reparación y pintura. Notas: Después de las diapositivas se realiza un ejercicio • Diapositivas: 40 minutos • Ejercicio práctico: Pospuesto para el ejercicio grande de la tarde. Preparación para este módulo: Prepare una lista con las tareas que deberán realizar los asistentes y los materiales para el ejercicio práctico. Materiales necesarios: Consulte la lista de suministros para el equipo de protección personal.

Prácticas seguras para trabajar con el plomo en labores de renovación, reparación y pintura
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Planificación de clase 2: Ejercicios prácticos consolidados en una unidad (continuación)	
Módulo 6: Actividades de limpieza y verificación del trabajo 40 minutos	
6-1: Módulo 6: Actividades de limpieza y verificación del trabajo 6-2: ¿Qué es una limpieza eficaz? 6-3: Requisitos de limpieza interior 6-4: Procedimiento de inspección visual 6-5: Procedimiento de verificación de la limpieza (CV) 6-6: Examen de aprobación referente al polvo 6-7: Requisitos de limpieza exterior 6-8: Exterior - Verifique la eficacia de la limpieza 6-9: Desechado 6-10: Desechado - Información federal, estatal y local 6-11: Ejercicio: Procedimiento de limpieza y verificación de la limpieza (conjuntos de destrezas N° 7 – 11) 6-12: Ahora ya saben...	Mensaje clave: Haga la limpieza correctamente. Utilice trapeadores húmedos y aspiradoras aprobadas por HEPA. Los métodos tradicionales no sirven. Notas: Después de las diapositivas se realiza un ejercicio - Diapositivas (40 minutos) - Ejercicio práctico: Pospuesto para el ejercicio grande de la tarde. Preparación para este módulo: Prepare los materiales para el ejercicio práctico y la demostración de aprobación. Materiales necesarios: Paños de limpieza desechables, tarjetas de verificación de limpieza, materiales de muestreo para toallas de limpieza del polvo y las herramientas enumeradas en la lista de suministros para limpieza.
Módulo 7: Administración de registros 20 minutos	
7-1: Módulo 7: Administración de registros 7-2: Registros del lugar de trabajo 7-3: Administración de registros: Registros educacionales previos a la renovación 7-4: Confirmación de muestra del recibo de <i>Renovar correctamente</i> 7-5: Administración de registros: Capacitación para renovador no certificado 7-6: Administración de registros: Informes del juego de pruebas 7-7: Administración de registros: Informes posteriores a la renovación 7-8: Ahora ya saben...	Mensaje clave: Los registros deben estar completos, exactos y organizados. Notas: Este módulo corresponde a una charla. Los asistentes averiguarán qué registros deben conservar. Preparación para este módulo: Repase, para que conozca el contenido.
Módulo 8: Capacitación para renovadores no certificados 40 minutos	
8-1: Módulo 8: Capacitación para renovadores no certificados 8-2: La enseñanza de prácticas laborales de seguridad con el plomo significa: 8-3: Función del renovador certificado 8-4: Función de los renovadores capacitados pero no certificados 8-5: Pasos para la enseñanza de seguridad con el plomo en los trabajos de renovación 8-6: Use la guía de "Pasos" 8-7: Paso 1: Determine si el trabajo comprende pintura a base de plomo	Mensaje clave: Los renovadores certificados enseñan las prácticas laborales de seguridad con el plomo a los renovadores no certificados. Notas: Enfatique que esta capacitación pretende dar a los renovadores certificados las herramientas y destrezas necesarias para efectuar la capacitación de "caja de herramientas" en la obra o la capacitación en aula para renovadores no certificados. Toda la capacitación debe apuntar

Planificación de clase 2: Ejercicios prácticos consolidados en una unidad (continuación)

Prácticas seguras para trabajar con el plomo en labores de renovación, reparación y pintura
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Módulo 8: Capacitación para renovadores no certificados (continuación)		40 minutos
• 8-8: Paso 2: Organícelo de forma segura • 8-9: Paso 2: Organícelo de forma segura (continuación) • 8-10: Paso 3: Protéjase • 8-11: Paso 4: Controle la propagación del polvo • 8-12: Paso 5: Deje limpia el área de trabajo • 8-13: Paso 6: Controle los desechos • 8-14: Paso 7: Verificación o pruebas de aprobación de limpieza • 8-15: Documentación de capacitación • 8-16: Ahora ya saben...	principalmente a que los alumnos aprendan cómo efectuar las tareas necesarias para que se puedan desempeñar como renovadores no certificados en el lugar de trabajo. Se deben enfatizar particularmente las destrezas prácticas y las actividades de prácticas laborales seguras con el plomo, utilizando el máximo posible de instrucción práctica. Preparación para este módulo: Repase, para que conozca el contenido.	
Actividades prácticas		105 minutos
Apéndice 6: Ejercicios prácticos para los módulos 4, 5 y 6. • Conjunto de destrezas N° 2. Instalación de barreras, letreros y puertas con protección plástica • Conjunto de destrezas N° 3. Cubrimiento o retiro de muebles • Conjunto de destrezas N° 4. Instalación de contención interior • Conjunto de destrezas N° 5. Instalación de contención exterior • Conjunto de destrezas N° 6. Equipo de protección personal • Conjunto de destrezas N° 7. Limpieza final de interiores • Conjunto de destrezas N° 8. Limpieza final de exteriores • Conjunto de destrezas N° 9. Recogida de desechos en bolsas • Conjunto de destrezas N° 10. Inspección visual • Conjunto de destrezas N° 11. Procedimiento de verificación de limpieza	Mensaje clave: Practique lo que ha aprendido. Notas: Esta sección es completamente práctica. Preparación para esta sección: Use los ejercicios prácticos que están incluidos en los módulos 4, 5 y 6 para realizar este ejercicio práctico de once partes. Las diapositivas para estos ejercicios son: • Diapositivas 4-14 y 4-15 • Diapositiva 5-8 • Diapositiva 6-11 Estos ejercicios también están incluidos (con el conjunto de destrezas N° 1) en el Apéndice 6. Asegúrese de tener una instalación adecuada, todas las herramientas y el equipo necesarios (consulte la lista de suministros), así como de haber leído detenidamente y comprendido cada uno de los ejercicios.	
Repaso		10 minutos
• Repase los temas y las reglas principales para la prueba		
Prueba		30 minutos
• Tome la prueba (30 minutos)	Los instructores son responsables de desarrollar su propio modelo de prueba y de presentarlo para que se apruebe antes de elevar su solicitud para convertirse en proveedor de capacitación acreditado.	
Tiempo total de instrucción		7 horas 30 Minutos

Prácticas seguras para trabajar con el plomo en labores de renovación, reparación y pintura
Nota a los instructores sobre cómo usar este programa de estudios

Guía para la realización de actividades prácticas: La capacitación práctica es un elemento obligatorio de este programa de estudios. Se recomienda que los instructores consideren los siguientes factores cuando planifiquen y lleven a cabo los segmentos de capacitación práctica:

- Tenga a su disposición el tipo adecuado de artículos. Use las listas proporcionadas para planificar adecuadamente y traiga los tipos de artículos adecuados al lugar de capacitación. Por ejemplo, las bolsas de basura domésticas no son iguales a las bolsas de desecho de alta resistencia.
- Disponga de artículos en las cantidades suficientes. Según cómo estructure la actividad, puede necesitar diversas cantidades de artículos. Por ejemplo, si el instructor demuestra cómo hacer un sello de cuello de cisne en una bolsa de desecho, usará una bolsa. Si cada alumno practica este procedimiento, la capacitación consumirá una cantidad mayor de bolsas. Planifique con anticipación para que tenga artículos suficientes.
- Disponga del número suficiente de instructores. Según el tamaño de la clase, algunas actividades prácticas requieren más de un instructor para supervisar adecuadamente y hacer comentarios. Asegúrese de tener suficientes instructores disponibles para impartir el curso a la cantidad de alumnos que asisten. Esto es importante porque cada alumno será evaluado individualmente. La capacitación se puede estructurar para que los instructores adicionales sólo deban estar disponibles durante las actividades prácticas. Se recomienda mantener, como máximo, una relación de 6:1 de alumnos e instructores (es decir, un instructor por cada 6 alumnos) para los ejercicios prácticos. Incluso con una relación 6:1, los instructores deben esperar estar bastante ocupados durante los ejercicios prácticos.
- Calcule cuidadosamente el tiempo que necesitará para llevar a cabo los ejercicios prácticos. Este programa de estudios tiene una gran cantidad de contenido de curso. Tenga en cuenta las restricciones de tamaño de la clase y de tiempo cuando planifique los ejercicios prácticos.
- Asegúrese de que sus equipos estén limpios y en buenas condiciones de funcionamiento antes de la clase. Pruebe sus equipos antes de que comience la capacitación. Los instructores no deben llevar a cabo ninguna capacitación con equipos contaminados con plomo o mascarillas respiratorias sucias.
- El uso de pintura a base de plomo real para fines de capacitación no está permitido. Los asistentes están en su clase para aprender las destrezas para trabajar con seguridad en relación a la pintura a base de plomo. Si cometen un error de procedimiento durante la capacitación, no debe ponerse en riesgo de exponerse al plomo.
- La instalación de capacitación debe ser adecuada para este curso. Por ejemplo, algunos lugares prohíben el uso de agua dentro de su instalación. Sepa lo que se requiere para este curso y lo que permite la instalación que se usará. Compatibilice los requisitos del curso con la instalación que se usará.
- Guíe a los asistentes durante las actividades prácticas y documente su competencia. Las actividades prácticas de los módulos 3, 4, 5 y 6 indican tareas específicas que cada participante debe realizar correctamente durante esa actividad. Registre el logro de estas destrezas en un registro de avance del participante. Consulte el Apéndice 6 para ver un ejemplo del registro de avance del participante.

Introducción

Prácticas seguras para trabajar con el plomo en labores de renovación, reparación y pintura

Introducción – Notas del Instructor

Descripción general de este módulo: La siguiente tabla resume el contenido y los métodos de enseñanza de este módulo. Es para su propia referencia. No trate este punto con los asistentes.

Introducción		15 minutos
1: Prácticas seguras para trabajar con el plomo en labores de renovación, reparación y pintura 2: Programa del curso 3: Descripción general del manual de capacitación 4: Aprenderán a: 5: Este curso...		Mensaje clave: Los renovadores desempeñan una función en la prevención del envenenamiento con plomo. El polvo de las renovaciones, reparaciones y preparación de superficies durante las actividades de pintura crea posibles peligros relacionados con el plomo cuando se altera la pintura a base de plomo y no se usan prácticas de trabajo seguras con el plomo. La EPA exige certificación a las empresas de renovación y capacitación y certificación a los renovadores para evitar el envenenamiento por plomo como consecuencia de prácticas de renovación poco seguras. Notas: Este módulo es sencillo. Presente las diapositivas de manera rápida. Ponga énfasis en que esta capacitación se aplica al trabajo en viviendas anteriores a 1978 y a instalaciones habitadas por niños, además de proporcionar certificación para llevar a cabo renovaciones por compensación según lo exige la regla de renovación, reparación y pintura de la EPA. Preparación para este módulo: Revise la lista de alumnos antes de iniciar la sesión, para que sepa algo sobre el público.

Diapositiva 1: Prácticas seguras para trabajar con el plomo en labores de renovación, reparación y pintura

- Dé la bienvenida a todos y presente el curso.
- Asegúrese de verificar a los participantes que pretenden tomar este curso.
- Preséntese, escriba su nombre en el pizarrón, rotafolio o transparencia. Destaque sus antecedentes y su experiencia.
- Lea el objetivo del curso: "Preparar a renovadores certificados para usar prácticas de trabajo seguras con el plomo para evitar los peligros relacionados con el plomo durante el trabajo de renovación, reparación y pintura en viviendas anteriores a 1978 y en instalaciones habitadas por niños".
- Pida a los participantes que se presenten, indicando:
 - Su nombre.
 - La empresa para la que trabajan.
 - El trabajo que realizan (por ejemplo, carpintería).
- Conocimiento de las instalaciones y los aspectos logísticos:
 - Señale dónde se encuentran las salidas de emergencia, los baños y los teléfonos públicos.
 - Proporcione información logística.

Prácticas seguras para trabajar con el plomo en labores de renovación, reparación y pintura
Introducción – Notas del Instructor

- Comente las reglas básicas, según sea necesario. Algunos ejemplos de las reglas básicas son:
 - o Volver a tiempo de los recesos y listos para continuar.
 - o Levantar la mano para ser reconocido.
 - o Apagar o poner en la modalidad de silencio los teléfonos celulares y otros dispositivos electrónicos.
- Esta introducción abarca la lista de temas que aparece en la diapositiva. Repase brevemente esta lista con los asistentes al curso. **No detalle ningún tema.**
- Identifique y aborde los problemas con el idioma inglés y de lectura. Esté atento a esto durante las presentaciones de los alumnos.

Prácticas seguras para trabajar con el plomo en labores de renovación, reparación y pintura

- **Bienvenida e introducciones**
 - **Dígale a los alumnos:**
Su nombre, la empresa para la que trabaja y a qué se dedica.
- **Descripción general del módulo:**
 - **Programa del curso**
 - **Manual del curso**
 - **Estudiaremos:**
 - **Este curso...**



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¿Por qué está aquí?

- El trabajo de renovación tradicional que realiza ahora puede crear importantes peligros con relación al polvo con plomo, si se altera la pintura a base de éste último.
- El polvo con plomo generado por el trabajo de renovación tradicional puede causar envenenamiento por plomo en los niños. También puede envenenar a las mujeres embarazadas, a usted mismo y a otros trabajadores e incluso a las mascotas. Mediante cambios útiles en las prácticas de trabajo se puede minimizar y contener el polvo. El uso de las prácticas seguras de trabajo con el plomo hace que el trabajo sea más seguro y reduce su responsabilidad.
- La Regla final de la Agencia de Protección Ambiental (EPA, por sus siglas en inglés) para la Renovación, Reparación y Pintura (Código de Regulación Federal 40, Parte 745) exige que las renovaciones que se realicen por compensación las deben llevar a cabo empresas certificadas por medio de renovadores certificados. Las empresas de renovación que deseen trabajar en viviendas construidas antes de 1978 y en instalaciones habitadas por niños, deben hacer una solicitud a la EPA y pagar una cuota a fin de obtener la certificación. Los renovadores que deseen convertirse en renovadores certificados deben aprobar satisfactoriamente un curso de renovador acreditado por la EPA o un curso acreditado por un estado o una tribu autorizados por la EPA. Este curso es el curso modelo de la EPA para renovadores certificados y como tal cumple con todos los requisitos del Código de Regulación Federal 40 745.90.
- Este curso le enseñará cómo cumplir con la regla de renovación, reparación y pintura de la EPA, la regla del Departamento de Vivienda y Urbanismo sobre viviendas sin plomo, y cómo llevar a cabo las prácticas de trabajo seguras con el plomo de forma segura y eficaz.
- Luego que haya aprobado satisfactoriamente un curso de renovador certificado, impartido por un proveedor de capacitación acreditado por la EPA, usted será un renovador certificado por la EPA. La categoría de renovador certificado por la EPA le permitirá realizar trabajos de renovación, reparación y pintura seguros con el plomo, en viviendas construidas antes de 1978 y en instalaciones habitadas por niños, donde el trabajo alterará la pintura a base de plomo. Su certificación es válida por cinco años a partir de la fecha de finalización del curso. Para renovar su certificación después de cinco años, debe aprobar satisfactoriamente un curso de perfeccionamiento de renovador certificado acreditado por la EPA, antes de que venza su certificación inicial. La capacitación de perfeccionamiento se debe realizar cada cinco años a fin de mantener la certificación. Si el renovador certificado no perfecciona su capacitación, dentro de un período de cinco años de la capacitación previa, deberá volver a realizar el curso inicial para certificarse nuevamente.

Diapositiva 2: Programa del curso

- Esta diapositiva contiene el programa del curso, si usa la planificación de lección 1, repásela con los alumnos. Si usa la planificación de lección 2 o va a llevar a cabo esta capacitación en varios días, debe proporcionar un programa adecuado. Además se recomienda que haga cambios en las diapositivas de PowerPoint en el manual del alumno y en la presentación que reflejen los cambios en el programa.
- El programa en la diapositiva no contiene horas (porque la capacitación podría ofrecerse en varios días), por lo que puede preferir escribir el programa (con horas) en un rotafolio, pizarrón o pizarrón blanco para que los asistentes puedan consultarlo durante el curso, o bien puede hacer una copia impresa del programa y distribuirla a los asistentes. El tiempo de capacitación debe ser de 8 horas en total.
- Demuestre paso a paso el programa de capacitación a los asistentes.
- Mencione la prueba.
- *Las **Notas para los instructores sobre cómo usar este programa de estudios** (consulte anteriormente en la introducción) tienen un horario de curso propuestos y opciones de planificación de clase para ayudarle a planificar el horario.*

Esta diapositiva presupone que usará la planificación de clase 1.
Modifique la diapositiva si va a usar la planificación de clase 2.

Programa del curso

- **Introducción y bienvenida**
- **Módulo 1: ¿Por qué hay que preocuparse por la pintura a base de plomo?**
- **Módulo 2: Reglamentos**
- **Receso**
- **Módulo 3: Antes de comenzar a trabajar**
- **Módulo 4: Contención del polvo mientras trabaja**
- **Almuerzo**
- **Módulo 5: Mientras trabaja**
- **Receso**
- **Módulo 6: Actividades de limpieza y verificación del trabajo**
- **Módulo 7: Administración de registros**
- **Receso**
- **Módulo 8: Capacitación para renovadores no certificados**
- **Repaso**
- **Prueba**

Diapositiva 3: Descripción general del manual de capacitación

- Repase paso a paso con los asistentes los ocho módulos destacando el título del módulo y el tiempo necesario para tratar el material.
- Ponga énfasis en que el curso tiene el propósito de ser interactivo, con debates y ejercicios para practicar algunas de las actividades analizadas en los módulos.
- Destaque cada uno de los apéndices.
- Dedique tiempo para que los asistentes vean la *Guía de cumplimiento destinada a entidades pequeñas para renovar correctamente* (Apéndice 4) y los *Pasos para la renovación, reparación y pintura SEGURAS CON EL PLOMO* (Apéndice 5). Explique que estos dos documentos se tratarán con más detalles en los módulos 3 y 8, respectivamente y que pueden llevárselos al trabajo para ayudarles a obtener una orientación acerca de trabajar de una manera segura con el plomo. El folleto *Pasos para la renovación, reparación y pintura SEGURAS CON EL PLOMO* (Apéndice 5) contiene ilustraciones de métodos sugeridos para reducir, contener y limpiar el polvo en áreas de trabajo.

Descripción general del manual de capacitación

- Ocho módulos
- Ejercicios prácticos e interactivos, en 11 conjuntos de destrezas
- Apéndices clave
 - Apéndice 1 - Regla final de la EPA para el Programa de Renovación, Reparación y Mantenimiento (Código de Regulación Federal 40, Parte 745)
 - Apéndice 2 - Requisitos del Departamento de Vivienda y Urbanismo (HUD) de los Estados Unidos
 - Apéndice 3 - *Renovar correctamente: Información importante para familias, proveedores de cuidado infantil y escuelas acerca del peligro del plomo*
 - Apéndice 4 - *Guía de cumplimiento destinada a entidades pequeñas para renovar correctamente*
 - Apéndice 5 - *Pasos para la renovación, reparación y pintura SEGURAS CON EL PLOMO*
 - Apéndice 6 - Ejercicios prácticos



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Módulos - Además de esta introducción, en este curso existen ocho módulos:

- Módulo 1: ¿Por qué hay que preocuparse por la pintura a base de plomo?
- Módulo 2: Reglamentos
- Módulo 3: Antes de comenzar a trabajar (incluye el conjunto de destrezas N° 1)
- Módulo 4: Contención del polvo mientras trabaja (incluye los conjuntos de destrezas N° 2 y 5)
- Módulo 5: Mientras trabaja (incluye el conjunto de destrezas N° 6)
- Módulo 6: Actividades de limpieza y verificación del trabajo (incluye los conjuntos de destrezas N° 7 y 11)
- Módulo 7: Gestión de registros
- Módulo 8: Capacitación para renovadores no certificados

Actividades y ejercicios: El curso incluye actividades y ejercicios para ayudarle a identificar los métodos para reducir la cantidad de polvo generada y a su vez, a contenerlo y eliminarlo. Muchos de los ejercicios y actividades se llevan a cabo en pequeños grupos, de modo que tendrá la oportunidad de intercambiar sus experiencias e ideas con otros participantes del curso.

Apéndices: Este manual consta de nueve apéndices que proporcionan información adicional que ayudará a los contratistas.

- Apéndice 1 - Regla final de la EPA para el Programa de Renovación, Reparación y Mantenimiento (Código de Regulación Federal 40, Parte 745)
- Apéndice 2 - Requisitos del Departamento de Vivienda y Urbanismo (HUD) de los Estados Unidos
- Apéndice 3 - *Renovar correctamente: Información importante para familias, proveedores de cuidado infantil y escuelas acerca del peligro del plomo*
- Apéndice 4 - *Guía de cumplimiento destinada a entidades pequeñas para renovar correctamente*
- Apéndice 5 - *Pasos para la renovación, reparación y pintura SEGURAS CON EL PLOMO*
- Apéndice 6 - Ejercicios prácticos
- Apéndice 7 - Reglamentos estatales y locales
- Apéndice 8 - Situación normativa de desechos generados por contratistas y residentes en actividades domésticas con pintura a base de plomo
- Apéndice 9 - Para obtener más información

Prueba: Los renovadores deben aprobar la prueba que se tome al término del curso, a fin de obtener la certificación. La reprobación de la prueba significa que debe volver a realizar el curso.

Diapositiva 4: Aprenderán a:

- Esta diapositiva resume lo que los alumnos aprenderán durante cada módulo en este curso.
- Repase todas las listas y ponga énfasis en lo que se aprenderá en cada módulo.

Estudiaremos:

- Por qué la pintura a base de plomo es un problema durante las renovaciones.
- Cuáles son las exigencias de los reglamentos de la EPA y HUD para las empresas y los renovadores certificados.
- Cómo determinar si la pintura a base plomo afecta al trabajo.
- Cómo comenzar el trabajo.
- Cómo preparar el área de trabajo para contener el polvo.
- Cómo trabajar de una manera segura con el plomo.
- Cómo limpiar el área de trabajo y verificar la limpieza.
- Cómo eliminar los desechos de manera segura.
- Cómo documentar su trabajo.



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Módulo 1: Enseña los problemas de salud relacionados con el plomo, por qué es un problema que debe tratar y a quién se pone en riesgo si las renovaciones no se realizan de forma correcta.

Módulo 2: Enseña cuáles son las exigencias de los reglamentos de la EPA y del HUD para las empresas y los renovadores certificados.

Módulo 3: Enseña cómo determinar si la pintura a base plomo afecta su trabajo y cómo educar a los propietarios y residentes en las viviendas de interés o a los propietarios y adultos representantes en las instalaciones habitadas por niños, sobre cómo el trabajo afectará el plomo en su propiedad. Este módulo también analiza cómo planificar el trabajo, de modo que sea seguro con el plomo.

Módulo 4: Enseña cómo preparar adecuadamente el área de trabajo, de modo que el polvo y los escombros generados por su trabajo no contaminen la propiedad y no quede polvo con plomo.

Módulo 5: Enseña cómo trabajar de manera segura con el plomo y qué prácticas están prohibidas por las reglas de la EPA y del HUD; proporciona también información sobre equipos de protección personal.

Módulo 6: Enseña cómo eliminar de forma eficaz el polvo generado por el trabajo que se realice en una vivienda o en una instalación habitada por niños, y enseña a los renovadores certificados cómo realizar una verificación de limpieza. Esta sección también contiene información sobre cómo eliminar los desechos de la renovación.

Módulo 7: Enseña los requisitos de las reglas de la EPA y del HUD para la creación y el mantenimiento de la documentación del trabajo.

Módulo 8: Enseña a los renovadores certificados cómo capacitar a renovadores no certificados en las prácticas seguras con el plomo mientras estén en la obra.

Diapositiva 5: Este curso...

- El principal propósito de esta diapositiva es informar a los asistentes que completar la capacitación es una forma de distinguirse en el mercado y ofrecer valor agregado a los clientes.
- Aprobar satisfactoriamente esta capacitación también los califica para participar en trabajos en viviendas de interés con ayuda federal en los que se exigen prácticas de trabajo seguras con el plomo. Deben aprobar la prueba al término del curso y conservar el certificado de finalización del curso para demostrar que están calificados.
- Este curso no es un curso de reducción y no califica a los participantes para llevar a cabo actividades de reducción, ni cumple con los requisitos de OSHA. Tenga presente que los empleadores son responsables de cumplir con los requisitos de OSHA.

Este curso...

- Cumple con los requisitos de la EPA y el HUD.
- Forma renovadores certificados por la EPA.
- Demuestra su compromiso con la seguridad.

PERO,

- No es un curso de reducción de plomo.
- No cumple con los requisitos de capacitación de la Administración de Seguridad y Salud Ocupacional (OSHA, por sus siglas en inglés).
- Puede que no cumpla los requisitos de capacitación estatales, locales o tribales.



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El valor de esta capacitación

- Este curso cumple con los requisitos de la EPA y del HUD para la capacitación en prácticas seguras para trabajo con el plomo, conforme a la regla RRP.
- Los renovadores obtienen la certificación de la EPA después de la aprobación satisfactoria del curso.
- La aprobación de este curso demuestra la competencia de su empresa a los posibles clientes y puede ser una ventaja de mercadería que distinga a su empresa de la competencia.

Capacitación de reducción de plomo

- La reducción de plomo hace referencia al trabajo que se realiza con el propósito específico de eliminar permanentemente la pintura a base de plomo y los peligros de la misma de una vivienda. Este curso **no es** un curso de reducción de plomo diseñado para tratar la eliminación, el encapsulamiento o el aislamiento de la pintura a base de plomo ni los peligros de la misma. Este curso **no es** un curso de operaciones y mantenimiento diseñado para controlar la pintura a base de plomo en el lugar, por medio de controles provisionales. Para realizar un trabajo de reducción de plomo se requiere capacitación adicional y especializada.

OSHA

- OSHA cuenta con requisitos de capacitación para los trabajadores que deben conocer los empleadores. Para obtener más información sobre los requisitos de OSHA, visite www.osha.gov/Publications/osha3142.pdf.

Requisitos estatales, locales y tribales

- Muchos estados, localidades y tribus indígenas tienen sus propios requisitos de pintura a base de plomo, lo que incluye capacitación y requisitos específicos de certificación. Consulte en su estado, localidad o viviendas tribales y agencias ambientales para obtener información sobre dichos requisitos.

Módulo 1: ¿Por qué hay que preocuparse por la pintura a base de plomo?

Descripción general de este módulo: La siguiente tabla resume el contenido y los métodos de enseñanza de este módulo. Es para su propia referencia. No trate este punto con los asistentes.

Módulo 1: ¿Por qué hay que preocuparse por la pintura a base de plomo? 20 minutos	
• 1-1: Módulo 1: ¿Por qué hay que preocuparse por la pintura a base de plomo? • 1-2: ¿Qué es la pintura a base de plomo? • 1-3: Riesgos del plomo para la salud • 1-4: Los síntomas del envenenamiento con plomo no siempre son obvios • 1-5: ¿Por qué el polvo y los escombros constituyen un problema? • 1-6: Una pequeña cantidad de polvo puede recorrer largas distancias • 1-7: Video sobre un contratista que envenenó a sus propios hijos • 1-8: Video sobre la madre de una menor envenenada por un trabajo de renovación • 1-9: Ahora ya saben...	Mensaje clave: El polvo es un problema y los contratistas generan polvo. Al manipular el plomo de manera segura, ustedes pueden marcar la diferencia. Notas: Este módulo incluye una demostración del instructor, seguida de diapositivas. • Demostración con cáscaras de pintura y paquete de edulcorante (5 minutos). • Diapositivas (15 minutos) Preparación para este módulo: Tenga los materiales listos para el ejercicio y la demostración. Materiales necesarios: Cáscaras de pintura laminada, paquete de edulcorante, pala plástica, escoba, juego para limpiar el polvo.

Diapositiva 1-1: Módulo 1: ¿Por qué hay que preocuparse por la pintura a base de plomo?

- Este módulo abarca la lista de temas que aparece en la diapositiva. Repase esta lista con los asistentes al curso.
- Objetivo del módulo: El propósito de este módulo es identificar y describir los efectos que tiene en la salud la exposición al plomo y, de ese modo, establecer la importancia de proteger a los residentes (y trabajadores) de la exposición al polvo contaminado con plomo.
- Después de finalizar este módulo, los asistentes podrán explicar:
 - La definición federal de la pintura a base de plomo.
 - Los riesgos del plomo para la salud de niños y adultos.
 - El motivo por el cual nos preocupamos por el polvo contaminado con plomo.

Módulo 1: ¿Por qué hay que preocuparse por la pintura a base de plomo?

Descripción general

- ¿Qué es la pintura a base de plomo?
- ¿Qué riesgos y efectos para la salud están relacionados con la exposición al plomo?
- ¿Por qué es un problema el polvo contaminado con plomo?

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Después de finalizar este módulo podrá explicar:

- Lo que es la pintura a base de plomo y por qué es un problema para los renovadores.
- Los riesgos del plomo para la salud de niños y adultos.
- El motivo por el cual nos preocupamos por el polvo contaminado con plomo.

Diapositiva 1-2: ¿Qué es la pintura a base de plomo?

- El propósito de esta diapositiva es proporcionar la definición **Federal** de “pintura a base de plomo”.
- Enfatique que el tema de la identificación de pintura a base de plomo se abarcará en el módulo 3. Además, procure abarcar definiciones estatales y locales de la pintura a base de plomo que sean relevantes.
- Lea la definición federal de pintura a base de plomo e indique que los gobiernos estatales y locales pueden tener definiciones diferentes para la pintura a base de plomo.
- Los instructores deben mencionar sólo brevemente la razón por la que se usaba plomo en las pinturas.
- En esta diapositiva no se debe comenzar un debate acerca de los efectos en la salud que tiene el plomo y los problemas asociados a las exposiciones a polvo con plomo.
- Revise las notas que están debajo de cada diapositiva.

¿Qué es la pintura a base de plomo?

- Las normas federales definen la pintura a base de plomo como:
 - Cualquier pintura o revestimiento de superficie que contenga plomo igual a 1.0 miligramos por centímetro cuadrado, o en exceso de esta medida, o un porcentaje mayor que el 0.5 por peso.
 - Algunos estados y localidades norman la pintura fijando concentraciones de plomo menores.
 - Es el origen principal de polvo contaminado con plomo en las viviendas.
- ¿Por qué se utilizaba plomo en la pintura?
 - El plomo se añadía para mejorar el color y la durabilidad.
- La pintura a base de plomo se prohibió en 1978.



United States Environmental Protection Agency

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Las normas federales definen la pintura a base de plomo.

- La pintura a base de plomo es cualquier pintura o revestimiento de superficie que contenga plomo igual a 1.0 miligramos por centímetro cuadrado, o en exceso de esta medida, o un porcentaje mayor que el 0.5 por peso.
- La pintura con concentraciones de plomo menores que la definición antes mencionada, también puede provocar problemas para la salud. Incluso la pintura con una pequeña cantidad de plomo puede constituir gran parte del polvo en el aire o que está depositado.
- En el módulo 3 se proporciona información sobre la forma de determinar si una propiedad contiene pintura a base de plomo.

Algunos estados y localidades norman la pintura fijando concentraciones de plomo menores.

- Debe verificar si los departamentos de salud estatales y locales cuentan con requisitos más estrictos que los requisitos federales.

¿Por qué se añadía plomo a la pintura?

- El plomo se añadía para mejorar el color y la durabilidad.
- También se añadía en algunos revestimientos de superficie, como barnices o tintes.

En 1978 se prohibió el uso residencial de la pintura a base de plomo

- En 1978, la Comisión de Seguridad de Productos del Consumidor prohibió la venta de pinturas a base de plomo para uso residencial. En la práctica, esto quiere decir que las viviendas construidas en 1978 aún podrían tener pintura a base de plomo, ya que aún podrían haber estado disponibles existencias de pintura con plomo.
- Es por esto que el año de construcción es un asunto muy importante a tener en cuenta.

Diapositiva 1-3: Riesgos del plomo para la salud

- Esta diapositiva y la siguiente tratan puntos similares; por tanto, repase ambas antes de presentarlas a los alumnos para asegurarse de poder relacionarlas y mencionar los puntos necesarios de cada una.

Efectos en la salud de los niños

- Los niños, en especial los menores de 6 años, son los que corren mayor riesgo debido a pequeñas cantidades de plomo.
- Para los niños, la principal vía de entrada del plomo al cuerpo es a través de la ingestión de polvo con plomo por medio del contacto normal de las manos con la boca. De esta forma ingieren polvo de sus manos, juguetes y otras cosas que se ponen en la boca.
- Los cuerpos de los niños absorben un porcentaje mucho mayor (~50%) del polvo que ingieren o respiran, en comparación con los adultos (~10%).
- En los niños, el plomo puede provocar:
 - Disminución de la inteligencia, trastorno por déficit de atención y discapacidades de aprendizaje.
 - Problemas de comportamiento.
 - Daños en el sistema nervioso y en los riñones.
 - Problemas de habla y lenguaje.

Si bien la exposición leve al plomo es la más común, la exposición a altos niveles de plomo puede causar efectos devastadores en los niños, como convulsiones, inconsciencia y, en algunos casos, la muerte. Muchos estudios sugieren que una vez que el plomo ha dañado a un niño, este daño es permanente. Puede evitar que el niño se exponga, pero el daño permanece.

Efectos en la salud de los adultos

- Enfatice que para la mayoría de los adultos, la principal vía de entrada del plomo al cuerpo es a través de la inhalación (respiración) de polvo con plomo durante exposiciones ocupacionales.
- En mujeres embarazadas:
 - El plomo que llevan en la sangre se transfiere al feto (niño en gestación).
 - Algunos de los daños que puede sufrir el feto pueden ser daño cerebral y la muerte.
- En adultos, el plomo puede provocar:
 - Hipertensión.
 - Problemas de fertilidad tanto en hombres como en mujeres.
 - Problemas digestivos.
 - Trastornos nerviosos.
 - Trastornos sexuales.
 - Problemas de memoria y concentración.
 - Dolores musculares o de articulaciones.

Riesgos del plomo para la salud

- **Muy peligroso para niños.**
 - Daña el cerebro y el sistema nervioso central; puede disminuir la inteligencia, causar dificultades para leer y aprender, problemas de comportamiento e hiperactividad.
 - Los daños pueden ser irreversibles, lo que afectaría a los niños toda su vida.
- **Es peligroso para mujeres embarazadas.**
 - Daños al feto.
- **También es peligroso para los trabajadores y otros adultos.**
 - Hipertensión.
 - Pérdida de libido o capacidad sexual.
 - Fatiga física.
- **La exposición al plomo produce daños permanentes.**



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Los niños menores de seis años son los que están en más riesgo debido a pequeñas cantidades de plomo.

- Los niños corren mayor riesgo que los adultos, debido a que sus cuerpos están en desarrollo. Durante las actividades de juego normales y frecuentes, o cuando se llevan las manos a la boca, los niños pueden ingerir o inhalar polvo de las manos, juguetes, alimentos u otros objetos.
- En los niños, el plomo puede provocar:
 - Daños en el sistema nervioso y en los riñones.
 - Disminución de la inteligencia, trastorno por déficit de atención y discapacidades del aprendizaje.
 - Problemas de habla, lenguaje y comportamiento.

Entre los adultos, especialmente las mujeres embarazadas corren riesgo debido a la exposición al plomo.

- El plomo pasa de la madre al feto y puede causar:
 - Abortos espontáneos
 - Nacimientos prematuros
 - Daños en el cerebro
 - Bajo peso al nacer

Entre los efectos del plomo en la salud de los adultos se incluye:

- Hipertensión.
- Problemas de fertilidad en hombres y mujeres.
- Problemas digestivos
- Trastornos nerviosos.
- Problemas de la memoria y la concentración.
- Trastornos sexuales.
- Dolores musculares o de articulaciones.

Diapositiva 1-4: Los síntomas del envenenamiento con plomo no siempre son obvios

- El envenenamiento con plomo suele tener síntomas no específicos, como irritabilidad en los niños o hipertensión en los adultos.
- El personal médico puede malinterpretar fácilmente las señales y los síntomas del envenenamiento con plomo, por tanto se puede retrasar un tratamiento eficaz y aumentar la posibilidad de daños permanentes tanto físicos como mentales. Debe comentar con su médico su historial de trabajo y cualquier exposición relacionada con el plomo para recibir un diagnóstico preciso y el tratamiento apropiado.
- La mejor manera de medir la exposición al plomo es mediante un análisis de sangre.
- La forma más común de medir la cantidad de plomo en la sangre es a través del análisis de nivel de plomo en la sangre (BLL, por sus siglas en inglés).
- No es necesario describir esta prueba a los asistentes. La información acerca del análisis de nivel de plomo en la sangre que se incluye abajo es para su referencia en caso de que le formulen preguntas.
- El punto que se debe enfatizar es que incluso una pequeña cantidad de plomo en la sangre es un motivo de preocupación. Asegúrese de revisar y citar los ejemplos que aparecen en las notas de los alumnos con respecto a qué es un microgramo y cómo es de pequeño.
- El análisis de nivel de plomo en la sangre:
 - Mide la cantidad de plomo que circula por la sangre.
 - Puede proporcionar información acerca de recientes exposiciones al plomo.
 - No mide la cantidad total de plomo en el cuerpo.
 - No predice si existirá algún daño a largo plazo.
 - La Administración de Seguridad y Salud Ocupacional (OSHA, por sus siglas en inglés) es responsable de establecer límites aceptables de plomo en la sangre y de exposición a plomo en suspensión para adultos en el lugar de trabajo.

Los síntomas del envenenamiento con plomo no siempre son obvios

- El personal médico puede malinterpretar fácilmente los síntomas, retrasando así un tratamiento eficaz y aumentando la posibilidad de daños permanentes tanto físicos como mentales.
- La única forma de determinar el envenenamiento con plomo es hacer un análisis del nivel de plomo en la sangre (BLL, por sus siglas en inglés).



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El envenenamiento con plomo no siempre tiene síntomas obvios.

- Por lo general, los síntomas del envenenamiento con plomo no son específicos y se atribuyen con frecuencia a otras causas.
- A menudo, las personas expuestas a plomo se quejan de síntomas específicos que incluyen:
 - Dolor de cabeza
 - Dolor de estómago
 - Irritabilidad
 - Fatiga
 - Pérdida del apetito
 - Dolores musculares o de articulaciones
- Ya que muchos síntomas no son específicos o son parecidos a los síntomas de la gripe, es posible que los padres no estén alerta y obtengan atención médica inmediata para sus hijos. Esto es crítico para niños pequeños, ya que mientras mayor sea el tiempo sin tratamiento, mayor es el riesgo de que se produzcan daños cerebrales permanentes.
- Los trabajadores con una exposición ocupacional al plomo necesitan informarlo a sus médicos, a fin de proporcionarles todos los antecedentes necesarios para una evaluación de síntomas adecuada, ya que posiblemente estén relacionados con la exposición al plomo.
- La mejor manera de determinar si hay plomo presente en el cuerpo es mediante un análisis de sangre.
- La cantidad de plomo en la sangre se mide en microgramos por decilitro de sangre, una unidad de medida muy pequeña. Un microgramo es la millonésima parte de un gramo. Es igual que sacar un centavo de US\$10.000. Como referencia, un sujetapapeles de tamaño estándar pesa casi un gramo o un millón de veces más que un microgramo. Un microgramo es una cantidad muy pequeña de plomo. Recuerde lo pequeña que es esta cantidad de plomo cuando se aplique a la limpieza del polvo cuando lleguemos al **módulo 4: Contención del polvo mientras trabaja, Módulo 5: Mientras trabaja y Módulo 6: Actividades de limpieza y verificación del trabajo.**

Diapositiva 1-5: ¿Por qué el polvo y los escombros constituyen un problema?

- Revise las notas que están debajo de cada diapositiva.
- Destaque los siguientes puntos:
 - Una pequeña cantidad de plomo puede ser sumamente dañina, especialmente con el tiempo.
 - Si el polvo contiene plomo, puede envenenar a los trabajadores, residentes y niños.
 - Los trabajadores pueden llevar a casa polvo contaminado con plomo en sus vehículos y en la ropa y zapatos, con lo que pueden exponer al plomo a niños y otros adultos.
 - Por lo general, las partículas de polvo con plomo son tan pequeñas que no se pueden ver, no obstante puede inhalarlas e ingerirlas.
 - Los niños suelen inhalar o ingerir polvo contaminado con plomo durante actividades normales de contacto de sus manos con la boca. Algunas de estas actividades son: manipulación de juguetes y posterior contacto de los dedos con la boca; ensuciarse las manos directamente mientras gatean; uso de antepechos de ventanas para ponerse de pie.
 - Los adultos pueden ingerir o respirar polvo durante las actividades laborales.
- Haga circular una cáscara de pintura laminada de 1 centímetro cuadrado (también servirá un trozo cortado de una muestra de pintura pegado en un trozo de cartulina o en un tubo de ensayo) para mostrar la cantidad de pintura a base de plomo que se necesita para envenenar a un niño, si estuviera dispersa en el suelo de una habitación. La pintura a base de plomo contiene un mínimo de 1 miligramo de plomo por centímetro cuadrado. Suponga que la cáscara de pintura contiene 1 miligramo de plomo. Ese miligramo equivale a 1000 microgramos de plomo. Si se moliera esta cáscara de pintura, contaminaría un área de 25 pies cuadrados, más de 15 pies lineales de antepechos de ventanas de 4 pulgadas o más de 15 pies lineales de canales de ventanas de 2 pulgadas, de acuerdo con los límites normativos para obtener una aprobación. Ahora puede ver por qué basta un poco de plomo para causar muchos problemas.
- Enfatice que incluso cuando se altera una pintura con concentraciones de plomo más bajas que la norma federal, la alteración puede provocar altas concentraciones de plomo en el polvo, lo que puede causar problemas de salud.

Sea enfático al mencionar que si no se toman precauciones antes, durante y después de trabajos que generen polvo, los trabajadores, residentes y niños podrían envenenarse con plomo.

¿Por qué el polvo y los escombros constituyen un problema?

- Las actividades de renovación que alteran la pintura a base de plomo generan polvo y escombros. Los escombros se convierten en polvo.
- El polvo contaminado con plomo es venenoso.
- Las cantidades muy pequeñas de polvo contaminado con plomo pueden envenenar a niños y adultos.
 - Los niños ingieren polvo durante sus actividades de juego normales.
 - Los adultos ingieren o respiran polvo durante las actividades laborales.
- Los trabajadores pueden llevar polvo contaminado con plomo a sus hogares y envenenar a sus familias.



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El polvo y los escombros de los trabajos de renovación, reparación y pintura en viviendas e instalaciones habitadas por niños construidas antes de 1978 pueden contener plomo.

- La pintura previa a 1978 puede contener plomo.
- Los trabajos de renovación, reparación y pintura alteran la pintura que pueda contener plomo. Cualquier actividad que implique la preparación de superficies puede generar polvo con plomo, como por ejemplo al raspar con la mano, utilizar lijadoras eléctricas, pistolas de aire caliente por encima de los 1100° Fahrenheit y soldar con soplete de llama. Las tareas más complicadas, como retirar componentes de construcciones y demoler paredes pueden generar mucho polvo.

Las cantidades pequeñas de polvo contaminado con plomo pueden envenenar a niños y adultos.

- Una pequeña cantidad de plomo puede ser sumamente dañina.
- Por lo general, las partículas de polvo con plomo son tan pequeñas que no las puede ver, no obstante puede respirarlas o ingerirlas. Estas partículas más pequeñas, ya sean inhaladas o ingeridas, son absorbidas por el cuerpo con mayor facilidad que las partículas más grandes y, por lo tanto, pueden envenenar con más facilidad.
- Los niños, residentes y trabajadores pueden respirar o ingerir polvo con plomo.
- Los niños pueden ingerir o inhalar el polvo de las manos, juguetes, alimentos u otros objetos durante las actividades normales cuando se lleven las manos a la boca. También pueden ingerir cáscaras de pintura.
- Los adultos pueden ingerir o respirar polvo durante las actividades laborales.
 - Se genera polvo cuando los trabajadores desempeñan actividades tales como raspado y lijado con la mano, o utilizan una lijadora eléctrica o una herramienta para rectificar. El polvo se mezcla con el aire que respiran.
 - Si los trabajadores comen, beben, fuman o colocan cualquier cosa en la boca sin lavarse las manos primero, es posible que ingieran polvo con plomo.

9 de febrero

Diapositiva 1-6: Una pequeña cantidad de polvo puede recorrer largas distancias

Para esta diapositiva necesitará un paquete de edulcorante, una escoba y una pala plástica. Nota: También puede realizar esta demostración con un polvo llamado "Glo Germ", que se resalta con una luz negra (<http://www.glogerm.com>).

Realice la siguiente demostración para enfatizar los puntos de esta diapositiva.

- Abra un paquete de edulcorante artificial y espolvoréelo por el piso. (Nota: Use edulcorante artificial en vez de azúcar. Es más fino.) También puede abrir el paquete en un haz de luz de una linterna potente o de un proyector, para demostrar lo fino que es el polvo y luego indicar lo difícil que resulta en el piso o en la alfombra una vez que se deposite. El punto es que debe pasar un tiempo para que las partículas finas se depositen.
- Solicite a algunos asistentes que caminen por el edulcorante derramado.
- Ahora entregue la escoba a un participante y dígame que barra el edulcorante.
- Pregunta para los alumnos: "¿Creen que ya no queda edulcorante?" (No). Pregunte si hay edulcorante en la suela de los zapatos que pasaron sobre él. (Sí) ¿Dónde está ese edulcorante ahora? (Probablemente en toda la habitación).
- Explique que una forma de probar la cantidad de edulcorante que hay en el piso es limpiar con un paño.
- Pregunta para los alumnos: "¿Creen que un análisis de laboratorio mostrará edulcorante en el paño? (Sí).
- Ahora diga a los alumnos que se imaginen que el paquete en realidad estaba lleno de polvo con plomo. El hecho es que un paquete de pintura a base de plomo pulverizada (un gramo) podría contaminar una habitación entera a niveles más altos que el límite federal de aprobación. La fórmula que sostiene esta afirmación se menciona más abajo. No necesita comentarla en detalle, pero úsela en caso de que los alumnos formulen preguntas.

Fórmula del paquete de edulcorante (*Utilice esta información sólo si los asistentes la solicitan*).

Un paquete de edulcorante contiene un gramo de edulcorante. Imagine que ese paquete de un gramo contiene, en realidad, pintura pulverizada con la cantidad de plomo suficiente para ser definida como pintura a base de plomo (0.5% por peso). El paquete de edulcorante contendría entonces, 5,000 microgramos de polvo de plomo, suficiente para contaminar 125 pies cuadrados a un nivel de 40 microgramos por pie cuadrado. Si el polvo tuviera un mayor contenido de plomo, podría contaminar un área aún más grande. Con un 1% de plomo, un gramo podría contaminar 250 pies cuadrados; con un 5% de plomo, podría contaminar 1,250 pies cuadrados.

Una pequeña cantidad de polvo puede recorrer largas distancias

- **No se puede ver.**
- **Es difícil de barrer.**
- **Además, recorre distancias.**

¡Un gramo de pintura a base de plomo puede contaminar una gran área!



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Una pequeña cantidad de polvo puede recorrer largas distancias.

- **No se puede ver.** Incluso un piso que parece limpio puede tener polvo con plomo. Solamente un examen de laboratorio puede asegurarle si un área está contaminada con plomo.
- **Es difícil de barrer.** Los métodos de limpieza normales no recogerán todo el polvo en un área de trabajo. Barrer no es suficiente. Se necesita usar agua, detergente y una aspiradora HEPA para limpiar el polvo de forma eficaz.
- **Recorre distancias.** Una vez que se genera polvo, es fácil pisarlo y llevarlo dentro y fuera del área de trabajo. Además, un trabajo de pintura exterior puede contaminar el interior de una vivienda medida que el polvo, las cáscaras y el suelo con plomo se llevan al interior con la pisadas.

Más adelante en este curso, analizaremos en detalle las normas de la Agencia de Protección Ambiental (EPA, por sus siglas en inglés) y el Departamento de Vivienda y Urbanismo (HUD, por sus siglas en inglés) sobre los procesos de aprobación y los peligros del polvo con plomo. Aquí se incluyen los límites para reforzar la idea de que una cantidad muy pequeña de plomo puede causar problemas para la salud. Estas cifras representan la cantidad de plomo medida en microgramos (1 millonésima de un gramo) que se permite en un área de un pie de ancho por un pie de largo (un pie cuadrado). Más de esta cantidad de plomo en las áreas específicas es peligroso.

EPA y HUD utilizan estas normas cuando se realiza la aprobación:

- Pisos 40 microgramos por pie cuadrado
- Antepechos interiores de ventanas 250 microgramos por pie cuadrado
- Canales de ventanas 400 microgramos por pie cuadrado

NOTA: Los estados y las localidades pueden hacer cumplir normas menores.

Diapositiva 1-7: Video sobre un contratista que envenenó a sus propios hijos

- Presente el video leyendo la nota del alumno.

“El siguiente video muestra a Kevin Sheehan, un contratista que trabaja con plomo, que analiza cómo envenenó a su familia mientras trabajaba en viviendas más antiguas que contenían pintura a base de plomo. Kevin analiza la necesidad de tomar precauciones seguras con el plomo durante el trabajo de renovación, comparte las lecciones aprendidas y revela lo que se puede hacer para mantener a las personas seguras durante un trabajo en viviendas más antiguas con pintura a base de plomo.”

- Muestre el video a los alumnos.



El contratista analiza cómo las prácticas de trabajo seguras con el plomo hubiesen protegido a sus hijos contra el envenenamiento con plomo.

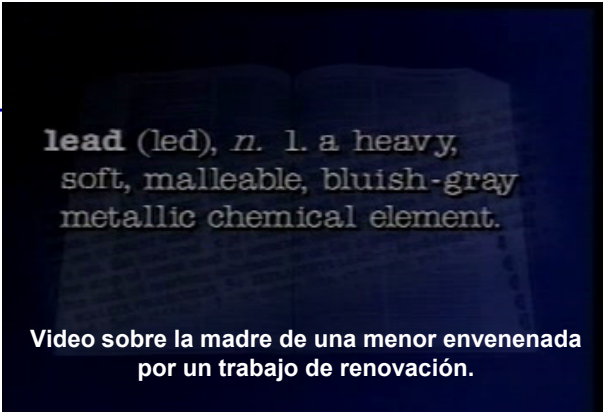
El video que se muestra en este punto del curso es sobre Kevin Sheehan, un contratista que trabaja con plomo, que analiza cómo envenenó a su familia mientras trabajaba en viviendas más antiguas que contenían pintura a base de plomo. Kevin analiza la necesidad de tomar precauciones seguras con relación al plomo durante el trabajo de renovación, comparte la lección que ha aprendido y revela lo que se puede hacer para mantener a las personas seguras durante un trabajo en casas más antiguas con pintura a base de plomo.

Diapositiva 1-8: Video sobre la madre de una menor envenenada por un trabajo de renovación

- Presente el video leyendo la nota del alumno.

“El siguiente video muestra a Maurci Jackson, una madre cuya hija se envenenó con plomo. Analiza lo difícil que fue ver a su hija someterse a una terapia de "quelación" (la eliminación química del plomo del cuerpo). Maurci comparte sus temores acerca de la futura salud de su hija, después de haber sido envenenada con plomo y su frustración de saber que el envenenamiento con plomo es completamente prevenible si los que alteran la pintura a base de plomo consideraran las consecuencias de trabajar con plomo de forma incorrecta. Enfatiza la necesidad de tomar precauciones y hacer una planificación segura con relación al plomo para evitar el envenenamiento.”

- Muestre el video a los alumnos.



lead (led), *n.* 1. a heavy, soft, malleable, bluish-gray metallic chemical element.

Video sobre la madre de una menor envenenada por un trabajo de renovación.

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La madre analiza el tratamiento de la menor envenenada por un trabajo de renovación.

El video que se muestra en este punto del curso es sobre Maurci Jackson, una madre cuya hija se envenenó con plomo. Analiza lo difícil que fue ver a su hija someterse a tratamientos de "quelación" para eliminar el plomo de su cuerpo. Maurci comparte sus temores acerca de la salud futura de su hija, después de haber sido envenenada con plomo y su frustración sobre el envenenamiento, ya que es completamente prevenible si los que alteran la pintura a base de plomo consideraran las consecuencias de trabajar con plomo de forma incorrecta. Enfatiza la necesidad de tomar precauciones y hacer una planificación segura con relación al plomo para evitar el envenenamiento.

Nota: El tratamiento de quelación es una serie de procedimientos médicos para eliminar el plomo del cuerpo.

Diapositiva 1-9: Ahora ya saben...

Utilice esta diapositiva brevemente para cerrar el módulo y realizar la transición al módulo siguiente (Módulo 2: Reglamentos).

Ahora ya saben...

- Lo que es la pintura a base de plomo y los efectos adversos del plomo para la salud.
- Que el polvo es el problema.
- Que el envenenamiento por plomo es difícil de identificar y que los efectos pueden llegar a ser permanentes.
- Que los niños son los que están en el mayor riesgo de envenenarse por plomo.
- Que el envenenamiento por plomo se puede evitar.



Módulo 2: Reglamentos

Módulo 2: Reglamentos

Propósito: Dar a conocer a los renovadores que asistan al curso de capacitación el conocimiento los requisitos normativos que afectan el trabajo de renovación y familiarizarlos con los recursos que pueden utilizar para comprender las reglas de la Agencia de Protección Ambiental (EPA, por sus siglas en inglés) y del Departamento de Vivienda y Urbanismo (HUD, por sus siglas en inglés).

- Repase el propósito de este módulo con los alumnos

Descripción general de este módulo: Como referencia, la siguiente tabla resume el contenido y los métodos de enseñanza para este módulo. No trate este punto con los asistentes.

Módulo 2: Reglamentos	45 minutos
• 2-1: Módulo 2: Reglamentos • 2-2: La regla RRP • 2-3: La regla RRP: Exclusiones • 2-4: La regla RRP: Estipulación de renuncia • 2-5: La regla RRP: Certificación de empresa • 2-6: La regla RRP: Responsabilidades de la empresa • 2-7: La regla RRP: Certificación individual • 2-8: La regla RRP: Responsabilidades del renovador certificado • 2-9: La regla RRP: Normas de prácticas de trabajo • 2-10: La regla RRP: Cumplimiento de la ley • 2-11: Regla del Departamento de Vivienda y Urbanismo sobre viviendas sin plomo • 2-12: Regla del Departamento de Vivienda y Urbanismo sobre viviendas sin plomo Prácticas de trabajo seguras • 2-13: La regla del Departamento de Vivienda y Urbanismo se refiere a: • 2-14: Conozca las reglas de la Agencia de Protección Ambiental y del Departamento de Vivienda y Urbanismo • 2-15: Reglamentos estatales y locales • 2-16: Ahora ya saben...	Mensaje clave: Conozca las reglas de la Agencia de Protección Ambiental y del Departamento de Vivienda y Urbanismo. Estas reglas determinan las exigencias específicas y dependientes del desempeño que se deben lograr para conseguir el cumplimiento. Notas: Conozca a su público. Cada contratista debe conocer todos los reglamentos. Preparación para este módulo: Revise los materiales por adelantado. Lea todos los reglamentos federales, estatales y locales.

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Diapositiva 2-1: Módulo 2: Reglamentos

Mencione que el Título X (dicho "Título diez") es la ley de autorización tanto para la EPA como para el HUD por medio de la cual el Congreso les asignó la autoridad para regular las distintas áreas de la industria del plomo.

La EPA recibió el encargo de desarrollar reglamentos de capacitación y certificación que los renovadores deben seguir al trabajar en viviendas construidas antes de 1978 y en instalaciones habitadas por niños.

Prácticas seguras para trabajar con plomo en labores de renovación, reparación y pintura

Módulo 2 Notas del instructor

9 de febrero

El HUD recibió el encargo de establecer guías para prácticas de trabajo que se utilizan durante trabajos de reducción de plomo y de control del peligro del plomo. Además, el HUD es responsable de los reglamentos que norman la renovación y los trabajos de control del peligro del plomo en las viviendas de interés con ayuda federal. OSHA es responsable de desarrollar reglamentos de seguridad para el plomo en la construcción y en las industrias generales.

Reglamentos estatales y locales:

- Aborde los reglamentos estatales y locales al final de este módulo.
- La Regla Final del Programa de Renovación, Reparación y Pintura de la EPA permite que los estados autorizados por dicha entidad administren los requisitos de la regla RRP para la EPA. En estos estados, es el estado autorizado quien proporciona la certificación y acreditación de la EPA.
- En estados no autorizados se deben cumplir tanto los requisitos de la EPA como los del estado.

Módulo 2: Reglamentos

Agencia de Protección Ambiental de los Estados Unidos (EPA):

- Creó programas acreditados de capacitación y certificación para trabajadores, supervisores, inspectores y evaluadores de riesgos encargados de la evaluación o reducción de pinturas a base de plomo.
- Estableció los requisitos de educación previa a la renovación.
- Promulgó la Regla Final del Programa de Renovación, Reparación y Pintura (regla RRP).

Departamento de Vivienda y Urbanismo de los Estados Unidos (HUD):

- Inició acciones dirigidas a las viviendas de interés que reciben ayuda federal.
- Estableció programas de subsidios federales.
- Sentó las directrices para la evaluación y el control de pinturas a base de plomo y creó la regla de la vivienda sin plomo.

Administración de Seguridad y Salud Ocupacional de los Estados Unidos (OSHA):

- Estableció normas de protección para el trabajador.



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Agencia de Protección Ambiental de los Estados Unidos (EPA, por sus siglas en inglés):

- La EPA ha establecido requisitos de capacitación para quienes participan en la reducción de plomo (eliminación permanente del plomo). **Un renovador certificado no puede efectuar una reducción de pintura a base de plomo, a menos que además sea un trabajador o un supervisor certificado en reducción de plomo.**
- Se define como reducción de plomo cualquier medida o conjunto de medidas cuyo propósito sea eliminar o cubrir pinturas a base de plomo o los peligros de la pintura a base de plomo. Entre otras medidas, la reducción de plomo contempla: (1) La eliminación de pintura y polvo, el cierre o la encapsulación permanente de pintura a base de plomo, la sustitución de superficies o accesorios con pintura o la eliminación o cobertura permanente de suelos, cuando en tal pintura, polvo o suelo existan peligros asociados a la pintura a base de plomo; y (2) todas las actividades de preparación, limpieza, desecho y pruebas de aprobación posterior a una reducción relacionadas con tales medidas. (Código de Regulación Federal 745.223, parte 40).
- La reducción de plomo no incluye renovaciones, remodelaciones, jardinería u otras actividades que no tengan como fin la eliminación permanente de los peligros de la pintura de base de plomo, sino que pretenden reparar, restaurar o remodelar una estructura o vivienda específica, incluso si de manera imprevista producen una reducción o la eliminación de los peligros de la pintura a base de plomo. Aún más, la reducción de plomo no incluye controles, operaciones o actividades de mantenimiento de carácter provisional ni tampoco otras medidas y actividades destinadas a la disminución temporal, pero no permanente, de los peligros de la pintura a base de plomo. (Código de Regulación Federal 745.223, parte 40).
- El módulo 3 contiene información sobre los requisitos de educación previa a la renovación.
- En las siguientes diapositivas se detalla la regla RRP.

Departamento de Vivienda y Urbanismo de los Estados Unidos (HUD):

- Si usted trabaja en viviendas de interés que reciben ayuda federal, será necesario que adopte determinadas acciones para abordar los peligros del plomo. En estos casos, los trabajadores deben recibir una capacitación adecuada. Consulte el Apéndice 2 para obtener más información sobre los requisitos que ha establecido el HUD en cuanto a capacitación del trabajador y reducción de los peligros del plomo en viviendas con ayuda federal.
- El HUD cuenta con un programa de subsidios para que los gobiernos estatales y locales financien actividades de reducción de los peligros del plomo.
- Averigüe si en los estados y las localidades limítrofes existe algún programa local (con fondos estatales o federales) diseñado para contrarrestar los peligros del plomo.

Administración de Seguridad y Salud Ocupacional de los Estados Unidos (OSHA): La OSHA tiene una norma sobre plomo en la construcción que resume los requisitos de protección al trabajador. Su empleador debe estar al tanto de dichos requisitos. Para obtener más información con respecto a la regla de OSHA sobre plomo en la construcción, consulte el Código de Regulación Federal 1926.62, parte 29 (<http://www.osha.gov/Publications/osha3142>).

Reglamentos estatales y locales: Es posible que se apliquen reglamentos estatales y locales al trabajo de renovación que realiza. Si es así, al final de este módulo encontrará esos requisitos.

Diapositiva 2-2: La regla RRP

Al abordar esta diapositiva, asegúrese de definir los siguientes términos:

- **Vivienda de interés** es una vivienda o unidad residencial construida antes del 31 de diciembre de 1977, excepto:
 - o viviendas construidas para ancianos o personas con discapacidades (a menos que un niño menor de 6 años viva ahí o se espere que viva ahí), o
 - o viviendas sin dormitorios (estudios, hospitales, hoteles, residenciales, etc.)

Nota: Las **viviendas de interés** también pueden recibir el nombre “vivienda construida antes de 1978”.

- Una **instalación habitada por niños** es cualquier construcción edificada antes de 1978 o una sección de una construcción que recibe visitas de los mismos niños, menores de 6 años, las cuales ocurren al menos en dos días distintos de cualquier semana, durante al menos 3 horas al día y donde las visitas semanales combinadas superan las 6 horas y las visitas anuales combinadas superan las 60 horas. Algunas instalaciones habitadas por niños son: escuelas, instalaciones para el cuidado infantil y guarderías.

Tenga en cuenta que la EPA puede autorizar estados, territorios y tribus para hacer cumplir todos los aspectos de la regla RRP. Estos estados reciben el nombre “estados en el acuerdo”. La EPA hace cumplir la regla en los estados que no integren el acuerdo.

La regla RRP

Trata sobre las actividades que alteran la pintura a base de plomo en las viviendas de interés y en instalaciones ocupadas por niños. Requiere que:

- Los renovadores se certifiquen mediante capacitación.
- Las empresas se certifiquen.
- Los proveedores de capacitación se acrediten.
- Existan prácticas de trabajo seguras con el plomo en los trabajos de renovación.
- Se brinde educación previa a la renovación en las viviendas de interés y en instalaciones ocupadas por niños.
- El 22 de abril de 2010, a más tardar, las empresas que trabajan en hogares e instalaciones ocupadas por niños, construidas antes de 1978, deberán certificarse y emplear prácticas de trabajo seguras con el plomo en sus trabajos de renovación.
- La EPA puede autorizar que el cumplimiento de la regla sea hecho cumplir por estados, territorios y tribus.



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Regla Final de la EPA para la Renovación, Reparación y Pintura:

- Publicada el 22 de abril de 2008, con la autoridad de la Ley de Control de Sustancias Tóxicas (sección 402(c)(3) de la Ley TSCA).
- Después del 22 de abril de 2010, la regla final tratará sobre los peligros de la pintura a base de plomo que se deriven de actividades de renovación, reparación y pintura que alteran la pintura a base de plomo en las "viviendas de interés" y en las "instalaciones ocupadas por niños".

Una vivienda de interés es un hogar o una unidad residencial construida antes del 31 de diciembre de 1977, excepto:

- Las viviendas destinadas a ancianos o personas con discapacidad (a menos que resida o vaya a residir en dicha vivienda algún niño menor de seis años).
- Cualquier vivienda sin dormitorios (por ejemplo, estudios, hospitales, hoteles, residencias, etc.)

Una instalación ocupada por niños es una construcción anterior a 1978 que reúne los tres criterios siguientes:

- Es visitada regularmente por niños menores de seis años.
- Las visitas son al menos en dos días distintos de la semana (período comprendido entre lunes y domingo), siempre y cuando la visita de cada día dure al menos 3 horas.
- Las visitas semanales en conjunto representan al menos 6 horas y las visitas anuales en conjunto representan al menos 60 horas.

Las instalaciones ocupadas por niños pueden encontrarse en una construcción pública o comercial, o en una de las viviendas de interés. Entre estas instalaciones se cuentan escuelas, servicios de cuidado infantil y guarderías.

- **Autorización estatal:** La EPA puede autorizar a los estados, territorios y tribus que hagan cumplir los aspectos de la regla RRP. Estos estados reciben el nombre "estados en el acuerdo". La EPA hará cumplir la regla en los estados que no integren el acuerdo.

La regla entrará en vigor a partir del 22 de abril de 2010:

- Los proveedores de capacitación deben estar acreditados.
- Las empresas de renovación deben estar certificadas.
- Los renovadores y los técnicos de muestreo de polvo deben contar con capacitación y certificación.
- Los trabajadores no certificados deben trabajar bajo la supervisión e instrucción práctica de un renovador certificado.
- Se deben seguir prácticas de trabajo para los trabajos contemplados por la regla.
- Los renovadores deben educar a los propietarios y ocupantes (módulo 3).

Diapositiva 2-3: La regla RRP: Exclusiones

Explique a los alumnos que existen varias situaciones en las que la regla no se aplicará en su trabajo, como:

- Cuando un informe de inspección de plomo preparado por un inspector de plomo certificado o un asesor de riesgo establece que en la vivienda de interés o en la instalación habitada por niños no hay presencia de pintura a base de plomo en las superficies que se alterarán durante el trabajo.
- Cuando el kit de pruebas reconocido por la EPA que utilizó el renovador certificado para probar las superficies que se alterarán durante los trabajos de renovación, reparación o pintura no identifican pintura a base de plomo durante las pruebas.
- Cuando los trabajos interiores de renovación, reparación o pintura alteran menos de 6 pies cuadrados de pintura por habitación. El reemplazo de ventanas y la demolición no califican como exclusiones, incluso si la cantidad de pintura a base de plomo presente, o que se cree presente, que se alterará es inferior a este límite.
- Cuando los trabajos exteriores de renovación, reparación o pintura alteran menos de 20 pies cuadrados de pintura por lado de la construcción.
- Cuando el propietario realiza trabajos de renovación, reparación y pintura en la vivienda que ocupa.
- Cuando el **trabajo se realiza sin compensación** de ningún tipo.
- Cuando se realiza una renovación de emergencia, los requisitos de instalación y educación anterior a la renovación no se aplican en la medida que sea necesario para el caso de emergencia. Es posible que no se apliquen otros requisitos para el caso de emergencia; de lo contrario, se considera que están en vigor. Pese a esto, la empresa de renovación debe limpiar la vivienda y realizar una verificación o aprobación de limpieza antes de que vuelva a ser habitada. En este caso, sería normal que no hubiese residentes. Las medidas para la protección personal y las prácticas prohibidas en el trabajo sí se pueden aplicar en este trabajo.

Tenga en cuenta que nunca deben realizarse prácticas prohibidas, incluso cuando existan exclusiones en el trabajo.

La regla RRP: Exclusiones

- **Actividades de renovación en que los componentes afectados no contengan pintura a base de plomo.**
- **Renovaciones de emergencia (requieren limpieza y verificación de limpieza).**
- **Reparaciones menores y actividades de mantenimiento.** *Nota: Esta exclusión no se aplica a cambios de ventanas, demoliciones o actividades que involucren prácticas prohibidas.*
- **Renovaciones efectuadas por los propietarios en su propio hogar.**

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La regla de renovación, reparación y pintura no se aplica a trabajos de renovación que reúnan las siguientes exclusiones.

- Si la renovación afecta únicamente a componentes que no contienen pintura a base de plomo, la regla no se aplica a la renovación de éstos.
- La EPA ha establecido límites (a continuación) para reparaciones menores o mantenimiento. Los trabajos que no superen estos límites se eximen de los requisitos de prácticas de trabajo de la regla. Los límites de la EPA para reparaciones menores y mantenimiento son superiores a los límites fijados por el HUD (información del HUD en el siguiente recuadro).

En la regla hay definiciones para las actividades de reparación menor y mantenimiento.

- La EPA ha definido las actividades de reparación menor y mantenimiento del siguiente modo.
 1. Los trabajos de interiores que afectan a menos de 6 pies cuadrados (6 pie²) por habitación de superficie pintada se eximen de los requisitos de prácticas de trabajo de esta regla. No se requiere limpieza ni verificación de la limpieza después de efectuar actividades menores de reparación y mantenimiento, a menos que impliquen un cambio de ventanas, tareas de demolición u otras prácticas prohibidas.
 2. Los trabajos de exteriores que afectan a menos de 20 pies cuadrados (20 pie²) de superficie pintada se eximen de los requisitos de prácticas de trabajo de esta regla. No se requiere limpieza ni verificación de la limpieza después de efectuar actividades menores de reparación y mantenimiento, a menos que impliquen cambio de ventanas, tareas de demolición u otras prácticas prohibidas.
 3. Las actividades de reparación menores y de mantenimiento no incluyen cambios de ventanas, tareas de demolición ni actividades que impliquen prácticas prohibidas.
 4. La cantidad de superficie pintada alterada corresponde al total de la superficie que ocupaba el componente retirado. Salvo en el caso de renovaciones de emergencia efectuadas en un período de 30 días, se considerará que el trabajo es el mismo al momento de determinar la cantidad de pintura alterada.



La regla del HUD sobre viviendas sin plomo se aplica a todos los hogares construidos antes de 1978 que reciben ayuda federal para la vivienda, la que habitualmente se entrega a través de los gobiernos estatales y locales, en los que se vayan a afectar superficies pintadas mayores a las cantidades *de minimis* definidas por el HUD. Las cantidades *de minimis* del HUD son: 2 pies cuadrados de pintura interior a base de plomo, 20 pies cuadrados de pintura exterior a base de plomo ó 10% de la superficie total de un tipo de componente interior o exterior con una superficie pequeña que contenga pintura a base de plomo. Por ejemplo, antepechos de ventana, zócalos y molduras.

Diapositiva 2-4: La regla RRP: Estipulación de renuncia

La exención de renuncia se aplica cuando el propietario decide no utilizar prácticas de trabajo seguras con el plomo y **certifica por escrito que:**

- El **propietario y su familia residen en la vivienda;**
- **no hay niños menores de 6 años que residan en el hogar;**
- **no hay mujeres embarazadas que residan en el hogar;**
- **no hay instalaciones habitadas por niños en la vivienda;**
- se ha informado al propietario y a los residentes acerca de los peligros del plomo durante las renovaciones y han **recibido el folleto *Renovar correctamente***; y, el propietario firma un acuse de recibo por escrito que indica que la empresa certificada no está obligada a utilizar las prácticas de trabajo que se señalan en la regla.

Notas:

- Asegúrese de que cualquier método que utilice para registrar esta información permita que el dueño pueda documentar cómo se cumplen todos los requisitos de la estipulación de renuncia de la regla.

La regla RRP: Estipulación de renuncia

- Los propietarios pueden firmar una declaración de renuncia de los requisitos de práctica laboral de la regla, si se cumplen las siguientes condiciones:
 - El propietario reside en la casa;
 - En la casa no reside ninguna persona menor de 6 años y la casa no es una instalación ocupada por niños;
 - En la casa no reside ninguna mujer embarazada;
 - En la propiedad no existe ninguna instalación ocupada por niños; y,
 - El propietario firma un acuse de recibo por escrito de que no es necesario que la empresa certificada emplee las prácticas de trabajo de la regla.

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Las empresas certificadas cuentan con los conocimientos y la capacitación necesarios para evitar que el hogar se contamine con plomo, recurriendo a la aplicación de prácticas de trabajo seguras en la casa en que se alterará el plomo. La EPA invita a los propietarios a que cumplan con los requisitos de renuncia de las exigencias de prácticas de trabajo a que consideren con seriedad los servicios de una empresa certificada al efectuar renovaciones que alteren pinturas de las que se sabe o se sospecha que son a base de plomo.

Antes de decidir si renuncia a los requisitos de prácticas de trabajo seguras con el plomo, el propietario debe recibir el folleto *Renovar correctamente*, tal como lo exige la regla educacional previa a la renovación. Después de que se le informe sobre los problemas de seguridad relacionados con la alteración del plomo en una renovación, el propietario debe demostrar que cumple con los cuatro criterios que le permiten renunciar a los requisitos de práctica de trabajo de la regla.

1. el propietario debe vivir en la residencia que se va a renovar, y,
2. no debe haber niños menores de seis años que residan en el hogar; y,
3. no debe haber embarazadas que residan en el hogar; y,
4. en la propiedad no existe ninguna instalación ocupada por niños; y,
5. el propietario debe firmar una declaración de que no es necesario que la empresa certificada emplee las prácticas de trabajo de la regla.



El HUD no permite que los propietarios renuncien a las prácticas de trabajo seguras con el plomo en su vivienda beneficiaria de ayuda. La regla del HUD sobre viviendas sin plomo se aplica a todos los hogares construidos antes de 1978 que reciben ayuda federal para la vivienda, en los cuales se van a alterar más de 2 pies cuadrados de pintura de interior a base de plomo ó 20 pies cuadrados de pintura de exterior a base de plomo a causa de los trabajos de renovación, reparación o pintura.

Diapositiva 2-5: La regla RRP: Certificación de empresa

- Cite el 22 de octubre de 2009 como la fecha en la que las empresas de renovación pueden hacer una solicitud para obtener una certificación según la regla.
- Señale el 22 de abril de 2010 como la fecha en la que todas las empresas de renovación deben estar certificadas para continuar realizando trabajos de renovación, reparación o pintura.
- Recuerde a los alumnos que la certificación de una empresa requiere una solicitud y un pago a la EPA. La certificación de una empresa es distinta a la certificación individual que reciben los renovadores después de completar satisfactoriamente este curso.
- Mencione a los alumnos que la certificación de una empresa dura 5 años después de que la EPA la haga y le da a la empresa la capacidad para operar como renovador en cualquier estado no autorizado por la EPA.
- Explique que gobiernos estatales y locales pueden exigir la certificación de una empresa y que necesitan verificar las agencias apropiadas para determinar los requisitos que son aplicables.

La regla RRP: Certificación de empresa

- A partir del 22 de abril de 2010, todas las renovaciones cubiertas deben ser efectuadas por empresas certificadas, mediante renovadores certificados y otros trabajadores capacitados.
- Para certificarse, las empresas deben enviar una solicitud y pagar un costo a la EPA. Las empresas podrán iniciar el trámite de certificación el 22 de octubre de 2009.
- Las certificaciones tendrán validez durante 5 años.
- La certificación permite que la empresa realice renovaciones en cualquier estado o área tribal indígena sin autorización.

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- A partir del 22 de octubre de 2009 las empresas podrán solicitar su certificación a la EPA.
- A partir del 22 de abril de 2010, ninguna empresa que trabaje con viviendas de interés o con instalaciones ocupadas por niños, donde los trabajos vayan a alterar la pintura a base de plomo, podrá realizar, ofrecer o afirmar que efectúa renovaciones sin contar con su certificación de empresa entregada por la EPA o un estado, territorio o tribu indígena del acuerdo con autorización de la EPA.
- Sólo se necesita una certificación de empresa de renovaciones otorgada por la EPA para que una empresa de renovaciones trabaje en cualquier estado, territorio o área tribal no autorizados. La certificación de la empresa no es lo mismo que la certificación personal que logra cada renovador al aprobar satisfactoriamente el curso.
- Los estados, los territorios y las tribus pueden tramitar una autorización de la EPA para operar sus propios programas. Además, los estados, los territorios y las tribus, con o sin la autorización de la EPA, podrán establecer requisitos adicionales para las empresas que trabajan en sus jurisdicciones. Asegúrese de aclarar si su gobierno estatal, territorial o tribal cuenta con reglamentos adicionales que puedan afectar una renovación en su comunidad.

Diapositiva 2-6: La regla RRP: Responsabilidades de la empresa

- Repase la información de la diapositiva y del texto del alumno.

La regla RRP: Responsabilidades de la empresa

- Garantizar el cumplimiento general de la Regla RRP.
- Garantizar que todo el personal de renovación está integrado por renovadores certificados o ha recibido capacitación práctica por parte de renovadores certificados.
- Asignar un renovador certificado a cada trabajo.
- Cumplir con los requisitos de educación antes de la renovación.
- Cumplir con los requisitos de gestión de registros.

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- La empresa certificada debe asegurarse de que todos los que participan en el trabajo de renovación, reparación o pintura cuenten con capacitación para aplicar prácticas de trabajo segura con el plomo durante el trabajo. La EPA exige que todas las personas que se encuentran en el trabajo estén capacitadas. La persona encargada de las prácticas de trabajo seguras con el plomo debe ser un renovador certificado. Los demás empleados de la empresa (renovadores no certificados) que estén cumpliendo labores deben recibir capacitación en el trabajo por parte de un renovador certificado o ser renovadores certificados directamente. Lo anterior se puede lograr si:
 - Todos los empleados se capacitan como renovadores certificados; o
 - Al menos una persona se capacita como renovador certificado para que posteriormente capacite al resto de los empleados en prácticas de trabajo seguras con el plomo. Se debe recordar que esta capacitación tiene que ser impartida por un renovador certificado.
- La empresa certificada debe designar a un renovador certificado para: Realizar las actividades de instalación, garantizar que la renovación se efectúe de acuerdo con las normas de las prácticas de trabajo, revisar el trabajo y las actividades de limpieza mediante el procedimiento de verificación de limpieza y capacitar al personal de renovación no certificado en el trabajo en las normas de trabajo seguras con el plomo.
- La empresa certificada debe garantizar que la renovación se efectúa de conformidad con los requisitos de las prácticas de trabajo contenidas en la regla.
- La empresa certificada debe cumplir los requisitos de educación previa a la renovación.
- La empresa certificada también está encargada de llevar todos los registros, tales como:
 - Documentación sobre educación previa a la renovación (comprobante de recibo, comprobante de entrega, exenciones de responsabilidad, etc.);
 - Documentación sobre la pintura a base de plomo;
 - Registros de capacitación y certificación; y,
 - Registros de verificación de limpieza.

Nota: El módulo 7 detalla la gestión de registros.

Diapositiva 2-7: La regla RRP: Certificación individual

- Cite el 22 de abril de 2010 como la fecha en la que al menos un renovador activo debe recibir una certificación para supervisar los trabajos de renovación, reparación o pintura.
- Para recibir la certificación de renovador certificado sólo se debe completar satisfactoriamente un curso de capacitación aprobado por la EPA que haya sido dirigido por un proveedor de capacitación acreditado por la EPA.
- Mencione a los alumnos que la certificación dura 5 años después de que se haya completado satisfactoriamente el curso y les da la capacidad para operar como renovadores en cualquier estado no autorizado por la EPA.
- Recuerde a los alumnos que tendrán que llevar una copia de la información de su capacitación cuando estén en la obra.
- Explique qué entidades estatales, locales y tribales pueden exigir la certificación en algunas áreas y qué necesitan verificar las agencias apropiadas para determinar los requisitos que son aplicables.
- Para mantener su certificación, los renovadores certificados deben cursar capacitaciones de perfeccionamiento impartidas por un proveedor de capacitación de perfeccionamiento de renovador acreditado por la EPA antes de que se cumplan 5 años de la fecha de su curso de certificación inicial.

La regla RRP: Certificación individual

- Para convertirse en renovador certificado, la persona debe tomar un curso de capacitación de 8 horas de duración aprobado por la EPA con un proveedor de capacitación acreditado por la EPA.
- El certificado de finalización del curso sirve para certificar a un renovador (sin necesidad de tramitar la certificación con EPA).
- Se requiere una capacitación de perfeccionamiento cada 5 años.
- Los trabajadores no necesitan certificación mientras reciban capacitación en el trabajo de parte de un renovador certificado y mientras el trabajo no esté reglamentado por el HUD.

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A partir del 22 de abril de 2010, todas las renovaciones deberán ser dirigidas por renovadores certificados. Una persona puede llegar a ser un renovador certificado si toma un curso de 8 horas de duración aprobado por la EPA para capacitarse en materia de prácticas de trabajo seguras con el plomo, con un proveedor de capacitación aprobado por la EPA. La aprobación satisfactoria del curso le otorga una certificación durante 5 años como renovador certificado. Para conservar la certificación, los renovadores certificados deben asistir a un curso de perfeccionamiento de 4 horas aprobado por la EPA e impartido por un proveedor de capacitación acreditado por la EPA, antes de que la certificación expire.

No es necesario presentar una solicitud ni pagar para convertirse en renovador certificado. En lugar de esto, el certificado de aprobación del curso sirve como certificación de renovador. Debe haber una "copia" del certificado de aprobación del curso inicial o del curso de perfeccionamiento disponible en la obra mientras se trabaja.

Los estados, los territorios y las tribus podrán establecer requisitos para los renovadores individuales que trabajen en sus jurisdicciones. Asegúrese de determinar si su gobierno estatal, territorial o tribal cuenta con reglamentos adicionales que puedan afectar su campo de acción y lugar de trabajo autorizado.



El HUD exige que todos los trabajadores sean capacitados por un instructor, a menos que estén supervisados por un supervisor certificado en reducción (que también debe ser un renovador autorizado en virtud de la regla RRP).

Diapositiva 2-8: La regla RRP: Responsabilidades del renovador certificado

- Repase la diapositiva y el texto del alumno junto con la clase.

La regla RRP: Responsabilidades del renovador certificado

- Efectuar el trabajo y guiar las prácticas de trabajo seguras con el plomo.
- Impartir capacitación práctica a los trabajadores no certificados.
- Conservar en la obra una copia de los certificados de capacitación inicial o perfeccionamiento.
- Usar los kits de pruebas reconocidos por la EPA para identificar la pintura a base de plomo.
- Estar presente mientras se colocan letreros, se contienen y limpian las áreas de trabajo.
- Estar disponible por vía telefónica cuando esté fuera de la obra.
- Mantener la contención para que el polvo y los escombros queden dentro del área de trabajo.
- Poner en marcha el procedimiento de verificación de limpieza.
- Preparar y mantener los registros necesarios.



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La regla RRP requiere que un renovador certificado individual se encargue de las labores de renovación, al margen del nivel de capacitación y certificación de las demás personas que se desempeñan en el lugar de trabajo. Dicho renovador certificado individual tendrá las siguientes responsabilidades.

1. Efectuar el trabajo y guiar a los renovadores no certificados.
2. Capacitar en el trabajo a todos los trabajadores no certificados en materia de prácticas de trabajo seguras con el plomo.
3. Conservar copias de los certificados de capacitación inicial o de perfeccionamiento en la obra.
4. Realizar pruebas a la pintura a base de plomo, recurriendo a kits de pruebas reconocidos por EPA e informar los resultados.
5. Permanecer en la obra durante la colocación de letreros, la instalación del área de trabajo y las etapas de limpieza del trabajo.
6. Si no se encuentra en la obra, estar disponible por teléfono o buscapersonas.
7. Asegurarse de que se conserve la contención en una forma que impida el escape de polvo y escombros. Esta responsabilidad implica la necesidad de determinar qué prácticas de trabajo se van a emplear para minimizar el polvo.
8. Realizar el procedimiento de verificación de limpieza para garantizar que el trabajo esté finalizado y que el área de trabajo esté en condiciones de ser ocupada nuevamente.
9. Preparar un resumen del trabajo, conservar los registros de capacitación y certificación, y certificar que todo el trabajo se haya efectuado de un modo seguro con el plomo.

Diapositiva 2-9: La regla RRP: Normas de prácticas de trabajo

- Repase brevemente los temas de la diapositiva.
- Enfatice que los pasos relacionados con las prácticas de trabajo seguras con el plomo: instalación, prácticas prohibidas y prácticas de reducción de polvo, limpieza y verificación o aprobación de limpieza y la administración de registros, se abordarán en los módulos 4, 5, 6 y 7, respectivamente.

La regla RRP: Normas de prácticas de trabajo

La regla de la renovación, reparación y pintura contempla la instalación del área de trabajo, las prácticas de trabajo prohibidas, la limpieza y el procedimiento de verificación de limpieza.

- Las prácticas de instalación, tales como colocación de letreros y contención del área de trabajo, se abordarán en el módulo 4.
- Las prácticas prohibidas y las sugerencias para la reducción de polvo se abordarán en el módulo 5.
- Las prácticas de limpieza y los procedimientos de verificación de limpieza se abordarán en el módulo 6.
- La gestión de registros se abordará en el módulo 7.

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El HUD dispone de requisitos adicionales de prácticas de trabajo. Consulte la diapositiva 2-13.

Diapositiva 2-10: La regla RRP: Cumplimiento con la ley

Documentación: Informe lo siguiente a los alumnos:

- La documentación de las renovaciones, pruebas y capacitaciones relacionadas con las renovaciones debe conservarse por 3 años después del término del trabajo.

Cumplimiento con la ley: Informe lo siguiente a los alumnos:

- La EPA tiene la autoridad de exigir una multa civil de \$32,500 por infracción y una multa criminal adicional de \$32,500, más reclusión, a una empresa que consciente y deliberadamente viole los requisitos de la regla de renovación, reparación y pintura.
- Además, la EPA puede revocar las certificaciones de empresas e individuos que violen los requisitos de la regla de renovación, reparación y pintura.

La regla RRP: Cumplimiento de la ley

- La EPA puede suspender, revocar o modificar la certificación de una empresa si se constata un incumplimiento de parte de la empresa certificada o del renovador certificado.
- Dichas empresas no conformes podrían ser responsables de pagar sanciones administrativas de hasta \$32,500 por cada infracción cometida.
- Las empresas que infrinjan este reglamento con premeditación y conocimiento de causa se exponen a multas de hasta \$32,500 adicionales por cada infracción cometida o a privación de libertad, o a ambas medidas.

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Cumplimiento de la ley:

- La EPA está facultada para imponer sanciones civiles de \$32,500 por cada infracción cometida y una sanción penal adicional de \$32,500 más reclusión por el incumplimiento consciente y premeditado de las exigencias de la regla de renovación, reparación y pintura.
- La EPA también puede revocar la certificación de una empresa certificada o de un renovador certificado que infrinja los requisitos de la regla de renovación, reparación y pintura.
- Se debe recordar que el infractor puede ser una empresa de renovación certificada o un contratista no certificado que desconozca o eluda el requisito de convertirse en una empresa de renovación certificada.

Diapositiva 2-11: Regla del Departamento de Vivienda y Urbanismo sobre viviendas sin plomo

- Nota para el instructor: Esta diapositiva es una introducción a la regla del HUD y detalla el público objetivo general para dicho reglamento.
- Comente los tipos de viviendas que se ven afectadas, la cualidad programática de los requisitos de la regla sobre la vivienda sin plomo y las fechas en las que entrará en vigencia.
- Enfatice que para determinar si una propiedad recibe asistencia financiera federal, se deben formular las preguntas que se encuentran en el Apéndice 2, bajo el título “Cómo averiguar información acerca de los requisitos de la pintura a base de plomo que se aplican al trabajo planificado en propiedades que reciben asistencia para la vivienda de parte del HUD, como asistencia de rehabilitación o adquisición”.
- Indique que, a medida que se van renovando, muchas casas construidas antes de 1978 que se encuentran en proceso de ejecución hipotecaria (a partir de comienzos del año 2009) pueden estar sujetas a la regla RRP de la EPA o a reglamentos del HUD, o ambas, según corresponda.

Regla del Departamento de Vivienda y Urbanismo sobre viviendas sin plomo

- Abarca las VIVIENDAS de interés de propiedad federal o con ayuda federal, así como las viviendas de interés de propiedad federal que se venden. Los renovadores deben averiguar si la vivienda recibe ayuda financiera.
 - Si es así, el renovador debe pedirle al propietario que averigüe si se trata de ayuda federal.
- La regla del HUD cuenta con requisitos de evaluación y control según del tipo de ayuda:
 - Evaluación visual, inspección de pintura a base de plomo;
 - estabilización de pintura, control provisional, reducción;
 - mantenimiento continuo de pintura a base de plomo.



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Los requisitos del HUD para viviendas que reciben ayuda federal son similares a los contenidos en la regla de EPA, con algunas excepciones. En este programa se destacarán las diferencias entre las reglas del HUD y la regla RRP mediante cuadros de texto especiales que contienen el logotipo del HUD. Estos recuadros se ubican en la parte inferior de las páginas, donde haya alguna diferencia entre los requisitos de la EPA y del HUD. El Apéndice 2 incluye una descripción general de los requisitos del HUD y una tabla que detalla las diferencias entre las reglas.

La “Regla de viviendas sin plomo” del HUD se refiere a las viviendas de propiedad federal o con ayuda federal construidas antes de 1978, así como a las viviendas de propiedad federal que se venden. Este reglamento también se puede aplicar a las viviendas de propiedad de un organismo federal y operadas por un organismo federal distinto del HUD.

La regla del HUD no contempla las “instalaciones ocupadas por niños”, a menos que formen parte de una propiedad residencial incluida en la regla. Esto la diferencia de la regla de renovación, reparación y pintura de la EPA, que abarca viviendas e instalaciones ocupadas por niños, reciban ayuda federal o no. Cuando exista alguna diferencia entre los reglamentos de la EPA y del HUD, se debe aplicar la norma más protectora.

El HUD cuenta con numerosos programas que brindan ayuda financiera, por ejemplo: rehabilitación, desarrollo comunitario, asesoría en adquisiciones, etc. El HUD exige que se aborden los peligros de la pintura a base de plomo (tales como el raspado de pintura, superficies con fricción e impacto y altas concentraciones de polvo con plomo) relacionando dichas actividades con la ayuda financiera que otorga el HUD. Al consultar con el cliente si una vivienda recibe ayuda federal, los renovadores deben reconocer que ésta podría provenir de un gobierno estatal o local, o de una corporación de desarrollo comunitario u otra entidad local, por lo cual es posible que tengan que pedirle al cliente que confirme cuál es la fuente principal de los fondos de ayuda.

El HUD no reconoce por sí solo la capacitación en el trabajo del trabajador y, en general, requiere que todas las personas que efectúan controles provisionales (consulte la diapositiva 2-12) de los peligros del plomo, en una vivienda de propiedad federal y con ayuda federal, realicen un curso de capacitación aprobado por el HUD. Los requisitos de capacitación del HUD para el trabajo, excepto la reducción, se cumplen al aprobar satisfactoriamente el curso de renovador certificado, aprobado en conjunto por la EPA y el HUD.

Diapositiva 2-12: Regla del Departamento de Vivienda y Urbanismo sobre viviendas sin plomo Prácticas de trabajo seguras

- Recuerde a los alumnos los componentes de los controles provisionales.
- Aconseje a los alumnos que verifiquen si las leyes o reglamentos de su estado permiten que personas capacitadas pero no certificadas realicen controles provisionales. Si lo permiten, los contratistas de renovación pueden realizar estas actividades.
- Explique las cuatro actividades en las que el HUD requiere prácticas de trabajo seguras con el plomo.
 - Estabilización de la pintura: esta actividad hace que la pintura que no está intacta vuelva a su condición intacta.
 - Rehabilitación (ingresos menores que \$5,000 por unidad): son actividades de menor escala que mejoran las estructuras existentes. Estas actividades incluyen, por ejemplo, el reemplazo de una o dos ventanas. La regla sobre la vivienda libre de plomo define “rehabilitación” como la mejora de una estructura existente por medio de alteraciones, adiciones incidentales o ampliaciones. Una rehabilitación incluye las reparaciones que sean necesarias para corregir los resultados de mantenimientos diferidos, el reemplazo de accesorios y componentes, las mejoras para aumentar el uso eficiente de la energía y la instalación de dispositivos de seguridad.
 - Tratamientos estándar: son un grupo de actividades, como el tratamiento de puertas y ventanas para evitar que se rocen y generen polvo, que se realizan para enfrentar la generación potencial de peligros relacionados con el plomo. Usualmente, estos tratamientos se realizan si se supone la presencia de plomo.
 - Mantenimiento constante de pintura a base de plomo: son tareas que se realizan una y otra vez, como las actividades de mantenimiento que alteran la pintura a base de plomo.
- Compare los límites “*de minimis*” de la regla del HUD con los límites de reparaciones menores y mantenimiento de la regla RRP.

Regla del Departamento de Vivienda y Urbanismo sobre viviendas sin plomo

Prácticas de trabajo seguras

- La regla del HUD requiere prácticas de trabajo seguras con el plomo para:
 - Estabilización de la pintura
 - Control provisional de los peligros de la pintura a base de plomo identificados
 - Rehabilitación (renovación)
 - Tratamientos estándar
 - Mantenimiento continuo de pintura a base de plomo
- El nivel de minimis del HUD es inferior al nivel para reparaciones menores y mantenimientos de la regla RRP



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La regla del HUD sobre viviendas sin plomo requiere trabajos seguros con el plomo en las actividades que figuran en la diapositiva. Especifica cuáles son las prácticas prohibidas, los requisitos de protección de los ocupantes y los preparativos de la obra. Se deben emplear técnicas de limpieza especiales y se debe obtener una aprobación.

Se exige la aplicación de prácticas de trabajo seguras con el plomo durante los siguientes casos:

- Estabilización de la pintura: Renovación destinada a reparar superficies pintadas que no estén intactas (descascarillado, raspado u otros daños) mediante la reparación del sustrato (si es necesario), la preparación de la superficie y la aplicación de otra capa de pintura. El resultado es una superficie pintada intacta.
- Controles provisionales: Según la definición del HUD, los controles provisionales incluyen reparación, pintura, contención temporal, limpieza especializada, aprobación, actividades continuas de mantenimiento de pinturas a base de plomo y establecimiento y operación de programas de gestión y educación para los ocupantes.
- Rehabilitación: Éste es el término del HUD para la renovación de propiedades.
- Tratamientos estándar: Conjunto de medidas que disminuyen todos los peligros potenciales de la pintura a base de plomo dentro de una vivienda, cuando se presume que hay pintura a base de plomo (no se realiza una evaluación de la pintura de base de plomo). Toda la pintura deteriorada se trata como un peligro de pintura de base de plomo.
- Mantenimiento continuo: Actividades normales de mantenimiento.

En las viviendas de interés que sean de propiedad federal o que reciban ayuda federal, se deben reparar todas las áreas con pintura deteriorada en el área de trabajo. Si el trabajo afecta a cantidades inferiores a las cantidades – “*de minimis*” – que se enumeran a continuación, no es necesario que se empleen las prácticas de trabajo seguras con el plomo ni los requisitos de aprobación de la regla del HUD. Los límites “*de minimis*” dispuestos por el HUD son más bajos que los límites para actividades de reparación menor y mantenimiento de la regla de renovación, reparación y pintura de la EPA. Las cantidades “*de minimis*” del HUD son:

- 2 pies cuadrados en cualquier sala o espacio interior.
- 20 pies cuadrados en superficies exteriores.
- 10% de la superficie total de un componente interior o exterior de tipo pequeño.

En el módulo 6 se tratan los requisitos de aprobación del HUD. En general, la aprobación se requiere después de todos los trabajos que exceden las cantidades *de minimis* del HUD y la realiza un profesional certificado independiente de la empresa certificada de renovación, como un inspector de plomo, un evaluador de riegos del plomo o un técnico de muestreo de polvo. Es posible que las jurisdicciones estatales y locales tengan distintos requisitos de aprobación en comparación con el HUD o la EPA, en cuyo caso se aplicarán los requisitos que resulten más estrictos.

Diapositiva 2-13: La regla del Departamento de Vivienda y Urbanismo se refiere a:

- Repase la diapositiva y las notas de los alumnos junto con los demás. Indique las diferencias entre las reglas de la EPA y el HUD.
- Las notas que se encuentran bajo la diapositiva son una copia de la información que se encuentra en la tabla del Apéndice 2: *Diferencias entre los reglamentos sobre la vivienda sin plomo del HUD y los reglamentos de renovación, reparación y pintura de la EPA.*

La regla del Departamento de Vivienda y Urbanismo se refiere a:

- Capacitación (por lo habitual, capacitación en la sala de clases para los trabajadores)
- Protección de ocupantes y preparación de la obra
- Métodos prohibidos (3 más que en la regla RRP)
- Niveles de minimis (menores a los de la regla RRP)
- Prácticas de trabajo con el plomo
- Limpieza especializada
- Pruebas de aprobación (abordadas en el módulo 6)
- Notificación a los ocupantes (en un plazo de 15 días)

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La regla del HUD de viviendas sin plomo (LSHR) contempla el trabajo de renovación en las viviendas de interés que reciben ayuda federal o son de propiedad federal y aborda de manera específica las siguientes actividades seguras con el plomo.

Capacitación: La EPA requiere que los proyectos de renovación estén a cargo de un renovador certificado. Debido a este requisito, ahora existen dos grandes opciones de capacitación para el trabajo de renovación en virtud de la regla de viviendas sin plomo:

- Todos los renovadores se capacitan en el lugar de trabajo directamente con un renovador certificado; o
- el renovador certificado designado es también supervisor certificado en reducción de plomo y todos los trabajadores que no sean renovadores certificados reciben capacitación práctica en materia de normas de trabajo seguras con el plomo (consulte el módulo 8).

Protección de ocupantes y preparación de la obra: Los ocupantes deben permanecer fuera del área de trabajo mientras se realizan labores de renovación, debiendo ser reubicados a otra unidad de vivienda durante los proyectos de renovación de mayor duración. No se pueden emplear kits de pruebas reconocidos por EPA para corroborar la existencia de pinturas a base de plomo (LBP, por sus siglas en inglés) y sólo un inspector de plomo certificado o un evaluador de riesgos puede establecer si hay presencia de pintura a base de plomo.

Prácticas prohibidas: El HUD prohíbe las mismas prácticas que la regla RRP de la EPA, con tres prohibiciones más:

- Pistolas de aire caliente que carbonizan la pintura;
- Raspado o lijado en seco, excepto a menos de 1 pie de una toma de corriente eléctrica; y,
- Uso de decapantes volátiles en áreas con poca ventilación.

Niveles de minimis: El HUD establece un umbral de *minimis* menor para trabajos en interiores, en comparación con el límite de la EPA para actividades de reparación menor y mantenimiento. Consulte las notas de la diapositiva previa para obtener más detalles.

Pruebas de aprobación: El HUD exige un examen de aprobación cuando finalice un trabajo de renovación superior al *nivel de minimis*, para hogares reglamentados por la regla de viviendas sin plomo. Además, el HUD requiere que se efectúe un examen de aprobación a cargo de una tercera parte independiente del renovador y, por tanto, no permitirá que se acepte la inspección visual del propio renovador certificado ni el uso del procedimiento de verificación de limpieza. Al aplicar la regla de viviendas sin plomo del HUD a su trabajo (consulte el Apéndice 2), es necesario que un profesional certificado realice un examen de aprobación, por ejemplo, un inspector de plomo, un evaluador de riesgos de plomo o un técnico de muestreo de polvo. Algunas autoridades estatales y locales exigen distintos requisitos y normas para las aprobaciones.

Notificación a los ocupantes: El HUD requiere la entrega de avisos a los ocupantes en un plazo máximo de 15 días a partir de la identificación de pintura a base de plomo o peligros por pintura a base de plomo en su unidad (y en áreas comunes, si las hay) y en un plazo máximo de 15 días tras la finalización del trabajo de control de peligros en su unidad o en áreas comunes.

Diapositiva 2-14: Conozca las reglas de la Agencia de Protección Ambiental y del Departamento de Vivienda y Urbanismo

- Presente brevemente esta sección para fines informativos.

Conozca las reglas de la Agencia de Protección Ambiental y del Departamento de Vivienda y Urbanismo



Para recibir una copia de los reglamentos, comuníquese con el Centro Nacional de Información sobre el Plomo al teléfono 1-800-424-LEAD.

También puede descargar las reglas y la demás información desde los siguientes sitios Web:

www.epa.gov/lead
www.hud.gov/offices/lead



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Las personas y empresas que realicen renovaciones, reparaciones y pintura en viviendas construidas antes de 1978 y en instalaciones ocupadas por niños deben entender la Regla Final de la Renovación, Reparación y Pintura de la EPA. En el Apéndice 1 se puede encontrar la Regla Final de la Renovación, Reparación y Pintura de la EPA.

Las personas que realicen renovaciones, remodelaciones y rehabilitaciones en viviendas construidas antes de 1978 beneficiarias de ayuda federal deben entender la regla de viviendas sin plomo del HUD. En el Apéndice 2 hay más información sobre la regla de viviendas sin plomo del HUD.

Diapositiva 2-15: Reglamentos estatales y locales

- Esta diapositiva está reservada para reglamentos estatales y locales que se aplican al renovador certificado y a la empresa certificada. En caso de que los requisitos estatales o locales sean diferentes de los requisitos del HUD, éstos deben incluirse en la información del curso en este momento de la presentación.
- Los instructores deben determinar los reglamentos estatales y locales que se aplican a los trabajos de renovación y agregar esa información en esta página, en la diapositiva y en las notas de los alumnos que correspondan.
- Las copias o resúmenes de los reglamentos estatales, locales y tribales que sean aplicables se deben incluir en el Apéndice 7, que está reservado para este propósito.

Reglamentos estatales y locales

- Es posible que los reglamentos de los estados y las localidades sobre renovaciones en las viviendas de interés sean distintos a los de la EPA y del HUD.
- Consulte con los organismos de la vivienda y el ambiente de su estado o localidad para obtener más información sobre dichos requisitos.
- El Apéndice 7 está reservado para incluir copias o resúmenes de los reglamentos estatales y locales.

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Reservado para que los alumnos tomen notas sobre reglamentos estatales y locales que aplican a la renovación y que sean diferentes de los reglamentos de la EPA y del HUD.

Diapositiva 2-16: Ahora ya saben...

- Lea rápidamente la diapositiva y utilícela como un puente para el siguiente tema (Módulo 3: Antes de comenzar a trabajar).

Ahora ya saben...

- Que la Regla Final del Programa de Renovación, Reparación y Pintura de la EPA (regla RRP) se aplica a las renovaciones en viviendas e instalaciones ocupadas por niños que se hayan construido antes de 1978 y contengan pintura a base de plomo.
- Que se deben considerar siempre los requisitos y las responsabilidades de certificación de las empresas certificadas y los renovadores certificados, y que se debe renovar la certificación cada 5 años.
- Cómo cumplir con los requisitos de instalación del área de trabajo, prácticas de trabajo prohibidas, limpieza y procedimiento de verificación de limpieza de la regla.
- Cómo averiguar si su trabajo de renovación se rige por la EPA, el HUD, ambas organizaciones o ninguna.

Módulo 3: Antes de Comenzar a Trabajar

Descripción general de este módulo: La siguiente tabla resume el contenido y los métodos de enseñanza de este módulo. Es para su propia referencia. No trate este punto con los asistentes.

Módulo 3: Antes de comenzar a trabajar		40 minutos
• 3-1: Módulo 3: Antes de comenzar a trabajar • 3-2: Eduque a los propietarios y residentes • 3-3: ¿Qué tan común es el uso de pinturas a base de plomo en viviendas? • 3-4: Cómo determinar si hay pintura a base de plomo • 3-5: Mediante los kits de pruebas reconocidos por la EPA para verificar la presencia de pintura a base de plomo • 3-6: Ejercicio práctico del kit de pruebas • 3-7: Uso de cuadros lógicos para decidir • 3-8: Ahora ya saben...	<u>Mensaje clave:</u> Planifique antes de comenzar a trabajar. <u>Notas:</u> Este módulo contiene dos ejercicios: Un ejercicio práctico que usa los kits de pruebas reconocidos por la EPA y una cáscara de pintura y; un ejercicio en papel que utiliza los organigramas para tomar decisiones que están en la <i>Guía de cumplimiento</i> para determinar los requisitos de la EPA y del Departamento de Vivienda y Urbanismo que se aplican al trabajo. <u>Preparación para este módulo:</u> Revise los materiales con anticipación, para que se familiarice con los escenarios y las listas de verificación. <u>Ejercicio práctico con kits de pruebas:</u> Los asistentes aprenderán cuándo y cómo usar los kits de prueba de plomo. Revise los materiales con anticipación, para familiarizarse con el conjunto de destrezas N° 1.	

Diapositiva 3-1: Módulo 3: Antes de comenzar a trabajar

- El propósito de este módulo es ayudar al renovador certificado a formular las preguntas correctas para planificar un trabajo y enfatizar la importancia de la planificación. El módulo describe un escenario breve y simple. Posteriormente, los asistentes completarán una lista de verificación de una planificación y la comentarán.
- Anuncie el módulo y pase rápidamente a la siguiente diapositiva.

Módulo 3: Antes de comenzar a trabajar

Descripción general

Este módulo le enseñará:

- **A educar a los propietarios y residentes.**
- **Que el uso de la pintura a base de plomo era muy común.**
- **A determinar si hay pintura a base de plomo.**
- **A usar los kits de pruebas reconocidos por la EPA para verificar si hay pintura a base de plomo.**
- **Cómo decidir cuáles son las reglas que se aplican.**

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Descripción general del módulo

- El módulo también contempla las importantes preguntas que se deben formular al comienzo de un trabajo, a fin de establecer si un trabajo se enmarca dentro de la regla RRP o las reglas del Departamento de Vivienda y Urbanismo (HUD, por sus siglas en inglés), y qué requisitos se aplican.

Diapositiva 3-2: Eduque a los propietarios y residentes

Repase los requisitos de educación antes de la renovación.

- Pregunte a los alumnos si tienen alguna duda respecto de sus obligaciones según los reglamentos de la EPA en cuanto a la educación que se debe proporcionar a propietarios y residentes. Asegúrese de abordar los requisitos para las viviendas, áreas comunes e instalaciones habitadas por niños.
- Recuerde a los alumnos que deben consultar con sus autoridades estatales y locales para averiguar si existen reglas, reglamentos o requisitos adicionales para trabajar con pintura a base de plomo.
- Guíe a los alumnos a través de la lectura del folleto *Renovar correctamente. Información importante para familias, proveedores de cuidado infantil y escuelas acerca del peligro del plomo*, en el apéndice 3.
- Enfatice que el folleto *Renovar correctamente* se puede copiar a fin de cumplir los requisitos de educación previa a la renovación.

Eduque a los propietarios y residentes



La regla educacional previa a la renovación:

- Exige que las empresas de renovación proporcionen el folleto *Renovar correctamente* a los propietarios o residentes, antes de las actividades de renovación en viviendas construidas antes de 1978 e instalaciones habitadas por niños.
- Especifica los requisitos para la educación de los residentes u ocupantes y la entrega del folleto *Renovar correctamente*, que puede variar según el tipo de propiedad y el área que se renueve.

Conforme a la regla RRP, las empresas certificadas DEBEN:

- Entregar copias del folleto *Renovar correctamente* a los propietarios de viviendas o residentes y a los propietarios o adultos representantes de instalaciones habitadas por niños.
- Dar aviso de la renovación a los padres o tutores de los niños que usan las instalaciones, además de indicarles cómo obtener una copia del folleto *Renovar correctamente*.
- Obtener la confirmación de recibo del folleto *Renovar correctamente* por parte de los propietarios o la evidencia de que el folleto se entregó a los arrendatarios o residentes.
- Conservar todos los registros durante al menos 3 años.

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Exclusiones: La regla educacional previa a la renovación abarca las mismas actividades de renovación que se encuentran enmarcadas dentro de la regla de renovación, reparación y pintura. Se aplican las mismas exclusiones, salvo que el propietario u ocupante no puede renunciar voluntariamente a la entrega del folleto. (Consulte el módulo 2 para obtener más información sobre las exclusiones.)

Trabajo en viviendas: Las empresas de renovación certificada deben distribuir el folleto *Renovar correctamente* en un plazo de no más de 60 días antes del comienzo de la renovación, a los propietarios y residentes de las viviendas construidas antes de 1978 que se van a renovar.

- Las empresas deben obtener el acuse de recibo por escrito del propietario o la prueba de que el folleto se envió por correo certificado, con solicitud de confirmación de entrega, al menos 7 días antes del comienzo de la renovación.
- Para los arrendatarios, las empresas certificadas deben obtener un acuse de recibo por escrito o un documento donde se señale que la empresa entregó el folleto y no pudo obtener un acuse de recibo por escrito.
- Todas las pruebas de registros de recepción, correo o entrega se deben conservar durante 3 años después de la finalización de la renovación.
- Los formularios de muestra para documentar la confirmación de recepción se incluyen en el folleto *Renovar correctamente*.

Trabajo en áreas comunes: Las empresas de renovación certificada deben proporcionar el folleto *Renovar correctamente* en un plazo de no más de 60 días antes del comienzo de la renovación, al propietario de la vivienda construida antes de 1978 que se está renovando. Las empresas deben proporcionar una notificación por escrito a todos los que residen en las unidades afectadas de la propiedad que se está renovando; además, deben informar a los residentes afectados sobre la ubicación de la información publicada, en caso de que el trabajo en las áreas comunes cercanas los afecte. La siguiente información sobre el trabajo se debe publicar en las áreas comunes:

- Descripción de la naturaleza y ubicación del trabajo;
- Lista de las fechas de inicio y término del trabajo; y
- Entrega del folleto *Renovar correctamente* o de información sobre cómo obtener una copia gratuita de éste.

Esta información se puede proporcionar a los arrendatarios por correo, personalmente o mediante la instalación de letreros que la incluyan, en lugares donde los residentes de todas las unidades afectadas puedan verlas.

Trabajo en instalaciones habitadas por niños: Las empresas de renovación certificadas deben distribuir el folleto *Renovar correctamente* en un plazo de no más de 60 días antes del comienzo de la renovación, al propietario de la construcción y a un representante adulto de la instalación habitada por niños, con los mismos requisitos de documentación que se estipulan en el caso de las viviendas. Las empresas también deben proporcionar una notificación a los padres y tutores de los niños que usan las instalaciones, con los mismos requisitos que se estipulan en el caso de los arrendatarios afectados por las renovaciones en áreas comunes.

Para obtener copias del folleto *Renovar correctamente* visite el sitio Web de la EPA en www.epa.gov/lead, o comuníquese con el Centro Nacional de Información sobre el Plomo al 1-800-424-LEAD (5323). El folleto se puede copiar para fines de distribución según sea necesario, a fin de cumplir con los requisitos de educación previa a la renovación.

Diapositiva 3-3: ¿Qué tan común es el uso de pinturas a base de plomo en viviendas?

Mensaje clave de esta diapositiva: Un alto porcentaje de viviendas anteriores a 1960 contienen pintura a base de plomo. Las viviendas que se construyeron entre 1960 y 1978 contienen, además, cantidades importantes de pintura a base de plomo en superficies, pero el porcentaje de viviendas con pintura a base de plomo disminuye en la medida que su fecha de construcción se acerca a 1978.

- Destaque que alrededor de 34 millones de hogares poseían alguna cantidad de pintura a base de plomo, de acuerdo con la American Healthy Homes Survey (Encuesta sobre hogares saludables en los Estados Unidos) de 2006 del Departamento de Vivienda y Urbanismo. Además, tenga en cuenta que la pintura a base de plomo que se encuentra bajo otra capa de pintura sigue siendo un problema, y creará polvo y escombros contaminados con plomo cuando se altere o se deteriore.
- Las viviendas que se construyeron antes de 1950 pueden contener altos niveles de pintura a base de plomo. Explique que muchas viviendas que se construyeron antes de 1978 pueden contener cierto nivel de pintura a base de plomo. Los asistentes deben suponer que toda vivienda construida durante o antes del año 1978 contiene pintura a base de plomo, salvo que un renovador certificado de la EPA, un inspector de plomo certificado o un evaluador de riesgo haya realizado pruebas a la vivienda para detectar la presencia de pintura a base de plomo y los resultados hayan indicado que no contiene dicha pintura.
- Enfatique que existe la posibilidad de que las viviendas anteriores a 1950 tengan pintura a base de plomo en el exterior y en el interior. Después de 1950 y hasta 1978 hubo una disminución en el uso de pintura a base de plomo en el interior de las viviendas; sin embargo, es probable que este tipo de pintura esté presente en el exterior. La pintura a base de plomo del exterior de las viviendas puede provocar la contaminación del suelo con plomo, lo que abre la posibilidad que la tierra y el polvo contaminado con plomo alrededor del hogar haya ingresado en la vivienda. Además, los niños suelen jugar en la tierra cercana al hogar y, por ende, están expuestos a un suelo, tierra y polvo contaminados con plomo. A partir de 1979, es poco probable encontrar pintura a base plomo en el interior o en el exterior de las viviendas.

¿Qué tan común es el uso de pinturas a base de plomo en viviendas?	
Año en que se construyó la casa	Porcentaje de casas con pintura a base de plomo
Antes de 1940	86 por ciento
1940 a 1959	66 por ciento
1960 a 1978	25 por ciento
Todas las viviendas	35 por ciento

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Fuente de datos en la tabla anterior: *American Healthy Homes Survey: Draft Final Report for Peer Review: Lead and Arsenic Findings, October 7, 2008* (Encuesta sobre hogares saludables en los Estados Unidos: Informe final preliminar para revisión por parte de colegas: Hallazgos de plomo y arsénico, 7 octubre de 2008).

Viviendas construidas en 1978 y anteriormente

Aproximadamente 34 millones de unidades de vivienda construidas antes de 1978 contienen pintura que coincide con la definición federal de "pintura a base de plomo" (Fuente: *American Healthy Homes Survey: Draft Final Report for Peer Review: Lead and Arsenic Findings, October 7, 2008* [Encuesta sobre hogares saludables en los Estados Unidos: Informe final preliminar para revisión por parte de colegas: Hallazgos de plomo y arsénico, 7 octubre de 2008]).

- La regla RRP de la EPA supone que toda vivienda construida antes de 1978 contiene pintura a base de plomo, salvo que la vivienda haya sido sometida a pruebas para detectar la presencia de pintura a base de plomo y los resultados hayan indicado que no contiene dicha pintura.
- Los componentes con mayor tendencia a ser revestidos con pintura a base de plomo incluyen las ventanas y puertas (interiores y exteriores), así como también, las paredes exteriores y los porches.

Viviendas construidas antes de 1960

Es más probable que las viviendas construidas antes de 1960 contengan pintura a base de plomo, a diferencia de aquellas construidas después de dicho año; del mismo modo, es más probable que las primeras tengan superficies de pintura deteriorada debido al paso del tiempo. Además, las concentraciones de plomo en la pintura eran más altas antes de la década de 1950, cuando las empresas de pinturas comenzaron a usar menos plomo en la pintura que fabricaban.

Considere lo siguiente:

- El 86% de las viviendas construidas antes de 1940 contienen pintura a base de plomo, al menos en una superficie.
- El 66% de las viviendas construidas desde 1940 hasta 1959 contienen pintura a base de plomo, al menos en una superficie.

Nota: La determinación de la antigüedad de una propiedad puede requerir cierta investigación. En muchas localidades, si el propietario desconoce o no tiene acceso a los registros, podrá acceder a la información de la propiedad a partir de los registros fiscales y judiciales que se conservan en la oficina del asesor fiscal en la comunidad o condado donde se ubica la propiedad. Si desconoce la antigüedad de la construcción, suponga que se edificó antes de 1978.

Diapositiva 3-4: Cómo determinar si hay pintura a base de plomo

Repase la diapositiva y comente los tres métodos para probar la pintura.

Enfatice las ventajas y desventajas de cada tipo de prueba.

Enfatice que los renovadores certificados sólo deben utilizar kits de pruebas que estén reconocidos por la EPA.

Para comentar: ¿Cuándo deben realizarse pruebas? (Tenga en cuenta que es posible que no haya conclusiones satisfactorias para todos los casos).

- La regla RRP no especifica un tiempo determinado para realizar pruebas a las pinturas, pero se debe hacer antes de tomar cualquier decisión respecto de no utilizar prácticas seguras de trabajo con el plomo.
- Llevar a cabo pruebas antes de realizar una oferta permitirá que la oferta de licitación incluya todos los costos y la información necesaria para establecer un precio completo, pero requiere tener acceso a las superficies que se renovarán y un acuerdo que permita un muestreo invasivo. Esto aumenta el costo de la preparación de la propuesta.
- Llevar a cabo pruebas después de que se adjudica el contrato no proporciona la información necesaria para realizar la oferta de licitación y puede traer como consecuencias un cambio en los precios y la cancelación del contrato, pero resuelve el problema de acceso.

Cómo determinar si hay pintura a base de plomo

- Las pruebas de pinturas se deben realizar antes de la renovación en todas las superficies afectadas por el trabajo o debe suponer que la pintura es a base de plomo. Todas las pruebas deben ser realizadas por profesionales calificados adecuados.

Tipos de pruebas de pinturas para renovaciones	¿Quién puede realizar las pruebas?
Kits de pruebas reconocidos por la EPA	Renovadores certificados
Instrumentos fluorescentes de rayos X (superficie por superficie)	Inspectores de pintura a base de plomo certificados o evaluadores de riesgos de pintura a base de plomo certificados
Muestreo de cáscaras de pintura y pruebas de laboratorio	Inspectores de pintura a base de plomo certificados o evaluadores de riesgos de pintura a base de plomo certificados



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Pruebas limitadas o superficie por superficie: La pintura a base de plomo sólo se puede identificar mediante pruebas de pintura. La evaluación superficie por superficie en las áreas pintadas (una inspección de plomo) y el muestreo de cáscaras de pintura debe realizarlo un inspector de plomo certificado o un evaluador de riesgos de plomo certificado. Si las pruebas de pintura se realizan mediante inspección o pruebas limitadas, los resultados de las pruebas sólo se aplican al trabajo en el caso de que las superficies cubiertas por la renovación estén consideradas en el informe de pruebas. Un propietario puede proporcionar un informe de un inspector o evaluador de riesgos de plomo certificado que pruebe que no hay pintura a base de plomo, en lugar de realizar pruebas en las superficies afectadas. Si no se dispone de resultados de pruebas, realice una prueba o suponga que hay pintura a base de plomo.

Kits de pruebas reconocidos por la EPA: Visite el sitio Web de la EPA en www.epa.gov/lead para obtener más información sobre los kits de pruebas reconocidos por la EPA y cómo utilizarlos. Actualmente, la EPA revisa los kits de pruebas de alta precisión que pueden salir a la venta. Todos los kits de pruebas que actualmente se encuentran en el mercado son pruebas colorimétricas para plomo, es decir, cambian de color ante la presencia de éste último. Las distintas sustancias químicas de los kits de pruebas producen diferentes colores ante la presencia de plomo. Se deben probar todas las capas de pintura al usar los kits de pruebas. Asegúrese de seguir las instrucciones del fabricante al utilizar este método de prueba. Si no se produce un cambio de color en la película de pintura que se probó, no hay pintura a base de plomo y no se requieren las prácticas de trabajo seguras con el plomo en dicha superficie. El muestreo del kit de pruebas es invasivo y daña cada superficie que se somete a prueba. Entre los tipos de kits comunes se encuentran:

- Los kits de pruebas a base de rodizonato, que producen un color rosado a rojo cuando se detecta la presencia de plomo. Esta prueba no se puede realizar en pinturas de colores como rojos, anaranjados o rosados, debido a que dificultan la visualización de cualquier cambio de color. No se deben usar kits de pruebas a base de rodizonato para probar la pintura en muros secos o superficies de yeso; y,
- kits de pruebas a base de sulfuro que producen un color gris oscuro a negro cuando se detecta la presencia de plomo. Las pinturas de colores oscuros, como azules verdosos oscuros, en especial los negros, dificultan la visualización de cualquier cambio de color. No se deben usar kits de pruebas a base de sulfuro para probar la pintura en superficies metálicas.

Pruebas fluorescentes de rayos X: Se requiere un instrumento especial y un inspector de plomo certificado o un evaluador de riesgos de plomo certificado y especialmente capacitado. El instrumento realiza las pruebas mediante un bombardeo con radiación gamma sobre la película de pintura, lo que provoca que el plomo presente en ésta última emita rayos X que se pueden captar mediante un sensor incluido en el instrumento. La cantidad de plomo presente en la pintura está relacionada directamente con los rayos X captados por el sensor. Un programa computacional incorporado en el instrumento calcula cuánto plomo hay en la película de pintura. Este método de pruebas no es invasivo y es el que más se usa.

Recogida de cáscaras de pintura para análisis de laboratorio: Las pruebas mediante cáscaras de pintura requieren un muestreo invasivo. Se quitan todas las capas de pintura de la superficie que se está probando. Esta muestra se envía a un laboratorio reconocido por la EPA, donde se analiza a fin de determinar la cantidad de plomo presente. Sólo inspectores de plomo o evaluadores de riesgo de plomo certificados pueden recoger las cáscaras de pintura. Los cobros de laboratorio se realizan a partir del tiempo de respuesta, y por lo general los resultados tardan entre uno y dos días. El muestreo invasivo hace que sea necesario reparar las superficies sometidas a prueba.

Diapositiva 3-5: Uso de kits de pruebas reconocidos por la EPA para verificar la presencia de pintura a base de plomo

- Utilice esta diapositiva para analizar cómo los renovadores certificados pueden verificar la presencia de pintura a base de plomo con los kits de pruebas reconocidos por la EPA. En el caso que no pueda o no esté autorizado para realizar pruebas en superficies que se vayan a alterar, el renovador debe utilizar datos de inspecciones previas, si se encuentran disponibles, o suponer que sí hay presencia de pintura a base de plomo.
- Revise el sitio Web de la EPA periódicamente para obtener información actualizada acerca de los kits de pruebas y una lista de los que son reconocidos por la EPA (visite www.epa.gov/lead y busque lo siguiente: *EPA-Recognized Test Kit*) (Kit de pruebas reconocido por la EPA).
- Demostración: El instructor demuestra el uso de un kit de pruebas aprobado para verificar la presencia de plomo en una superficie cubierta con pintura a base de plomo. Tenga en cuenta que existen dos tipos de kits de pruebas muy comunes que utilizan sustancias que muestran distintos colores cuando se detecta la presencia de plomo. Demuestre un ejemplo con cada uno de estos kits de pruebas e indique el tipo de sustancia (rodizonato y sulfuro).

Nota: Algunos reglamentos estatales y locales pueden prohibir que los renovadores certificados realicen pruebas con pintura. En estos estados y localidades, suponga que sí hay pintura a base de plomo o comuníquese con personas que posean la certificación apropiada para que realicen las pruebas.

Uso de los kits de pruebas reconocidos por la EPA para verificar la presencia de pintura a base de plomo

- Kits de pruebas reconocidos por la EPA:
 - Hasta el 1/SEP/10, la EPA sólo exigirá el uso de los kits de pruebas que verifiquen la ausencia de pintura a base de plomo.
 - Después del 1/SEP/10, los kits de pruebas deben tener la capacidad de determinar si existe o no pintura a base de plomo presente.
- Envíe lo antes posible al cliente el informe de resultados de las pruebas en las que se usó un kit de pruebas reconocido por la EPA, pero en un plazo que no sea superior a 30 días después de la finalización de la renovación.

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Si se usan kits de pruebas, debe ser uno que esté reconocido por la EPA.

- Hasta el 1 de septiembre de 2010, la EPA sólo exigirá el uso de kits de pruebas que determinen que no hay pintura en base a plomo presente en las superficies inspeccionadas. Si no hay cambio de color, no se requieren prácticas de trabajo seguras con el plomo. Si se produce un cambio de color, el cambio no significa con seguridad que la pintura a base de plomo esté presente. Sin embargo, aún se debe suponer que la superficie está revestida con pintura a base de plomo.
- Para contar con el reconocimiento de la EPA después del 1 de septiembre de 2010, el kit de pruebas debe ser capaz de identificar la pintura a base de plomo. Para entonces, un resultado positivo significará que hay pintura a base de plomo presente en el revestimiento y que se deben seguir las prácticas de trabajo seguras con el plomo cuando se altere la superficie. Un resultado negativo en la prueba significa que no se necesitan las prácticas de trabajo seguras con el plomo.
- Si el kit de pruebas da un resultado positivo en cualquiera de las superficies inspeccionadas, se deben utilizar las prácticas de trabajo seguras con el plomo. Un inspector de plomo certificado o un evaluador de riesgos pueden llevar a cabo el muestreo para determinar si hay presente pintura a base de plomo o no.
- Si se usan kits de pruebas, los renovadores certificados deben utilizar los que estén reconocidos por la EPA para someter a prueba las superficies afectadas. Los kits de pruebas reconocidos por la EPA se incluirán en una lista en el sitio Web de la EPA www.epa.gov.

¿Qué se debe someter a prueba?

- Se debe someter a prueba cada componente de la construcción que se va a renovar o que se alterará debido a la renovación, salvo que el componente sea parte de un sistema más grande y que represente el sistema en su conjunto. En este caso, un solo componente puede representar el sistema más grande. Por ejemplo, una huella puede representar todo el sistema de escaleras, en el caso de que el historial de pintura de estos sea similar. Si los historiales de pintura son similares y las huellas sometidas a prueba muestran resultados negativos con relación a la pintura a base de plomo, entonces no se aplica la regla RRP al sistema de escaleras.

Informes

- Cuando se usan kits de pruebas reconocidos por la EPA, los renovadores certificados deben proporcionar un informe al cliente en un plazo de 30 días después de finalizar renovación. El informe que se entrega al propietario debe incluir la fecha de las pruebas, la identificación o información de contacto de la empresa certificada y del renovador certificado que realizan las pruebas, el nombre del fabricante del kit de pruebas, la identificación del kit de pruebas, las ubicaciones de las superficies sometidas a prueba, las descripciones de éstas últimas y los resultados de las pruebas.

Diapositiva 3-6: Ejercicio práctico del kit de pruebas

Lea esta diapositiva y repase las notas del instructor que están en el conjunto de destrezas N° 1 y realice el ejercicio práctico.

Ejercicio práctico del kit de pruebas

Propósito: El propósito de este ejercicio práctico es enseñar a los renovadores certificados cómo usar correctamente los kits de pruebas reconocidos por la EPA, a fin de determinar si hay pintura a base de plomo presente en los componentes y las superficies afectadas por el trabajo de renovación.

Conjunto de destrezas N° 1: Uso de kits de pruebas reconocidos por la EPA

Tiempo: 15 minutos

9 de febrero

Artículos necesarios:

- Kits de pruebas Kits de pruebas reconocidos por la EPA con instrucciones del fabricante
- Artículos específicos del juego, según lo requieran las instrucciones del fabricante
- Cubierta de plástico desechable de 2' por 2'
- Cinta (conducto, pintores y protección)
- Guantes desechables que no sean de látex
- Cubrezapatos desechables
- El fabricante proporcionó tarjetas de verificación de pruebas con capas de pintura a base de plomo
- Toallas de limpieza húmedas desechables
- Bolsas de basura de alta resistencia
- Superficie de madera pintada sin capa de pintura a base de plomo
- *Formulario de documentación del kit de pruebas kits de pruebas*
- *Registro de progreso del asistente*
- Pluma o lápiz
- Cámara digital (*opcional*)
- Tarjetas de índice numeradas (*opcional*)
- Aspiradora con accesorios aprobada por EPA (para limpiar después del muestreo)

Nota para el instructor: *Se sugiere encarecidamente que los instructores preparen bolsas plásticas que contengan todos los materiales necesarios para los ejercicios prácticos, antes del ejercicio, a fin de cumplir con los límites de tiempo asignados al conjunto de destrezas N° 1.*

Propósito: El propósito de este ejercicio práctico es enseñar a los alumnos a usar correctamente los kits de pruebas reconocidos por la EPA para determinar si hay presencia de pintura a base de plomo en los componentes y superficies afectadas por el trabajo de renovación.

Nota para el instructor: *Lea el propósito de esta actividad a los alumnos y recuérdelos que deben documentar todas las áreas donde el color de la pintura o las reacciones de sustratos puedan causar un resultado incorrecto. Estas superficies no deben probarse con kits de pruebas, deben ser sometidas a pruebas por inspectores certificados o evaluadores de riesgos certificados; o bien, debe darse por hecho que contienen pintura a base de plomo.*

Demostración: El instructor del curso debe mostrar y explicar todos los pasos que se incluyen en el uso de kits de pruebas reconocidos por la EPA. La demostración no debe durar más de 5 minutos, incluido el tiempo necesario para repartir los materiales.

Evaluación de los alumnos: Permita a los alumnos practicar los ocho pasos de la siguiente página. Observe que cada alumno siga los pasos. Realice correcciones y haga sugerencias a medida que los ejercicios avancen y determine si se necesita más práctica. Esto no debe tomar más de 10 minutos. Los alumnos deben completar todos los pasos obligatorios para ser "Competentes". Evalúe el trabajo de cada alumno y luego que éste haya podido usar un juego de prueba correctamente, el instructor debe escribir la palabra "Competente" en el campo de registro de avance del participante que corresponda al conjunto de destrezas N° 1 y al nombre del alumno en particular.

Conjunto de destrezas N° 1: Uso de kits de pruebas reconocidos por la EPA - continuación

Práctica de destrezas:

- Paso 1: Lea las instrucciones del fabricante
- Paso 2: Escriba la información y las observaciones necesarias acerca de la ubicación de la prueba en el *formulario de documentación del kits de pruebas*.*
- Paso 3: (Opcional) Fije una pequeña cubierta de plástico desechable (de 2 x 2 pies) sobre el piso debajo de la ubicación de la prueba con cinta de protección.
- Paso 4: Colóquese guantes desechables que no sean de látex y cubrezapatos.
- Paso 5: Siga las instrucciones del fabricante para el uso del kits de pruebas para llevar a cabo la prueba.* Realice una prueba de la tarjeta de prueba entregada por el fabricante, para observar un resultado positivo; lleve a cabo una prueba de superficie de madera pintada con una capa de pintura que no sea a base de plomo para observar un resultado negativo.*
- Paso 6: Use una toalla de limpieza húmeda para eliminar los residuos químicos que queden sobre la superficie sometida a prueba. Use una segunda toalla de limpieza húmeda para eliminar cualquier escombros o polvo visible sobre el piso debajo del área de recopilación de muestras y coloque la toalla de limpieza utilizada para limpiar dentro de la bolsa de basura.*
- Paso 7: Verifique la documentación para finalizar y tome nota de los resultados de la prueba en el *formulario de documentación del kits de pruebas*.*
- Paso 8: (Opcional) Numere la ubicación de la prueba en secuencia en el *formulario de documentación del kits de pruebas*, luego seleccione la tarjeta de índice numerada correspondiente y péguela a un costado de la ubicación de prueba con cinta de protección y tome una fotografía de la ubicación de prueba numerada, a fin de documentar fotográficamente la realización y posiblemente el resultado de la prueba.

*Indica las destrezas obligatorias que se deben lograr para obtener una calificación de "Competente".

Interpretación de los resultados del muestreo del kit de pruebas:

Las instrucciones del fabricante señalarán el cambio de color del indicador fijado para el plomo en la pintura. Una vez realizada la prueba, tome nota del resultado y consulte la guía del fabricante para interpretarlo. Todas las superficies pintadas que muestren el cambio de color indicado por el fabricante para plomo en la pintura (un resultado de prueba positivo) deben tratarse como pintura a base de plomo hasta que un inspector de plomo certificado o un evaluador de riesgos de plomo certificado efectúen pruebas adicionales para probar lo contrario.

Documentación de los resultados de los kits de pruebas:

Se debe enviar un informe con las averiguaciones hechas a partir del uso del kit de pruebas a la persona que contrata el trabajo en un plazo de 30 días posteriores a la finalización del trabajo de renovación. La empresa certificada debe conservar el *Formulario de documentación del kit de pruebas* durante 3 años después de finalizado el trabajo.

Información del propietario

Nombre del propietario u ocupante: _____
Dirección: _____
Ciudad: _____ Estado: _____ Código postal: _____
Número de contacto: (____) ____ - ____ Correo electrónico: _____

Información de la renovación

Complete la siguiente información que esté disponible acerca de la obra de renovación, la empresa y el renovador certificado.

Dirección de la renovación: _____ N° de
unidad _____
Ciudad: _____ Estado: _____ Código postal: _____

Nombre de la empresa certificada: _____
Dirección: _____
Ciudad: _____ Estado: _____ Código postal: _____
Número de contacto: (____) ____ - ____
Correo electrónico: _____
Nombre del renovador certificado: _____ Fecha de certificación: ____ / ____ / ____

Información de kit de pruebas

Use los siguientes espacios en blanco para identificar el kit de pruebas o los kits de pruebas utilizados para probar componentes.

Kit de pruebas N° 1

Fabricante: _____ Fecha de fabricación: ____ / ____ / ____
Modelo: _____ N° de serie: _____
Fecha de vencimiento: _____

Kit de pruebas N° 2

Fabricante: _____ Fecha de fabricación: ____ / ____ / ____
Modelo: _____ N° de serie: _____
Fecha de vencimiento: _____

Kit de pruebas N° 3

Fabricante: _____ Fecha de fabricación: ____ / ____ / ____
Modelo: _____ N° de serie: _____
Fecha de vencimiento: _____

Formulario de documentación del kit de pruebas

Página __ de __

Dirección de la renovación: _____ N° de unidad _____
Ciudad: _____ Estado: _____ Código postal: _____

N° de ubicación de la prueba _____ Kit de pruebas utilizado: (Encierre en un círculo sólo uno)

Kit de pruebas N° 1 Kit de pruebas N° 2 Kit de pruebas N° 3

Descripción de la ubicación de pruebas: _____

Resultado: ¿Hay plomo presente? (Encierre en un círculo sólo una) **SÍ** **NO** **Se**
sospecha

N° de ubicación de la prueba _____ Kit de pruebas utilizado: (Encierre en un círculo sólo uno)

Kit de pruebas N° 1 Kit de pruebas N° 2 Kit de pruebas N° 3

Descripción de la ubicación de pruebas: _____

Resultado: ¿Hay plomo presente? (Encierre en un círculo sólo una) **SÍ** **NO** **Se**
sospecha

N° de ubicación de la prueba _____ Kit de pruebas utilizado: (Encierre en un círculo sólo uno)

Kit de pruebas N° 1 Kit de pruebas N° 2 Kit de pruebas N° 3

Descripción de la ubicación de pruebas: _____

Resultado: ¿Hay plomo presente? (Encierre en un círculo sólo una) **SÍ** **NO** **Se**
sospecha

N° de ubicación de la prueba _____ Kit de pruebas utilizado: (Encierre en un círculo sólo uno)

Kit de pruebas N° 1 Kit de pruebas N° 2 Kit de pruebas N° 3

Descripción de la ubicación de pruebas: _____

Resultado: ¿Hay plomo presente? (Encierre en un círculo sólo una) **SÍ** **NO** **Se**
sospecha

N° de ubicación de la prueba _____ Kit de pruebas utilizado: (Encierre en un círculo sólo uno)

Kit de pruebas N° 1 Kit de pruebas N° 2 Kit de pruebas N° 3

Descripción de la ubicación de pruebas: _____

Resultado: ¿Hay plomo presente? (Encierre en un círculo sólo una) **SÍ** **NO** **Se**
sospecha

N° de ubicación de la prueba _____ Kit de pruebas utilizado: (Encierre en un círculo sólo uno)

Kit de pruebas N° 1 Kit de pruebas N° 2 Kit de pruebas N° 3

Descripción de la ubicación de pruebas: _____

Resultado: ¿Hay plomo presente? (Encierre en un círculo sólo una) **SÍ** **NO** **Se**
sospecha

N° de ubicación de la prueba _____ Kit de pruebas utilizado: (Encierre en un círculo sólo uno)

Kit de pruebas N° 1 Kit de pruebas N° 2 Kit de pruebas N° 3

Descripción de la ubicación de pruebas: _____

Resultado: ¿Hay plomo presente? (Encierre en un círculo sólo una) **SÍ** **NO** **Se**
sospecha

Diapositiva 3-7: Uso de cuadros lógicos para decidir

- Lea esta diapositiva y repase los diagramas de flujo de las páginas siguientes.
 - Enfatice que siguiendo estos diagramas de flujo se pueden determinar los requisitos reglamentarios que se aplican a su trabajo.
 - Repase cómo funcionan los diagramas de flujo, de acuerdo con las notas de los alumnos.
 - Asegúrese de que los alumnos también entiendan en qué parte del apéndice 2 pueden encontrar los cuadros lógicos para determinar si una vivienda recibe asistencia federal.
 - Repase los siguientes ejemplos para practicar los cuadros lógicos de los diagramas de flujo. Lea a los alumnos cada ejemplo y guíelos a través de los cuadros lógicos de los diagramas de flujo. Repase al menos dos de los tres ejemplos con los alumnos.
1. 18 Cherry Tree Lane, Everytown, EE.UU. Esta vivienda de la época victoriana recibe US\$6000 cada año como asistencia de alquiler de parte del programa de cupones de la Sección 8 del Departamento de Vivienda y Urbanismo. Se raspará el lado exterior de esta casa y se volverá a pintar.

Nota: Comenzará con el diagrama de flujo 1, luego la orientación del Departamento de Vivienda y Urbanismo, luego los diagramas de flujo 2, 3, 4 y, finalmente, el diagrama de flujo 8.

2. 4 Autumn Maple St, Alltown, EE.UU. Se reemplazarán todas las ventanas de esta casa estilo hacienda, del año 1976. Esta vivienda está habitada por sus propietarios, quienes desean encontrar una manera de evitar el uso de las prácticas de trabajo seguras con el plomo. Se detecta la presencia de pintura a base de plomo en todas las ventanas. El propietario de 70 años no tiene hijos, pero cuida a sus nietos en la casa después de la escuela, hasta que sus padres regresan del trabajo (aproximadamente 2.5 horas al día).

Nota: Utilizará los diagramas de flujo 1, 2, 3, 4, 5, 6, 7 y 8. Asegúrese de señalar que el trabajo afecta a las áreas interiores y exteriores de la vivienda.

Uso de cuadros lógicos para decidir

- Al usar las siguientes páginas, practicará el uso de los cuadros lógicos para decidir, que se encuentran en la *Guía de cumplimiento destinada a entidades pequeñas para renovar correctamente*.
- Los cuadros lógicos para decidir le ayudarán al momento de tomar las decisiones relacionadas con la aplicación de la regla RRP de la EPA en su trabajo.
- Determine si la propiedad recibe ayuda federal y si ese es el caso, establezca los próximos pasos a seguir.

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3-7

La información que se presenta en los diagramas de flujo de la *Guía de cumplimiento destinada a entidades pequeñas para renovar correctamente* tiene el propósito de ayudarlo a comprender qué requisitos de la regla RRP se aplican a la renovación que se realizará y si la regla de HUD también se aplica al proyecto o no. Encontrará los diagramas de flujo de la *Guía de cumplimiento destinada a entidades pequeñas para renovar correctamente* en las siguientes páginas en este módulo. Para obtener una copia completa de la *Guía de cumplimiento destinada a entidades pequeñas para renovar correctamente*, consulte el Apéndice 4.

Los diagramas de flujo de la *Guía de cumplimiento destinada a entidades pequeñas para renovar correctamente* le brindan una pauta paso a paso mediante un árbol de decisiones, que le plantea una serie de preguntas de respuesta afirmativas o negativas. Para usar los diagramas de flujo, comience por la parte superior del diagramas de flujo 1 y plantéese cada pregunta. Siga las flechas de las respuestas afirmativas o negativas hacia el siguiente cuadro de pregunta que corresponda. En algún momento llegará a una flecha con instrucciones que indican continuar en otro diagrama de flujo. Siga la indicación a cualquier diagramas de flujo al que la ruta lo conduzca y omita los que no corresponden. Siempre que un cuadro de texto le indique qué hacer, tome nota de aquello para elaborar una lista de medidas que se deben tomar para el cumplimiento de la regla RRP.

El Apéndice 2 proporciona un resumen de los requisitos del HUD que se aplican al trabajo realizado en viviendas que reciben asistencia federal. La información que se encuentra en el Apéndice 2 brinda ayuda para determinar si la propiedad recibe o no asistencia federal para la vivienda y cuáles son los requisitos si la recibiera. Si la propiedad se construyó antes de 1978 y recibe asistencia federal para la vivienda, se aplican tanto la regla sobre viviendas sin plomo del HUD como la regla RRP de la EPA a su trabajo de renovación.

Vistazo general de la regla del programa de plomo de la EPA

DIAGRAMA DE FLUJO 1: ¿Son aplicables los requisitos a la renovación?

Si va a recibir dinero por realizar trabajo que altere superficies pintadas en una vivienda, edificio de apartamentos o centro ocupado por niños construidos antes de 1978, responda a las preguntas a continuación para determinar si el programa de la EPA sobre el plomo le exige que distribuya el folleto sobre el plomo y/o si necesitará cumplir con los requisitos de capacitación, acreditación y normas laborales cuando realice el trabajo.

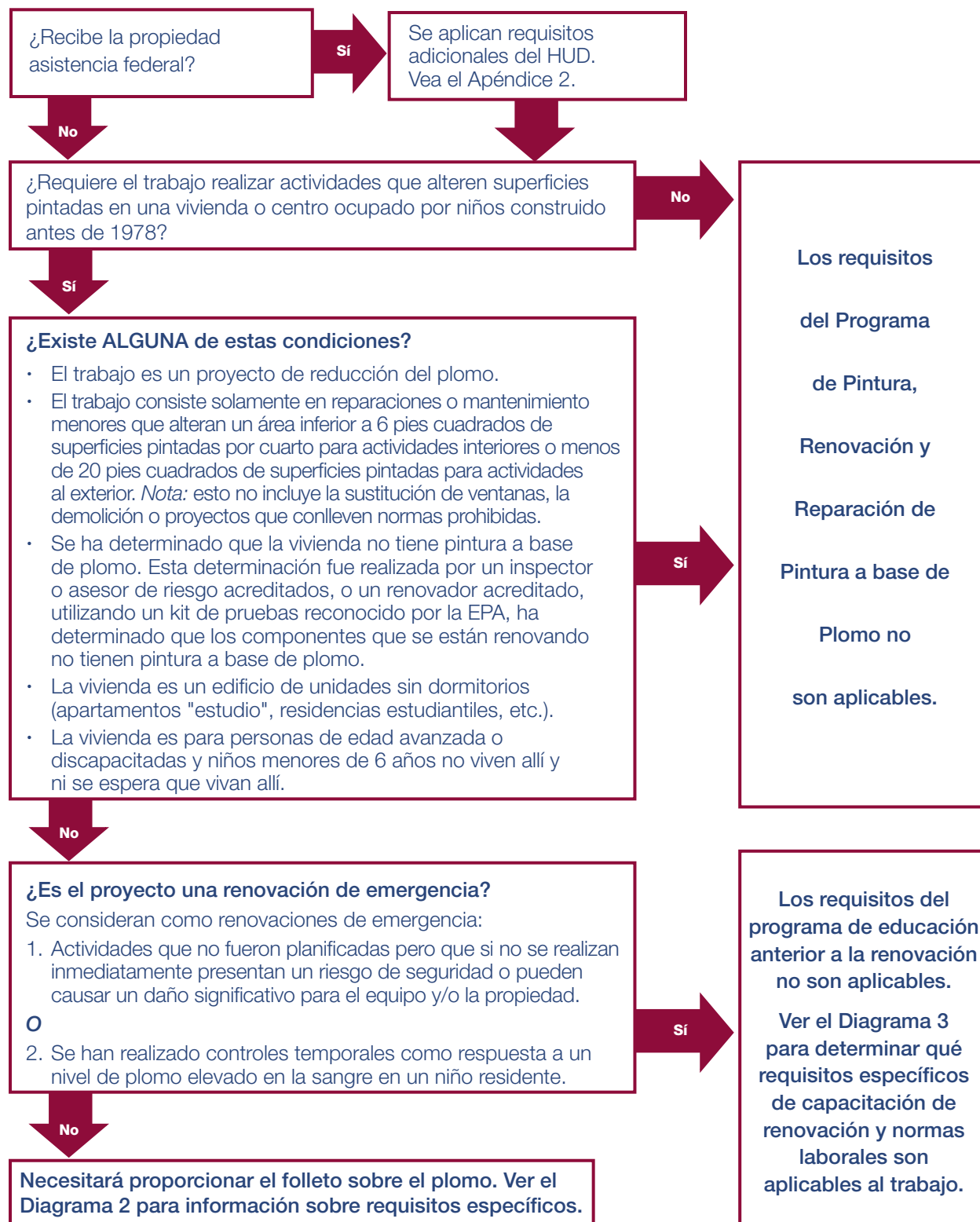


DIAGRAMA DE FLUJO 2: ¿Cómo cumplo con los requisitos de educación anteriores a la renovación?

Los requisitos de distribución de materiales educativos anteriores a la renovación varían según el lugar de la renovación. Seleccione el lugar a continuación que mejor describe la ubicación de su producto, y siga el procedimiento aplicable a la derecha.

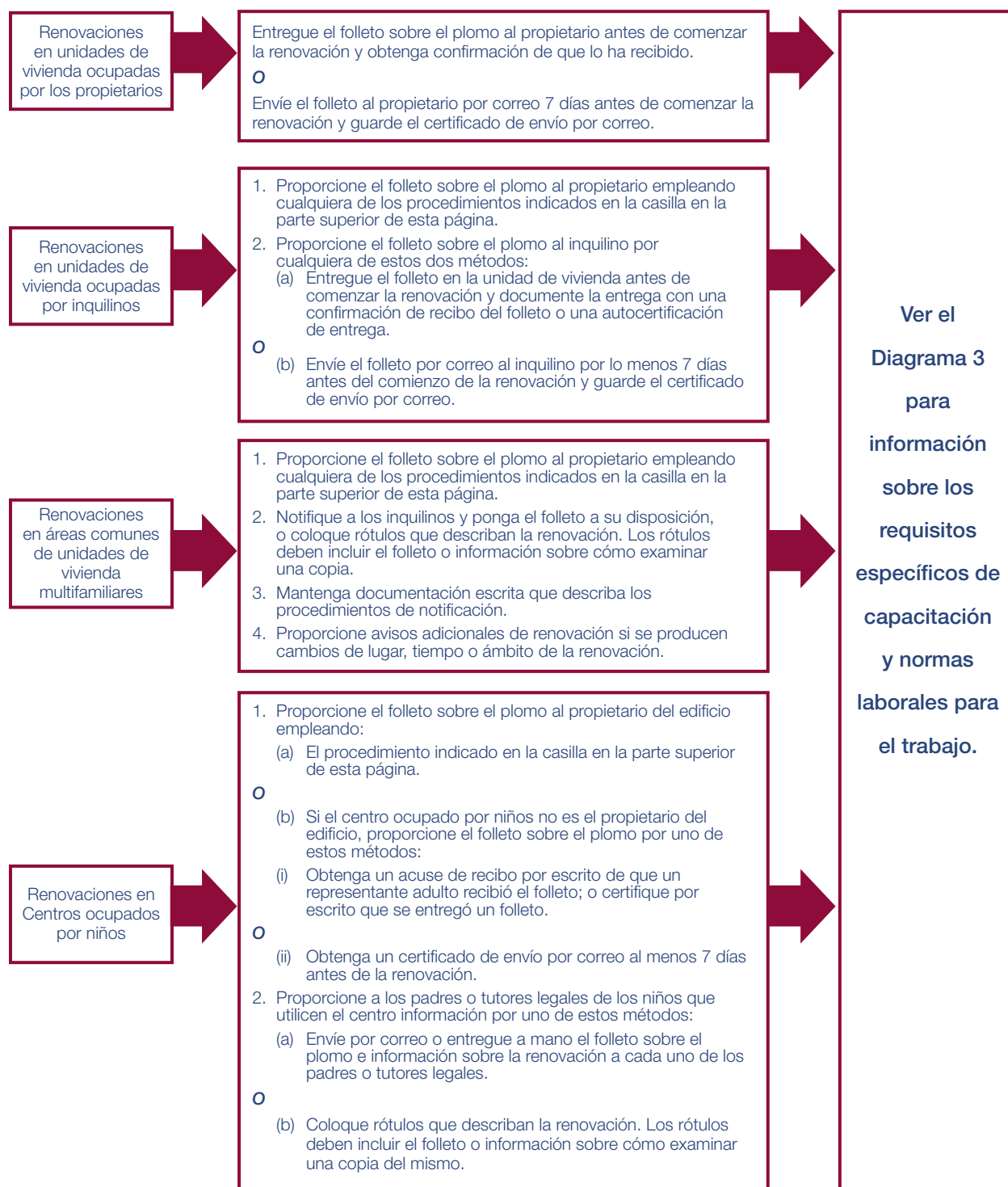


DIAGRAMA DE FLUJO 3: ¿Son aplicables la capacitación y normas laborales de renovación?

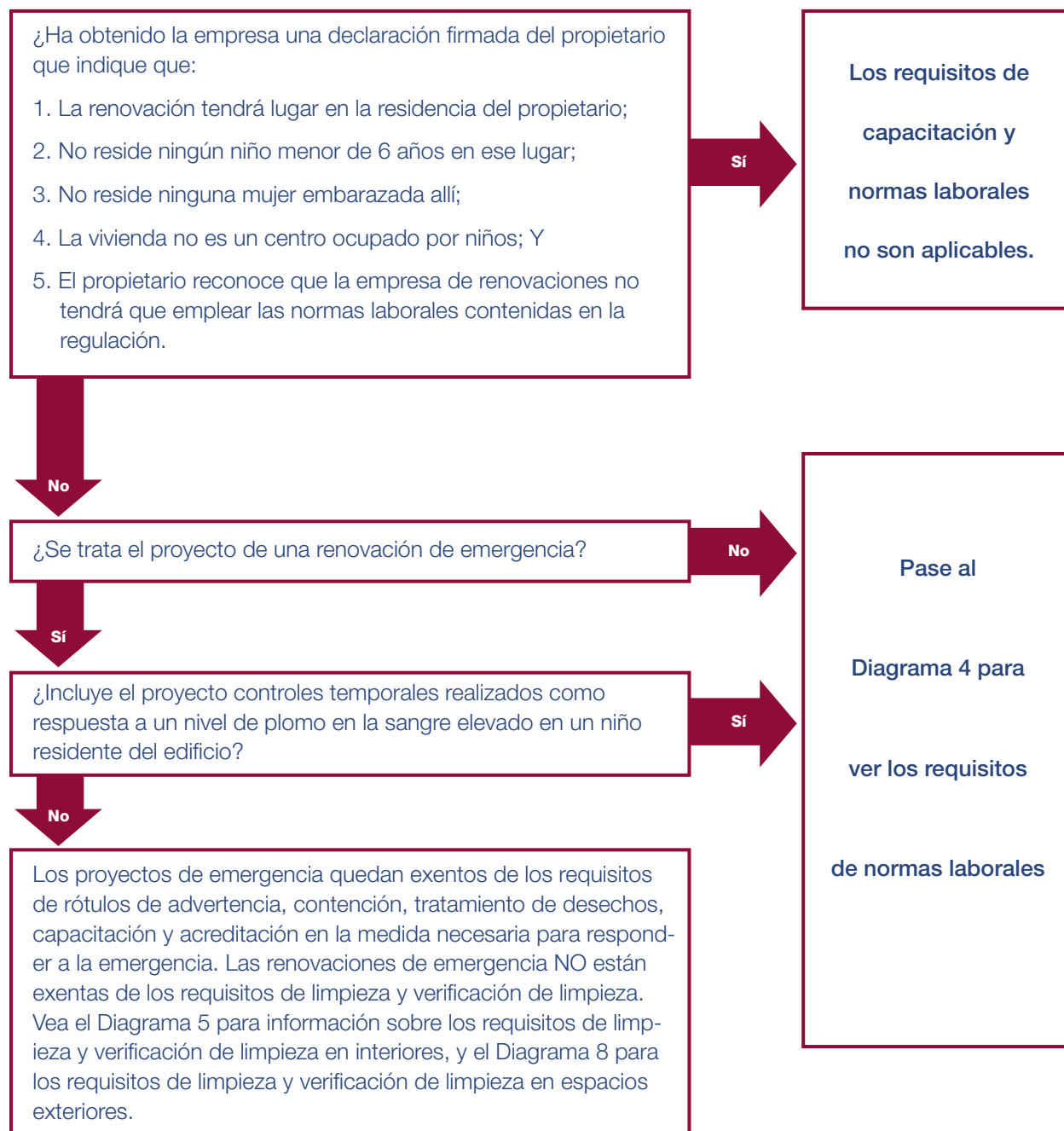


DIAGRAMA DE FLUJO 4: Requisitos de normas laborales

Generales

- (A) Las renovaciones deben ser realizadas por empresas acreditadas que emplean a renovadores acreditados.
- (B) Las empresas deben colocar rótulos que definan claramente el área de trabajo y adviertan a los ocupantes y a otras personas que no estén participando en las actividades de renovación a permanecer fuera del área de trabajo. Estos rótulos deben estar en el idioma de los ocupantes.
- (C) Antes de la renovación, la empresa debe contener el área de trabajo para que no escape polvo ni desechos durante la renovación.
- (D) Quedan prohibidas las siguientes normas laborales durante el proceso de renovación:
 - 1. Quemar pintura a base de plomo a fuego abierto o con soplete;
 - 2. Usar máquinas que eliminen la pintura a base de plomo por medio de operación a alta velocidad, como de lijado, molido, limado eléctrico, pistola de agujas, limpieza abrasiva o de lija, a menos que se utilicen con un control de escape HEPA; y
 - 3. Operar una pistola de calor en pintura a base de plomo a temperaturas de 1100 grados Fahrenheit o superiores.
- (E) Desechos de las renovaciones:
 - 1. Los desechos de las actividades de renovación deben estar contenidos para evitar que escape polvo y restos antes de que se retiren del área de trabajo para almacenamiento o desecho.
 - 2. Al finalizar cada jornada laboral y al terminar la renovación, deben guardarse los desechos recogidos para evitar el acceso a los mismos y que suelten polvo y restos.
 - 3. Los desechos transportados de actividades de renovación deben estar contenidos para que no suelten polvo y restos.

**Proyectos
de renovación
interior. Ver el
Diagrama 5.**

**Proyectos
de renovación
exterior. Ver el
Diagrama 8.**

DIAGRAMA DE FLUJO 5: Requisitos de normas laborales específicos para renovaciones en interiores

La empresa debe:

- (A) Retirar todos los objetos del área de trabajo o cubrirlos con pliegos de plástico, sellando todas las juntas y bordes.
- (B) Cerrar y cubrir todos los tubos abiertos en el área de trabajo con pliegos de plástico sellados con cinta adhesiva.
- (C) Cerrar las ventanas y puertas en el área de trabajo. Las puertas deben estar cubiertas con pliegos de plástico.
- (D) Cubrir la superficie del piso en el área de trabajo con pliegos de plástico sellados con cinta adhesiva, como mínimo seis pies más allá del perímetro de las superficies que se están renovando o una distancia suficiente para contener el polvo, lo que sea mayor.
- (E) Ejercer precauciones para garantizar que todo el personal, herramientas y otros artículos, incluidas las partes exteriores de los contenedores de desechos, carezcan de polvo y restos cuando salgan del área de trabajo.
- (F) Una vez completada la renovación, la empresa debe limpiar el área de trabajo hasta que no quede polvo, restos o residuos. La empresa debe:
 - 1. Recoger toda la pintura y restos y sellarlos en una bolsa resistente.
 - 2. Retirar y deshacerse de los plásticos protectores como si fuesen desechos.
 - 3. Limpiar todos los objetos y superficies en el área de trabajo y dentro de dos pies de la misma de la siguiente manera:
 - a. Limpiar las paredes comenzando por el techo y terminando en el piso, aspirándolas con un aspirador HEPA o limpiándolas con un paño húmedo.
 - b. Aspirar bien todas las superficies y objetos que hayan permanecido en el área de trabajo, incluyendo los muebles y las lámparas, con un aspirador HEPA.
 - c. Limpiar todas las superficies y objetos que hayan permanecido en el área de trabajo, salvo las alfombras o tapicerías, con un paño húmedo. Lave los pisos que no tengan alfombras empleando un método de lavado que mantenga el agua sucia separada del agua de enjuagar, o usando un sistema de trapeo mojado.



**Se requiere verificar la limpieza para garantizar que el área de trabajo quede debidamente limpia y esté lista para volver a ser ocupada.
Ver el Diagrama 6 para instrucciones sobre cómo realizar la verificación de limpieza para proyectos de interiores.**

**DIAGRAMA DE FLUJO 6: Verificación de limpieza de interiores:
inspección visual y pruebas opcionales de aprobación**

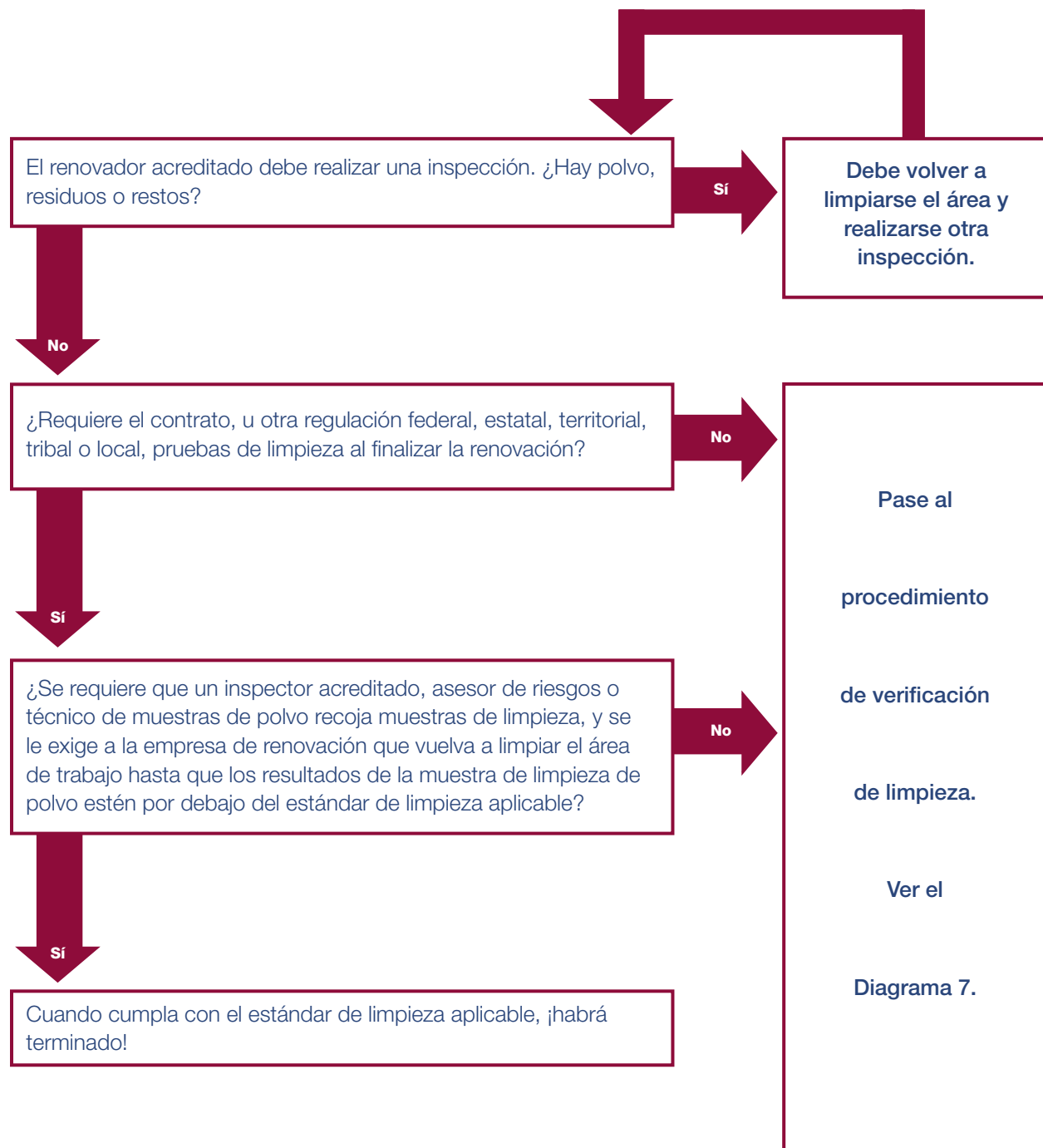


DIAGRAMA DE FLUJO 7: Verificación de limpieza de interiores: pisos, mostradores y repisas de ventanas

Nota: para áreas superiores a 40 pies cuadrados, divida el área en secciones y utilice un paño nuevo desechable para limpiar cada sección.

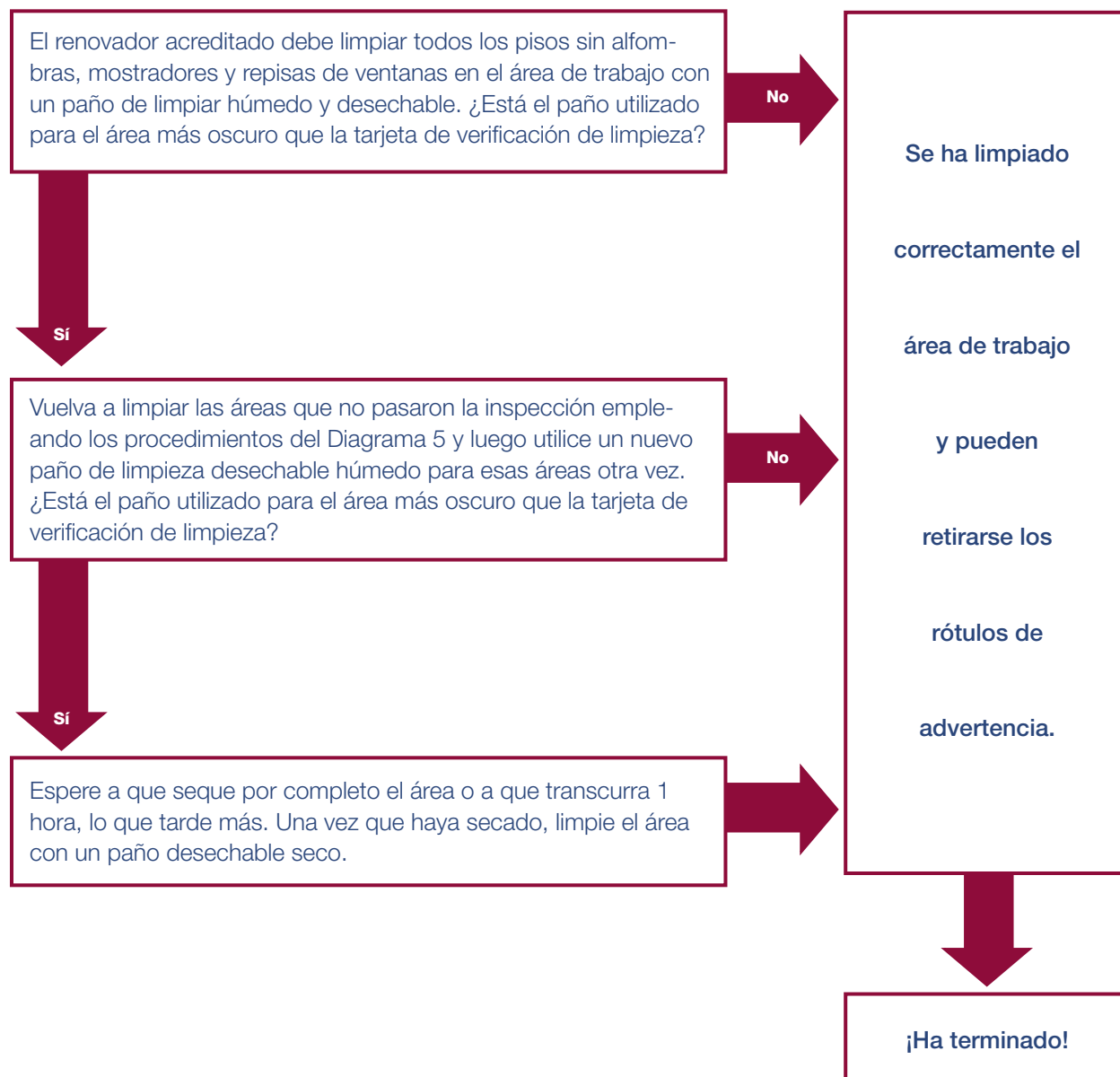
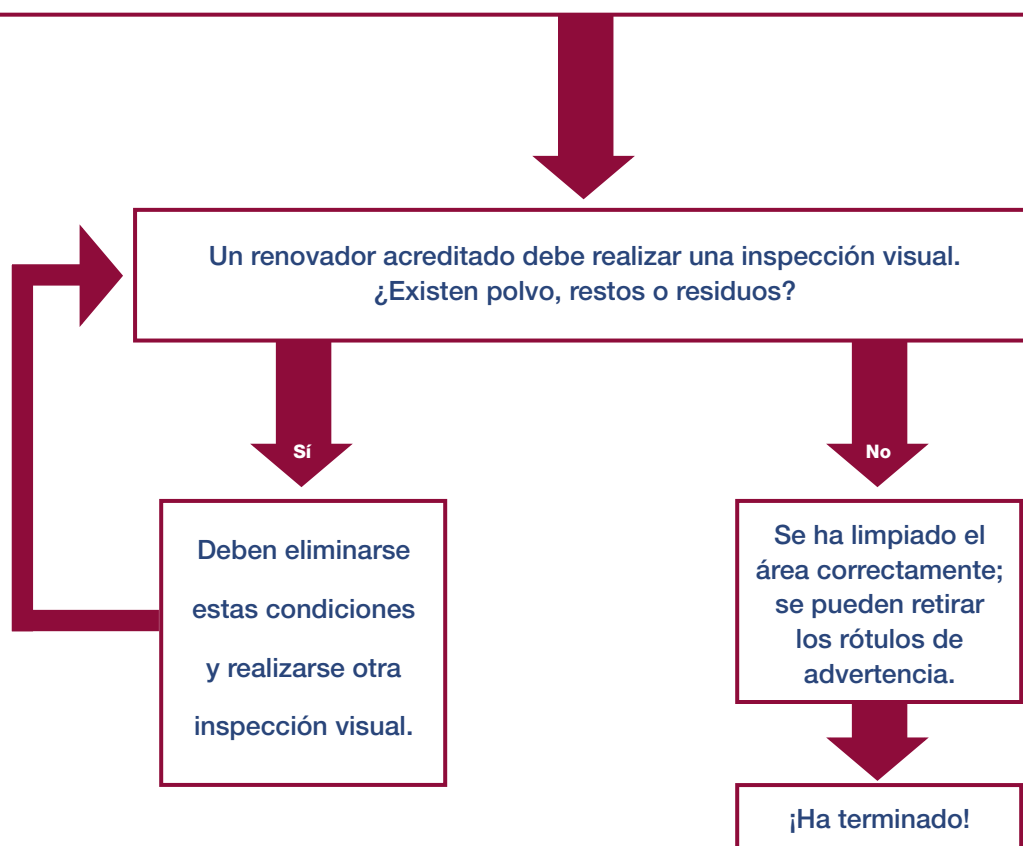


DIAGRAMA DE FLUJO 8: Requisitos de normas laborales específicos para renovaciones en exteriores

La empresa debe:

- (A) Cerrar todas las puertas y ventanas a una distancia inferior a 20 pies de la renovación.
- (B) Garantizar que las puertas en el área de trabajo que vayan a utilizarse cuando se realice el trabajo estén cubiertas con pliegues de plástico de forma que los trabajadores puedan pasar pero contengan el polvo y los restos.
- (C) Cubrir el suelo con pliegues de plástico u otro material impermeable desechable extendiéndose como mínimo 10 pies más allá del perímetro o la distancia suficiente para recoger los restos de pintura que caigan, lo que suponga mayor distancia.
- (D) En situaciones en las que las áreas de trabajo se encuentren muy cerca de otros edificios, en climas ventosos, etc., la empresa de renovación debe ejercer precaución adicional para contener el área de trabajo, como por ejemplo, la contención vertical.
- (E) Una vez completada la renovación, la empresa debe limpiar el área de trabajo hasta que queden polvo, restos o residuos. La empresa debe:
 - 1. Recoger toda la pintura y restos y sellarlos en una bolsa resistente.
 - 2. Retirar y deshacerse de los plásticos protectores como si fuesen desechos.
 - 3. Los desechos transportados de actividades de renovación deben contenerse para evitar que se suelten polvo y restos.



Diapositiva 3-8: Ahora ya saben...

- Utilizar esta diapositiva para reforzar las lecciones aprendidas y abordar las preguntas que hayan quedado pendientes.
- Destacar los recursos disponibles en los apéndices.

Ahora ya saben...

Que para planificar adecuadamente una renovación, deben:

- **Educar a los propietarios y residentes.**
- **Determinar si hay pintura a base de plomo.**
- **Determinar qué requisitos de las reglas de la EPA y del HUD se aplican a sus actividades de renovación.**

Módulo 4: Contenga el Polvo Mientras Trabaja

Descripción general de este módulo: La siguiente tabla resume el contenido y los métodos de enseñanza de este módulo. Es para su propia referencia. No trate este punto con los asistentes.

Módulo 4: Contenga el polvo mientras trabaja		90 minutos
• 4-1: Módulo 4: Contenga el polvo mientras trabaja • 4-2: ¿Qué es la contención? • 4-3: Mantenga el polvo dentro de la contención • 4-4: Contención interior: Limite el acceso y coloque letreros • 4-5: Contención interior: Retire o cubra las pertenencias • 4-6: Contención interior: Cubra los pisos • 4-7: Contención interior: Cierre ventanas, puertas, sistemas de climatización • 4-8: Contención interior: Puerta de ingreso al área de trabajo • 4-9: Descripción general de los pasos para la contención interior • 4-10: Contención exterior: Defina un área de trabajo • 4-11: Contención exterior: Cierre ventanas y puertas • 4-12: Contención exterior: Precauciones adicionales • 4-13: Descripción general de los pasos para la contención exterior • 4-14: Ejercicio práctico: Contención interior y exterior (conjuntos de destrezas N° 2-5) • 4-15: Preguntas después del ejercicio práctico • 4-16: Ahora ya saben...	Mensaje clave: Mantenga el polvo en el área de trabajo y facilite la limpieza. Notas: Después de las diapositivas hay un ejercicio. • Diapositivas: (45 minutos) • Ejercicio práctico: Los alumnos instalan la contención en un área pequeña. Colocan y fijan el plástico. El instructor demuestra cómo hacer una protección plástica para puerta. (45 minutos) Preparación para este módulo: Prepare materiales para un ejercicio práctico e identifique las ubicaciones apropiadas para que los grupos trabajen. Repase los materiales por adelantado para familiarizarse con los conjuntos de destrezas N° 2, 3, 4 y 5. Materiales necesarios: Consulte la lista de artículos para la instalación a fin de saber qué materiales se necesitan. Opción: El instructor puede seguir la planificación de clase 2 y postergar los ejercicios prácticos para el final del día, cuando se combinan los ejercicios prácticos y se realizan todos de una vez.	

Diapositiva 4-1: Módulo 4: Contenga el polvo mientras trabaja

- Objetivo del módulo: El propósito de este módulo es aprender a seguir unas simples técnicas de instalación que impedirán la propagación de polvo contaminado con plomo hacia áreas que no sean de trabajo, durante trabajos tanto de interiores como de exteriores.
- Este módulo abarca la lista de temas que aparece en la diapositiva. Repase esta lista con los asistentes al curso. No se detenga por mucho tiempo en esta diapositiva: las diapositivas del resto del módulo responderán muchas de las preguntas que pueden surgir.

Módulo 4: Contenga el polvo mientras trabaja

Descripción general

- ¿Qué es la contención?
- Contener el polvo para actividades interiores.
- Contener el polvo para actividades exteriores.

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4-1

Al finalizar este módulo podrá:

- Establecer sistemas de contención que mantengan el polvo dentro del área de trabajo para permitir una limpieza más eficaz al final del día y al finalizar el trabajo;
- Identificar los requisitos de contención para renovaciones internas; e
- Identificar los requisitos de contención para renovaciones externas.

Diapositiva 4-2: ¿Qué es la contención?

- La mejor manera de abordar esta diapositiva es mediante un formato de preguntas y respuestas. Las diapositivas restantes del módulo identifican los equipos que se necesitan para instalar una contención y cómo hacerlo. No intente abarcar todos los contenidos del módulo en esta diapositiva.

Preguntas para debatir en clase:

- ¿Cómo protege la contención a los colegas y a los residentes? [Respuesta: La contención mantiene aislado el polvo en el área de trabajo, donde los trabajadores que se encuentran protegidos por equipos especiales y que han sido capacitados para utilizarlos pueden desempeñar sus labores con seguridad. Además, mantiene a los residentes fuera del área de trabajo hasta que se complete el trabajo y la limpieza].
- ¿Cómo logra la contención facilitar la limpieza al terminar un trabajo? [Respuesta: Lo hace limitando el área de limpieza aproximadamente al área de trabajo y 2 pies más allá de ésta].

Puntos importantes:

- Como se explica en las notas de los alumnos, destaque los requisitos de la regla RRP para la contención en viviendas de interés y en instalaciones habitadas por niños, además del requisito del HUD para la contención en propiedades construidas antes de 1978 que reciben asistencia federal para la vivienda.
- Consulte las diapositivas 4-6 a 4-9 para obtener información adicional sobre la instalación de la contención interior. Consulte las diapositivas 4-10 a 4-13 para obtener información adicional sobre la instalación de la contención exterior.
- Analice el hecho de que el área de trabajo puede ser un área pequeña dentro de una habitación que requiera sólo láminas plásticas (adheridas al suelo con cinta), cinta de barrera y letreros o; que puede ser un área que incluya un grupo de habitaciones que se han aislado del resto de la vivienda. La escala del área de trabajo la determina la empresa certificada, según su experiencia y el tamaño del área que se debe proteger para evitar la propagación de polvo y escombros del área de trabajo. El área de trabajo es el área en la que se aplica la contención. A medida que la escala del área de trabajo aumenta, puede incluir ventanas, puertas y sistemas de climatización. Se deben cerrar todas las ventanas afectadas; se deben cerrar y sellar todas las puertas afectadas y se deben sellar todos los sistemas de climatización afectados.
- Mencione que las alfombras del área de trabajo se deben cubrir con láminas plásticas. Además, explique que utilizar un trozo de lámina de plástico desechable como cubierta en el área de trabajo es de gran ayuda para realizar una limpieza al final del día y durante la limpieza final. Incentive el uso de cubiertas de plástico desechables, pero haga hincapié en que se deben eliminar como desechos, de acuerdo con la regla RRP. Muestre a los estudiantes cómo aplicar cubiertas de plástico desechables durante los ejercicios prácticos.

¿Qué es la contención?

- **“Contención” es un sistema de barreras temporales que se usa para aislar un área de trabajo, de modo que ni el polvo ni los escombros se escapen mientras se realiza la renovación.**
- **Beneficios de la contención:**
 - Protege a los residentes y a los trabajadores.
 - Evita la propagación de polvo al resto de la vivienda, construcción o propiedades vecinas.
 - Facilita la limpieza al término del trabajo.
- **La contención es obligatoria.**



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¿Qué es la contención?

- En general, existen muchos grados de contención, que van desde la simple colocación de láminas plásticas sobre el piso que rodea una pequeña área de trabajo hasta un espacio completamente cerrado. Algunos tipos de contención son más eficaces que otros.
- Para esta capacitación, “contención” es una práctica que la regla RRP determina como obligatoria para evitar que el polvo y los escombros se propaguen más allá del área de trabajo.

La contención del área de trabajo incluye lo siguiente:

- Retiro de objetos y muebles del área de trabajo o cubrimiento con láminas plásticas.
- Cubrimiento de los pisos (o el suelo) con láminas plásticas en un mínimo de 6 pies (10 pies para el trabajo exterior) más allá de las superficies que se renueven, reparen o pinten.
- Cierre y uso de láminas plásticas para sellar todas las ventanas, puertas y conductos de aire en el área de trabajo.
- Cubrimiento de las puertas que se utilizan para ingresar en el área de trabajo con láminas plásticas de forma que permita el ingreso de los trabajadores, pero que a la vez contenga el polvo y los escombros dentro del área de trabajo.

La regla RRP determina que la contención es obligatoria debido a que:

- **Reduce el riesgo para usted y los residentes.** Acatar los requisitos de instalación del área de trabajo de este módulo lo protegerá a usted, a sus colegas y a los residentes mediante el confinamiento del polvo y de los escombros que contengan plomo en un área definida y delimitada. El confinamiento del plomo es una consideración importante para evitar la exposición. La disminución del riesgo para usted y sus colegas también depende del uso de equipos de protección personal.
- **Facilita la limpieza eficiente del área de trabajo.** El proceso de configuración anterior al trabajo es esencial para mantener el polvo que contiene plomo encerrado en el área de trabajo donde puede limpiarse fácilmente. La contención adecuada del área de trabajo ayuda a limitar la superficie que debe limpiar después de finalizar el trabajo. Saber exactamente dónde limpiar es un factor importante para ahorrar el tiempo (y el dinero) invertidos en la limpieza.

Diapositiva 4-3: Mantenga el polvo dentro de la contención

Revise las notas que están en la diapositiva.

- Pida a los alumnos que mencionen ejemplos de trabajos polvorientos. Pregúnteles sobre las razones de sus ejemplos: por qué cierto trabajo crea o dispersa más polvo que otro. Los trabajos que generan más polvo requerirán que se cubran áreas más grandes de piso o suelo. El análisis de este módulo sobre la cantidad de polvo que generan los trabajos debe derivar en que piensen en la mejor manera de diseñar contenciones que impidan la propagación del polvo (y de los escombros) del área de trabajo a otras áreas de la construcción o de la propiedad.
- Enfatique a los asistentes que las prácticas de trabajo y los equipos que se usan en un trabajo, al igual que el tamaño del trabajo son factores que afectan la cantidad de polvo que se genera y, por ende, el tamaño y la ubicación de la contención. Por ejemplo, el lijado manual enérgico puede crear suficiente polvo como para dispersarlo a más de 6 pies de la superficie de trabajo.
- Enfatique que reducir la generación de polvo a través de la modificación de prácticas del trabajo y la planificación de la contención ayudan a controlar el polvo que producen las actividades de renovación.

Mantenga el polvo dentro de la contención

- Considere cuánto polvo generará la renovación.
- El diseño de la contención es una función de las prácticas laborales que deben usarse y la cantidad de polvo calculada que se va a generar durante la renovación.
- Planifique el tamaño y la configuración de la contención para mantener el polvo generado dentro de ésta.
- Usted es responsable de asegurarse de que el polvo no salga fuera de la contención.



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Si no planifica ni contiene el área de trabajo correctamente, el polvo y los escombros creados por la renovación pueden propagarse más allá del área contenida mínima que exige la regla RRP. Esto significa que:

- Para ubicaciones interiores, el polvo se puede dispersar a más de 6 pies de la superficie que se está renovando; o bien
- Para ubicaciones exteriores, el polvo se puede dispersar a más de 10 pies de la superficie que se está renovando.

El control del polvo y los escombros puede requerir una contención más extensa que la especificada en la regla si el trabajo es especialmente polvoriento. Planifique según corresponda.

En general, las renovaciones que implican sólo pequeñas alteraciones de la pintura crean menos polvo que los trabajos que incluyen áreas más grandes de alteración. Sin embargo, además del tamaño del área donde se alterará la pintura, las prácticas de trabajo (por ejemplo, lijado) y los equipos utilizados también afectarán la cantidad de polvo generado y la forma en la que éste se dispersa. La ubicación de la actividad de trabajo también tiene relación con la cantidad de polvo que se distribuye. Por ejemplo, las áreas pequeñas de trabajo en techo pueden propagar polvo sobre toda la habitación y son muy difíciles de controlar.

La contención que se requiere es similar para todos los trabajos, pero los que generan más polvo y escombros pueden necesitar una protección de áreas más amplia. Aun cuando la regla no exige la contención vertical, dichos sistemas pueden ser útiles para limitar el tamaño del área afectada por el trabajo y pueden reducir la superficie que se debe limpiar al término del trabajo. Los sistemas de contención prediseñados (comprados y hechos en casa) son muy útiles para reducir el tiempo que se emplea erigiendo contenciones y son más fáciles de instalar que la colocación de láminas plásticas con cinta adhesiva. Estos sistemas también permiten que el contratista cree un espacio sellado dentro de una habitación donde el polvo puede contenerse completamente al interior de un área limitada y controlada.

Ejemplos de trabajos polvorientos:

- Raspado manual de áreas grandes.
- Eliminación de pintura con una pistola de calentamiento de baja temperatura y un raspador.
- Eliminación de residuos y pintura secos después de utilizar decapantes químicos.
- Demolición de superficies pintadas.
- Retirada de componentes de la construcción con superficies pintadas que están en malas condiciones.

Recuerde, usted es responsable de asegurarse de que el polvo y los escombros permanezcan dentro del área de trabajo contenida. Cuando planifique la contención, tenga en presente cuánto y dónde las prácticas de trabajo que va a utilizar crearán polvo; luego, planifique según corresponda.

Diapositiva 4-4: Contención interior: Limite el acceso y coloque letreros

- Repase la información de la diapositiva y de las notas de los alumnos.

Contención interior: Limite el acceso y coloque letreros

- Notifique a los residentes que permanezcan lejos del área de trabajo.
- No permita a residentes ni mascotas cerca del área de trabajo.
- No permita comer, beber ni fumar en el área de trabajo.
- Coloque letreros de advertencia.

PRECAUCIÓN

TRABAJO DE RENOVACIÓN
NO INGRESE AL ÁREA DE TRABAJO
A MENOS QUE TENGA
AUTORIZACIÓN
PROHIBIDO FUMAR, COMER O
BEBER

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Restrinja el acceso al área de trabajo y notifique a los residentes que permanezcan lejos mientras se realice el trabajo.

- La restricción de acceso al área de trabajo protegerá a los residentes, especialmente a niños y mujeres embarazadas, de la exposición innecesaria a polvo con plomo y minimizará la propagación de éste último a las áreas colindantes.
- Antes de comenzar, notifique a los residentes que no ingresen en el área de trabajo y que permanezcan lejos de las inmediaciones de la entrada a ésta tanto como sea posible. Los residentes y las mascotas que entren y salgan pueden transportar fácilmente polvo contaminado con plomo a áreas colindantes de toda la vivienda. Es probable que las áreas que no sean de trabajo no se limpien de inmediato ni de manera apropiada.
- Restringir la exposición es especialmente importante para los niños menores de 6 años y para las mujeres embarazadas. Asegúrese de explicar a los residentes que la restricción de áreas es por su propio bien y que los niños pequeños y las embarazadas corren mayor riesgo de tener problemas de salud surgidos a partir de la exposición al plomo.
- Debe proporcionar indicaciones sobre cuánto tiempo trabajará en un área en particular, de modo que los residentes puedan planificar con anticipación cómo sacar del área de trabajo los elementos que posiblemente necesiten, antes de que usted comience a trabajar.

No permita comer, beber ni fumar en el área de trabajo.

- Esto es principalmente para la protección de los trabajadores, pero también es importante si hay residentes que viven cerca del área de trabajo. Coloque letreros que prohíban comer, beber y fumar en el área de trabajo. El polvo en el aire puede caer sobre comidas o ser inhalado al fumar. Si coloca alimentos sobre una superficie contaminada con polvo, estos pueden recoger fácilmente el polvo contaminado con plomo, que se ingerirá al consumir los alimentos.

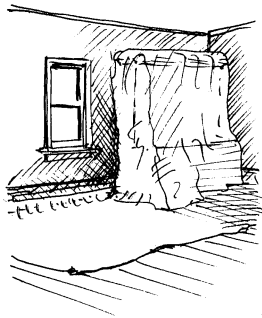
Coloque letreros de advertencia.

- Antes de comenzar la renovación, coloque letreros en el idioma materno de los residentes para advertirles a ellos y a otras personas que participen en las actividades de renovación que permanezcan fuera del área de trabajo. Los letreros deben permanecer en lugares visibles y ser legibles hasta la finalización de la renovación y durante la verificación de limpieza posterior a la renovación.
- Se debe colocar un letrero de advertencia: en cada entrada a un área de trabajo; o bien, en cada acceso principal y secundario a una construcción donde sus ocupantes hayan sido reubicados; o bien, para trabajos exteriores, donde sea fácil de leer a 20 pies (6 metros) del borde de la obra.

Diapositiva 4-5: Contención interior: Retire o cubra las pertenencias

- Destaque la conveniencia de retirar los muebles y otros objetos del área de trabajo, cuando sea posible. Vale la pena cubrirlos para evitar que les caiga polvo, ya que es muy difícil limpiar estos objetos una vez que se ensucian, a pesar de que se aumente la carga de trabajo del proyecto. Tenga en cuenta que cuando se cubren los objetos, sus bordes y juntas se deben sellar con cinta u otro método.
- Describa la ilustración. Indique cómo los accesorios y muebles que están a la vista están cubiertos y que los otros objetos (que no están a la vista) se han retirado.
- Distribuya trozos de láminas de plástico a los alumnos para permitirles tener una noción del material con el que trabajarán.
- Tal vez sea útil conocer nombres de ferreterías y proveedores locales que vendan láminas protectoras y los precios habituales por pie o por otros tamaños y los tipos comunes.

Contención interior: Retire o cubra las pertenencias



- Retire las pertenencias.
- Cubra los objetos inmóviles con láminas protectoras, como por ejemplo:
 - Muebles;
 - Alfombras y
 - Lámparas.
- Selle los bordes y las juntas.

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Donde sea posible, retire las pertenencias y los muebles del área de trabajo.

- Se recomienda retirar todos los objetos del área de trabajo, incluidos muebles, alfombras y cortinas. La retirada de estos elementos es la mejor opción para protegerlos contra la contaminación y reducir el tiempo (y costo) de la limpieza posterior a la renovación.

Si no puede retirarse del área de trabajo, cúbralo.

- Cubra todos los objetos que no se retiraron del área de trabajo con láminas protectoras. Selle las juntas y bordes con cinta adhesiva. Cubra completamente todos los accesorios de iluminación inmóviles, muebles, alfombras y otros elementos personales con láminas protectoras.
- Fije las láminas protectoras al piso con cinta adhesiva, de modo que el polvo no pueda entrar en los elementos cubiertos.
- En muchos trabajos de remodelaciones es común el uso de láminas protectoras, como por ejemplo láminas plásticas desechables de alta resistencia. Se pueden comprar láminas protectoras en la mayoría de las ferreterías.

Diapositiva 4-6: Contención interior: Cubra los pisos

- Destaque la importancia de cubrir los pisos para limpiar con mayor facilidad el polvo y los escombros.
- Enfatice que esta actividad es similar a la práctica actual de cubrir los pisos con una cubierta, pero en su lugar utilizarán láminas plásticas protectoras.
- Los pisos deben cubrirse al menos 6 pies más allá de las superficies que serán alteradas. Esta distancia puede aumentar si es necesario para contener el polvo.
- Destaque la importancia de usar una almohadilla adhesiva, quitarse los cubrezapatos (a veces llamados “botines”), limpiarse los zapatos o ubicar láminas de plástico en áreas de tránsito común, para evitar que el polvo con plomo se traslade a otras áreas de la construcción. Es muy común encontrar altas concentraciones de polvo contaminado con plomo en el camino del área de trabajo hacia el baño.
- Una almohadilla adhesiva desechable funciona como una tira matamoscas. Es una tela o un papel pegajoso que elimina el polvo o los escombros de los zapatos del trabajador cuando camina sobre ella. Las almohadillas adhesivas desechables están disponibles en catálogos de productos para la construcción y en muchas ferreterías.
- Tal vez sea útil conocer nombres de ferreterías y proveedores locales que vendan almohadillas adhesivas, paños y cubrezapatos y los precios habituales de cada uno. Si es posible, lleve muestras de estos elementos para que los alumnos puedan conocerlos.
- Indique a los asistentes la importancia de limpiarse los zapatos cada vez que salen de las láminas plásticas. Si es posible, demuestre el uso de almohadillas adhesivas desechables.

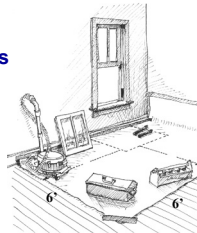
Contención interior: Cubra los pisos

Se requiere:

- Cubrir todo el piso del área de trabajo con láminas plásticas.
- Cubrir los pisos un mínimo de 6 pies en todas las direcciones alrededor de donde se altere la pintura.

Se recomienda:

- Extender láminas plásticas en áreas de mucho tráfico.
- Tomar precauciones especiales para las alfombras.
- Usar almohadilla adhesiva desechable al borde de la lámina protectora.
- Si usa decapantes químicos, agregue una segunda capa plástica.



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Cubra los pisos

- Use láminas protectoras para cubrir todo el piso del área de trabajo, incluida la alfombra instalada. La lámina protectora debe extenderse un mínimo de 6 pies a la izquierda, a la derecha y hacia adelante, y en algunos casos, hacia atrás del área donde se realizará el trabajo. Debe asegurarse firmemente al zócalo o piso con cinta adhesiva para conductos (si corresponde), para pintores o de protección. El borde de la esquina de la lámina protectora debe reforzarse con cinta adhesiva para conductos o grapas.
- Tome precauciones especiales con las alfombras del área de trabajo. Las alfombras son un medio importante de acumulación de polvo y es muy difícil extraer éste último cuando se han contaminado. Cuando el área de trabajo incluye alfombras, debe cubrir todas las áreas alfombradas con al menos una capa de lámina plástica sellada.
- Considere cubrir los zapatos con cubiertas extraíbles, limpiar el calzado en su parte superior y en la suela con una toalla de papel húmeda cada vez que pise la lámina o usar una almohadilla adhesiva desechable que elimine el polvo de las suelas de los zapatos. Coloque de inmediato las toallas de papel usadas en un recipiente para basura con tapa. Puede encontrar almohadillas adhesivas en las ferreterías o comprarlas a través de un catálogo de artículos. Una almohadilla adhesiva es una lámina sobre la cual puede caminar para retirar el polvo de las suelas de los zapatos. La almohadilla adhesiva desechable puede pegarse con cinta a un extremo exterior de la lámina. Reemplace la almohadilla adhesiva todos los días.
- Tal vez vea que es útil usar aspiradoras HEPA para limpiar zapatos y ropa y así controlar el polvo que el personal de trabajo puede transportar al salir del área. Esto se llama “descontaminación seca” y da buenos resultados.
- En el caso de uso de decapantes químicos debe usarse una segunda capa de láminas protectoras. Esta segunda capa debe adherirse con cinta a la superficie de la primera capa. Coloque la segunda capa inmediatamente debajo del área de trabajo. Esta capa capturará salpicaduras y desperdicios y permitirá que el desorden creado por los decapantes químicos se limpie de inmediato después del uso.
- Use precauciones para asegurarse de que todo el personal, herramientas y otros elementos, incluidos los exteriores de los contenedores de residuos estén libres de polvo y escombros antes de retirarlos del área de trabajo. Para dicha limpieza es útil tener un contenedor de toallitas húmedas.

Diapositiva 4-7: Contención interior: Cierre ventanas, puertas, sistemas de climatización

- Cierre y selle los sistemas de climatización (HVAC, por sus siglas en inglés) para impedir que el polvo salga del área de trabajo. Esto es particularmente importante para los conductos de retorno (toma de aire), debido a que es muy sencillo que éstos propaguen la contaminación a otras áreas.
- Dependiendo del trabajo que se está realizando y lo que se necesita para tener acceso al área de trabajo y para manipular los desechos de la construcción, cierre y selle todas las puertas y ventanas del área de trabajo. Si se dejan abiertas puertas y ventanas, la corriente de aire puede atravesar el área de trabajo y otras áreas que no sean de trabajo. Debido a que las partículas de polvo son muy pequeñas, pueden propagarse fácilmente a otras áreas de la vivienda. Mientras menos aire circule a través del área de trabajo, menor será la posibilidad de que polvo contaminado con plomo salga del área de trabajo.

Contención interior: Cierre ventanas, puertas, sistemas de climatización

Dependiendo del trabajo a realizar:

- Cierre todas las ventanas del área de trabajo.
- Cierre y selle todas las puertas del área de trabajo.
- Cierre y selle todos los sistemas de climatización del área de trabajo.
- Apague la unidad de climatización (recomendado).



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4-7

Cierre las ventanas

- Cierre todas las ventanas del área de trabajo.
- Cuando lleve a cabo reemplazos de ventanas desde el interior, considere sujetar láminas plásticas al exterior de la ventana para evitar la propagación de polvo y escombros al suelo y a otras superficies que se encuentren debajo de la ventana. Si el reemplazo de ventanas afecta las superficies interiores y exteriores, entonces instale la contención para ambas áreas de trabajo.
- Para trabajos polvorientos, se recomienda encarecidamente sellar las ventanas del área de trabajo con láminas protectoras para evitar que el polvo ingrese a través del antepecho, dificultando la limpieza.
- Cuando selle ventanas, corte la capa de la lámina plástica ligeramente más larga que la ventana que desea cubrir.
- Pegue la lámina plástica con cinta adhesiva sobre la ventana para sellarla por completo.
- Asegúrese de que la cinta o la lámina no cubra parte del área en la cual esté trabajando.

Cierre y selle las puertas

- Cierre todas las puertas, incluidas las de los armarios y gabinetes del área de trabajo y cúbralas con láminas plásticas.
- Las puertas que se utilizan como entrada al área de trabajo deben cubrirse con láminas plásticas u otro material impermeable, de forma que permita a los trabajadores pasar a través de ellas y dejar el polvo y los escombros en el área de trabajo.
- Como alternativa a la colocación de plásticos, las puertas pueden cerrarse y sellarse con cinta de pintores.

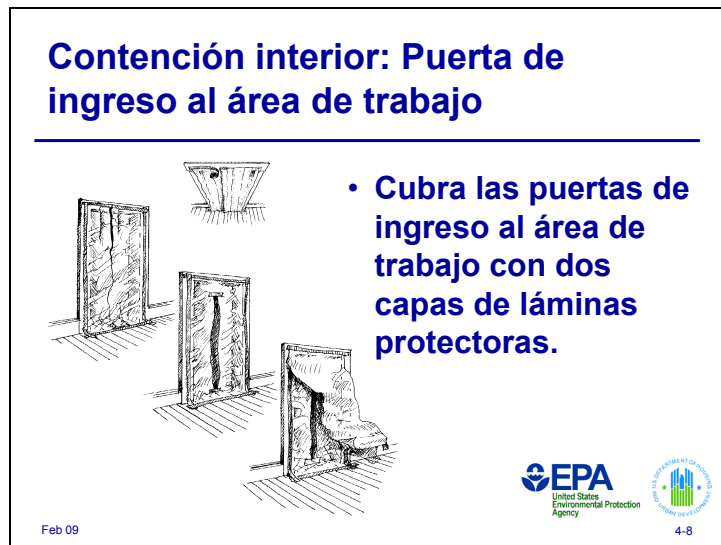
Cierre y selle los sistemas de climatización

- Los sistemas de climatización (HVAC, por sus siglas en inglés) distribuyen aire a través de la construcción y también pueden transportar polvo a otras habitaciones. Si es posible, apague el sistema HVAC para el área de trabajo. Cierre el suministro HVAC y conductos de retorno en el área de trabajo y cúbralos con láminas plásticas para impedir que el aire circule y vuele el polvo del área de trabajo contenida y para evitar que éste ingrese al sistema HVAC.

Diapositiva 4-8: Contención interior: Puerta de ingreso al área de trabajo

- Pregunte a los asistentes: ¿Alguna vez ha limitado el acceso a su área de trabajo? Si la respuesta es sí, ¿cómo lo ha hecho? ¿Los resultados fueron satisfactorios? ¿Lo habría hecho de manera distinta?
- Pregunte a los asistentes: ¿Puede pensar en otras maneras de limitar el acceso al área de trabajo?

Asegúrese de destacar todos los puntos de estas dos diapositivas en caso de que el análisis de los alumnos no las haya abordado todas.



- Puede colocar una barrera física, como un cono o una cinta de advertencia, fuera de la entrada para recordar a los residentes que se mantengan alejados del área de trabajo, especialmente en construcciones donde viven varias familias. La doble capa de plástico en la puerta de ingreso y otras barreras sirven para recordar a los residentes que personas y mascotas no deben ingresar al área de trabajo y además indican que el área aún no ha sido limpiada.

Cuando los límites del área de trabajo incluyan la puerta utilizada para acceder a la misma, cubra la puerta con dos capas de láminas protectoras como se describe a continuación.

- Instale una barrera de entrada de dos capas con protecciones que se cierran en el ingreso al área de trabajo, de modo que los trabajadores puedan pasar a través de la misma, pero que el polvo y los escombros se mantengan en el área de trabajo. Cubrir la puerta con este sistema de dos capas ayudará a contener el polvo dentro del área de trabajo. Siga los pasos que se indican a continuación.
 1. Corte la primera capa de lámina de protección un poco más ancha y larga (tres pulgadas) que el marco de la puerta.
 2. Haga un pequeño pliegue en forma de "S" en la parte superior de la lámina y péguelo con cinta adhesiva a la parte superior del marco de la puerta. Haga un pliegue similar en forma de "S" en la parte inferior de la lámina y péguelo al piso con cinta adhesiva. Esto garantizará que el plástico no quede tirante.
 3. Fije los extremos superiores al marco de la puerta como refuerzo.
 4. Para entrar y salir de la habitación, pegue con cinta adhesiva una línea vertical de la altura de un hombre desde el piso hasta la cabeza en ambos costados del plástico. Corte una rendija vertical larga en la cinta, a la mitad de la lámina protectora. Deje aproximadamente 6 pulgadas en la parte superior e inferior sin cortar. Refuerce la parte superior e inferior de la rendija con cinta adhesiva para evitar que el plástico se rasgue.
 5. Aplique cinta adhesiva a la segunda capa de la lámina protectora en la parte superior del marco de la puerta. Esta capa se corta un poco más corta que el marco de la puerta, de modo que cuelgue plana contra la primera lámina de plástico.
 6. Aplique cinta y asegure a los extremos superiores de la segunda capa del marco de la puerta y a la primera capa. Deje que cuelgue sobre la primera capa. Aplíquelo peso a la parte inferior de la protección con una espiga para mantenerla en su lugar. Si es necesario, puede agregarse otra protección con espiga al otro lado de la puerta para proporcionar una tercera capa de lámina plástica.
- **Consulte el Apéndice 5 Pasos para la renovación, reparación y pintura SEGURAS CON EL PLOMO para obtener más información acerca de cómo instalar el sistema de dos capas.**

Diapositiva 4-9: Descripción general de los pasos para la contención interior

- Utilice esta diapositiva para repasar los cuatro pasos anteriores. No detalle los pasos por ahora. Esto pretende reforzar los cuatro pasos para la contención interior, de modo que los asistentes tengan una estructura para organizar la información.

Descripción general de los pasos para la contención interior

El objetivo de estas prácticas de contención interior es evitar que el polvo y los escombros se escapen del área de trabajo.

- Limite el acceso y coloque letreros.
- Retire las pertenencias (preferiblemente) o cúbralas.
- Cubra los pisos.
- Cierre y selle ventanas, puertas y el sistema de climatización.
- Construya una puerta de ingreso al área de trabajo.



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4-9

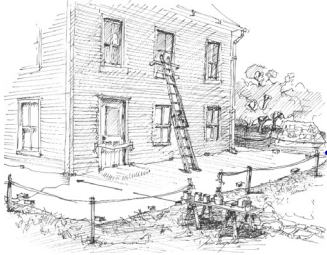
La regla RRP: Requisitos generales para la contención interior:

- Letreros instalados: Deben instalarse en todos los costados del área de trabajo para definir ésta última, deben estar en el idioma principal de los ocupantes, deben publicarse antes del comienzo de la renovación y permanecer hasta finalizada la verificación de limpieza.
- Contener el área de trabajo: Antes de la renovación, aisle el área de trabajo para impedir que se escape el polvo. Durante el trabajo, mantenga la integridad de la contención y asegúrese de que ésta no interfiera con la salida de ocupantes y trabajadores desde el hogar o área de trabajo.
- Retirar o cubrir muebles u objetos: Retire (preferiblemente) los objetos como muebles, alfombras, cortinas o cúbralas con láminas plásticas con todas las juntas y bordes sellados con cinta adhesiva.
- Cubrir los pisos: Cubra los pisos y las alfombras del área de trabajo con láminas plásticas selladas con cintas adhesivas u otro material impermeable 6 pies más allá del perímetro de las superficies que se someten a renovación o a una distancia suficiente como para contener el polvo, la distancia que sea mayor.
- Cerrar y sellar puertas de acceso y ventanas: Cierre y selle las puertas de acceso al área de trabajo con láminas plásticas u otros materiales impermeables. Las puertas que se usen como ingreso al área de trabajo deben cubrirse con láminas plásticas que permitan a los trabajadores pasar a través de las mismas y confinar el polvo en el área de trabajo.
- Cubrir las aberturas de conductos: Cierre y cubra todas los conductos HVAC del área de trabajo con láminas plásticas selladas con cintas adhesivas u otro material impermeable (por ejemplo, cubiertas magnéticas).
- Retirar el polvo y los escombros de todo lo que salga del área de trabajo: Use precauciones para garantizar que todo el personal, herramientas y otros elementos no tengan polvo ni escombros antes de retirarlos del área de trabajo.

Diapositiva 4-10: Contención exterior: Defina un área de trabajo

- Repase la importancia de proteger el suelo y los jardines del polvo contaminado con plomo. Es común que algunas personas cultiven tomates en sus propias huertas. Las plantas de tomate concentran en su fruto los metales pesados que encuentran en el suelo. El plomo es un metal pesado.
- Se hace necesaria la longitud adicional de las láminas protectoras que exige la regla, debido a que los vientos exteriores pueden propagar el polvo a grandes distancias.
- Las láminas protectoras se pueden adherir con cinta a la vivienda o se puede envolver un trozo de madera de 1.5 x 3.5 pulgadas ("2x4") en lámina protectora para ubicarlo cerca de la vivienda, en caso de que la cinta no logre adherirla. Para evitar que los bordes sueltos de las láminas se sacudan o se levanten, se pueden utilizar piedras, rocas u otros objetos pesados.
- Los caballetes, las cintas y los conos anaranjados sirven de recordatorio para que los residentes y transeúntes se mantengan alejados del área de trabajo.
- Se deben retirar de las áreas exteriores todos los juguetes y pertenencias, como parte de la instalación previa al trabajo.
- Tenga en cuenta que ubicar una escalera de mano sobre las láminas de plástico puede crear un peligro de caída. Este peligro se puede evitar ubicando un trozo de madera acontrachapada entre la escalera y las láminas. En algunos casos, debe considerar la posibilidad de que alguien sostenga la escalera desde abajo.
- Evite ocultar los peligros de caídas con plástico.

Contención exterior: Defina un área de trabajo



- Cubra el piso con láminas protectoras.
 - Si el espacio lo permite, extiéndase un mínimo de 10 pies alrededor del área de trabajo.
 - Ponga atención especial y cubra todas las huertas y áreas de juego de niños cercanas.
- Limite el acceso, coloque letreros.
 - Establezca un perímetro de 20 pies alrededor del área de trabajo si hay espacio suficiente.



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Cubra el piso con láminas protectoras

- Si hay espacio suficiente, extienda una lámina protectora sobre el piso debajo del área de trabajo hasta al menos 10 pies de distancia de la vivienda. Esto crea un área de trabajo visible y ayuda a recordar a los residentes y transeúntes que no deben ingresar en el área de trabajo a menos que tengan una necesidad imperiosa. Extienda aún más el área de trabajo si es necesario para recoger polvo y escombros; por ejemplo, cuando se altera la pintura del segundo piso de un edificio. Nota: Las láminas protectoras negras y transparentes pueden acabar con la vida de las plantas debido al calentamiento excesivo. Considere el uso de láminas plásticas de color blanco en su lugar.
- Recuerde que los niños generalmente juegan en la tierra y que pueden llevarse las manos a la boca mientras lo hacen. La tierra, el polvo o los escombros en las manos llegarán a la boca y podrán ingerirse.
- **Retire los juguetes y otros elementos del área de trabajo** y cubra todas las áreas de juego incluidas las áreas de arena para jugar. Proteja los elementos que no pueden trasladarse con láminas plásticas.
- **Engrape o selle con cinta adhesiva la lámina protectora a la pared** de la construcción o use una envoltura de un listón de 2x4 en la lámina protectora para contener el material cerca a la pared. Use objetos pesados (por ejemplo, piedras) **para cargar** los demás bordes de la lámina protectora, de modo de que el viento no la levante.
- **Cuando use escaleras sobre la lámina plástica** considere colocar una pieza resistente de madera contrachapada sobre el plástico y luego instale la escalera sobre la madera contrachapada. Esto evitará que la escalera perfora el plástico y proporcionará una superficie estable para la misma. Si usa madera contrachapada, tenga cuidado especial de fijarla al piso, de modo que no se mueva. Para ello, fíjela con estacas y posteriormente selle los orificios del plástico con cinta para conductos.

Limite el acceso a las áreas de trabajo

- Limite el acceso al área de trabajo con conos anaranjados o caballetes y cinta de advertencia alrededor de un perímetro de 20 pies del área de trabajo. También puede usar cuerdas con letreros a intervalos regulares en lugar de cinta de barrera. Esto ayudará a disuadir a los residentes y transeúntes de entrar al área de trabajo. Mantenga a las mascotas fuera del área de trabajo.

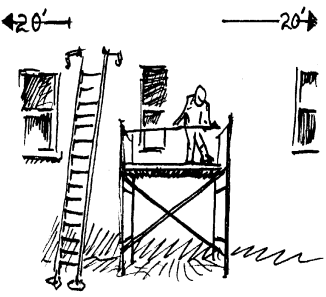
Limpieza diaria del área de trabajo exterior

- Limpiar el área de trabajo exterior es crucial para evitar la propagación de polvo y escombros. Recoger todos los escombros producidos a lo largo del día y el uso de cubiertas de **láminas plásticas** puede facilitar la limpieza. Tenga en cuenta que las cubiertas plásticas no ocupan el lugar de las láminas protectoras sobre el suelo.

Diapositiva 4-11: Contención exterior: Cierre ventanas y puertas

- Describa la ilustración. Destaque la importancia de cerrar las puertas y ventanas para evitar que el polvo ingrese en la construcción. Cierre todas las ventanas y puertas en un radio de 20 pies alrededor de la renovación.

Contención exterior: Cierre ventanas y puertas



El diagrama ilustra una zona de trabajo exterior rodeada por una barrera de contención. Se muestran una escalera y un andamio. Las flechas indican una distancia de 20 pies desde el área de trabajo hacia las ventanas y puertas cercanas.

- Cierre todas las puertas y ventanas cercanas que se encuentren a 20 pies del área de trabajo.
- Use dos capas de láminas plásticas sobre las puertas del área de trabajo que se usen durante el proceso.

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Cierre y cubra todas las ventanas y puertas cercanas.

- Todas las ventanas y puertas que se encuentren a 20 pies del área de trabajo deben cerrarse para evitar que el polvo ingrese en la vivienda. Los renovadores tienen la obligación de mantener el polvo y los escombros de la renovación contenidos en el área de trabajo dentro de los límites de la propiedad en la que trabajan. Si las ventanas y puertas de los apartamentos o condominios están a 20 pies como máximo del área de trabajo, piense en pedir a los propietarios o residentes de aquellas unidades cierren las ventanas y puertas afectadas, a fin de cumplir con la regla RRP. Si ésta no es una opción viable, deben considerarse otros métodos para restringir el polvo y los escombros al área de trabajo y a la propiedad de la obra. Estos otros métodos incluyen la construcción de una pared de contención vertical en la línea de la propiedad.
- En edificios de varios pisos, cierre todas las puertas y ventanas a 20 pies como máximo de la renovación en el mismo piso de ésta y cierre todas las puertas y ventanas de todos los pisos que se encuentran directamente debajo del área designada como área de trabajo.

Coloque dos capas de láminas plásticas sobre las puertas en uso de las áreas de trabajo.

- En el área de trabajo exterior, habrá ocasiones en las que deba usarse una puerta de la casa para acceder a las áreas interiores. Cuando esto ocurra, cubra la puerta con láminas plásticas desechables u otro material impermeable de forma que permita a los trabajadores pasar a través de ella sin dejar de confinar el polvo y los escombros al área de trabajo. Los pasos para colocar dos capas de láminas plásticas en una puerta de ingreso se cubren en las notas del estudiante de las páginas 4 a 8.

Diapositiva 4-12: Contención exterior: Precauciones adicionales

- Describa la ilustración de un sistema de contención vertical.
- En algunas situaciones, como durante vientos fuertes o cuando se utiliza agua a presión cerca de otras unidades, es necesario ubicar una contención vertical para evitar que el polvo se disperse más allá del área de trabajo.

Contención exterior: Precauciones adicionales

- Precauciones adicionales para prevenir la propagación de polvo.
- Extender el área de trabajo.
- Contención vertical.
- Evitar trabajar en condiciones de exposición al viento, siempre que sea posible.





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Situaciones que requieren precauciones adicionales

Algunas situaciones pueden requerir precauciones adicionales para evitar la propagación de polvo al resto de una propiedad o a propiedades adyacentes. Estas situaciones pueden incluir trabajo en condiciones de exposición al viento que puedan transportar polvo fuera del área de trabajo y a labores realizadas en niveles superiores de un edificio durante las cuales incluso hasta pequeños vientos puedan propagar polvo más allá de la contención.

Extienda el área de trabajo

La solución más simple puede ser extender el área de piso cubierta por la lámina plástica.

Contención vertical

Si las condiciones son de exposición al viento, si el espacio es limitado o si hay propiedades adyacentes relativamente cerca del área de trabajo, tal vez sea necesario construir sistemas de contención vertical. Ejemplos de sistemas de contención vertical incluyen láminas plásticas adjuntas a andamios y láminas plásticas adjuntas a tableros de madera verticales.

Evite los vientos fuertes cuando sea posible

Preste atención a condiciones de exposición al viento. En días de viento fuerte, no es recomendable realizar actividades de generación de polvo. La regla del HUD restringe trabajar en el exterior con vientos que sobrepasen las 20 millas por hora. La regla RRP de la EPA no menciona velocidades de viento específicas, pero si el viento es lo suficientemente fuerte como para levantar polvo y escombros, debe tomar precauciones especiales para mantener el área de trabajo contenida. Aquello puede significar crear una pantalla de plástico para el viento al borde del plástico que cubre el suelo para mantener el polvo y los escombros contenidos. Tampoco se incluyen de manera específica indicaciones acerca de realizar una limpieza de áreas de trabajo exteriores con mayor frecuencia, pero la limpieza habitual ayudará al renovador a cumplir con los requisitos para contener el área de trabajo y evitar que el polvo y los escombros se salgan de ésta última. En última instancia, usted es responsable de evitar que el polvo y los escombros salgan del área de trabajo, por lo tanto, tome las precauciones adecuadas para evitar que eso ocurra cuando el viento sea un factor.

Diapositiva 4-13: Descripción general de los pasos para la contención exterior

- Utilice esta diapositiva para destacar las tres prácticas de instalación. No detalle en los pasos por ahora.

Descripción general de los pasos para la contención exterior

- Defina un área de trabajo.
- Cierre todas las ventanas y puertas.
- Defina, según sea necesario, una contención adicional para evitar la propagación de polvo y escombros a las propiedades adyacentes.



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La regla RRP: Requisitos generales para la contención exterior:

- Letreros instalados: Deben instalarse en todos los costados del área de trabajo para definir ésta última, deben estar en el idioma principal de los ocupantes, deben publicarse antes del comienzo de la renovación y permanecer hasta finalizada la verificación de limpieza.
- Contener el área de trabajo: Antes de la renovación, aisle el área de trabajo para impedir que se escape el polvo. Durante el trabajo, mantenga la integridad de la contención y asegúrese de que ésta no interfiera con la salida de ocupantes y trabajadores desde el edificio o área de trabajo.
- Cerrar puertas y ventanas: Cierre todas las puertas y ventanas a 20 pies como máximo del área de trabajo. Para edificios de varios pisos, cierre todas las ventanas y puertas del mismo piso a 20 pies como máximo del área de trabajo y todas las ventanas de todos los pisos de abajo que estén a la misma distancia horizontal de la renovación.
- Puertas que se usan como ingreso al área de trabajo: Cubra las aberturas de puertas de ingreso con láminas plásticas que permitan a los trabajadores pasar a través de ellas sin que el polvo se escape del área de trabajo.
- Cubrir el suelo: Cubra el suelo con láminas plásticas u otro material impermeable extendiéndose 10 pies más allá del perímetro de superficies donde se lleva a cabo la renovación o a una distancia suficiente para contener el polvo, lo que sea mayor, a menos que la línea de propiedad impida cubrir el perímetro de 10 pies.
- Asegurarse de que el polvo y los escombros no contaminen o salgan a áreas o propiedades adyacentes: En algunas situaciones, la renovación requerirá precauciones adicionales para contener el área de trabajo exterior para garantizar que el polvo y los escombros no contaminen otras propiedades. Ejemplos de estas situaciones pueden incluir vientos fuertes, elementos excesivamente rociados o distancias cortas entre propiedades que requieran contenciones verticales para mantener el polvo en el área de trabajo. La regla RRP define estándares de rendimiento que el contratista debe satisfacer, pero no especifica cómo el contratista debe cumplirlos. Esto permite que el contratista tenga flexibilidad en la forma en la que cumple con el requisito para garantizar que ni polvo ni escombros salgan del área de trabajo.

Diapositiva 4-14: Ejercicio práctico: Contención interior y exterior

Prepare este ejercicio por adelantado:

- Tenga a mano las herramientas apropiadas. Consulte los conjuntos de destrezas N° 2 al 5 del Apéndice 6 para obtener información sobre los materiales y herramientas necesarios.
- Asegúrese de que las áreas de trabajo estén listas. El escenario ideal sería que cada área de trabajo exija que los asistentes muevan algunos muebles y cubran otros, que coloquen plástico en el suelo, que hagan una entrada para el área de trabajo y que ubiquen cinta de barrera o plástico en una puerta de ingreso. Si fuese posible, deje instaladas estas áreas de trabajo para crear ejercicios más realistas durante las actividades prácticas que se realizan durante del día.

Al realizar este ejercicio:

1. Indique a los asistentes que formen grupos de 2 a 6 alumnos.
 2. Asigne un área de trabajo a cada grupo.
 3. Circule mientras trabajen para cerciorarse de que el trabajo se realice de manera correcta. Consulte la lista de los conjuntos de destrezas N° 2 a 5 que deben demostrar.
 4. Indíqueles que se concentren en la tarea de alcanzar el objetivo de la capacitación.
 5. Déles una advertencia de cinco minutos.
 6. Al finalizar cada conjunto de destrezas, dígaes que se detengan. Los tiempos para cada actividad se detallan en cada conjunto de destrezas.
 7. Haga preguntas a los participantes después de cada conjunto de destrezas (N° 2 a 5).
- **Opciones para el instructor:** También puede considerar realizar los conjuntos de destrezas N° 2 a 5 más adelante durante el curso, como parte de un módulo más grande de actividades prácticas, según lo descrito en la planificación de clase 2 en la *Nota para los instructores acerca de cómo utilizar este programa* en la introducción. El módulo integral de actividades prácticas combina los componentes prácticos de los módulos 4, 5 y 6.

Ejercicios prácticos: Contención interior y exterior

- Practique las siguientes destrezas:
 - Conjunto de destrezas N 2: Instalación de barreras, letreros y puertas con protección plástica.
 - Conjunto de destrezas N 3: Cubra y mueva muebles.
 - Conjunto de destrezas N 4: Instalación de contención interior.
 - Conjunto de destrezas N 5: Instalación de contención exterior.
- Trabaje en grupos de 2 a 6 integrantes.
- Elija las herramientas y materiales correctos.



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Preparación

Este ejercicio da la oportunidad de practicar la instalación de los letreros, barreras y contenciones del área de trabajo. Esta diapositiva brinda una instrucción básica.

- **Siga las instrucciones de cada conjunto de destrezas. Es posible que su instructor le pida que demuestre sus destrezas.**
- **Forme grupos de 2 a 6 estudiantes.**
- **El instructor le asignará a su grupo un área para realizar actividades de instalación como si se tratara de un trabajo.**
- **Elija las herramientas correctas y configure el área de trabajo para proporcionar la contención apropiada.**

Conjunto de destrezas N° 2: Instalación de barreras, letreros y puertas con protección plástica

Tiempo: 10 minutos

9 de febrero

Artículos necesarios:

- Cinta de barrera
- Letreros de advertencia
- Puerta que se usará en la instalación de la entrada al área de trabajo
- Herramienta cortadora (por ejemplo, navaja, cuchillo cortacartón o tijeras)
- Lámina plástica de alta resistencia
- Cinta adhesiva (conductos, para pintores y de protección)
- Engrapadora y grapas
- Mango de escoba, o espigas, o mango de metal o madera de 1" x 1" x 30"
- Opcional: También es posible usar sistemas de contención diseñados previamente para este ejercicio.

Nota para el instructor: *Se sugiere encarecidamente que los instructores preparen bolsas plásticas que contengan todos los materiales necesarios para la práctica de destrezas, antes del ejercicio, a fin de cumplir con los límites de tiempo asignados al conjunto de destrezas N° 2.*

Propósito: El propósito de este ejercicio práctico es mostrar a los alumnos los pasos correctos para determinar dónde colocar las barreras críticas y darles la oportunidad de practicar la colocación de barreras e instalación de letreros para aislar el área de trabajo del acceso a personal no autorizado.

Nota para el instructor: *Lea el propósito de esta actividad a los alumnos. Recuérdeles que estos pasos de instalación se deben completar antes de alterar más de 6 pie cuadrados por habitación de pintura a base de plomo, o cuando se vaya a reemplazar una ventana o hacer una demolición.*

Demostración: El instructor del curso debe mostrar y explicar todos los pasos que se incluyen en el establecimiento de una barrera crítica y en la colocación de letreros. Las barreras críticas son barreras de láminas plásticas que se aseguran sobre aberturas, puertas y ventanas, las cuales deben permanecer en su lugar hasta la verificación o aprobación de limpieza, a fin de mantener el polvo dentro del área de trabajo. A pesar de que no siempre es obligatorio, éstas pueden ayudar a controlar la propagación de polvo a otras áreas de la casa. Use a los alumnos para ayudar en el levantamiento de barreras críticas de demostración. Nota: Para ahorrar tiempo, use barreras cortadas previamente para la instalación en las puertas de ingreso. Se pueden utilizar barreras adjuntas con velcro para demostración y práctica. También es posible usar letreros adjuntos con velcro.

Evaluación de los alumnos: El instructor debe permitir a los alumnos que practiquen estos pasos en la página siguiente, mientras se observa a cada uno realizarlos. Realice correcciones y haga sugerencias a medida que los ejercicios avancen y determine si se necesita más práctica. *Opción: Solicite a los alumnos que digan los pasos a medida que trabajan.* Los alumnos deben completar todos los pasos obligatorios para ser "Competentes". Evalúe el trabajo de cada alumno y, después de que todos hayan completado correctamente los elementos obligatorios del ejercicio, registre el rendimiento como "Competente" en el campo del registro de progreso del participante, que corresponda al conjunto de destrezas N° 2 y al nombre del alumno en particular.

Conjunto de destrezas N° 2: Instalación de barreras, letreros y puertas con protección plástica - continuación

Práctica de destrezas:

- Paso 1: Pida a los ocupantes que abandonen la sala y permanezcan fuera del lugar donde se realizará el trabajo.
- Paso 2: Haga que permanezcan fuera hasta que finalice el procedimiento de verificación de limpieza o hasta que se reciba la aprobación. Instale cinta de barrera para establecer un perímetro controlado.
- Paso 3: Coloque un letrero de “No entrar” en la puerta de ingreso al área de trabajo.* Coloque también un letrero que indique que no se permite comer, beber ni fumar en el área de trabajo.*
- Paso 4: Cubra la puerta de ingreso al área de trabajo con 2 capas de láminas plásticas de la siguiente manera.*
- Paso 5: Primero corte la capa de lámina plástica un poco más ancha y larga que (cerca de 3 pulgadas más larga) el marco de la puerta.*
- Paso 6: Haga un pequeño pliegue en forma de “S” en la parte superior de la lámina plástica y péguelo con cinta, de modo que todas las capas estén fijadas en la parte superior del marco.* Haga un pliegue similar en forma de “S” en la parte inferior de la lámina y péguelo con cinta, de modo que todas las capas estén fijadas al piso.* Esto garantizará que la lámina plástica no quede tirante y permita ceder en lugar de rasgarse cuando las personas la atraviesen. Fije ambos lados de la lámina plástica al marco de la puerta con cinta adhesiva.
- Paso 7: Engrape los extremos superiores al marco de la puerta como refuerzo.*
- Paso 8: Para entrar y salir de la habitación, use cinta adhesiva para conductos para crear una línea vertical con la altura aproximada de un hombre desde el piso hasta el travesaño, en la mitad de la lámina plástica, en ambos costados.* Corte una rendija vertical larga en la cinta para conductos; deje aproximadamente 6 pulgadas en la parte superior e inferior sin cortar.* Refuerce la parte superior e inferior de la rendija con cinta para conductos horizontal para evitar que la lámina se rasgue.*
- Paso 9: Pegue con cinta una segunda capa de lámina plástica a la parte superior del marco de la puerta.* Esta capa se corta un poco más corta que el marco de la puerta, de modo que cuelgue plana contra la primera capa de láminas plásticas.
- Paso 10: Aplique peso a la parte inferior de la segunda capa; para ello, pegue con cinta adhesiva para conductos una espiga al extremo inferior de la lámina. Esto crea una protección plástica plana de sellado automático sobre la puerta de ingreso y sella la abertura que se cortó en la lámina plástica durante el paso 8.

*Indica las destrezas obligatorias que se deben lograr para obtener una calificación de "Competente".

Conjunto de destrezas N° 3: Cubrimiento o retiro de muebles

Tiempo: 10 minutos

9 de febrero

Artículos necesarios:

- Lámina plástica de alta resistencia
- Herramienta cortadora (por ejemplo, navaja, cuchillo cortacartón o tijeras)
- Cinta adhesiva (para conductos, para pintores y de protección)

Propósito: El propósito de este ejercicio práctico es mostrar a los alumnos los pasos correctos para determinar cuándo y cómo cubrir o retirar muebles y pertenencias de un área de trabajo.

Nota para el instructor: *Lea el propósito de esta actividad a los alumnos. Recuérdeles que estos pasos de instalación se deben completar antes de alterar más de 6 pie² (pie cuadrado) por habitación de pintura a base de plomo, o cuando se vaya a reemplazar una ventana o hacer una demolición. Recuérdeles también que la mejor solución para el problema del traslado de muebles y pertenencias es notificar a los residentes que ellos mismos hagan el traslado antes del trabajo. Recuérdeles que es mejor retirar los muebles y pertenencias personales en lugar de cubrirlas. Déle a los alumnos la oportunidad de observar o practicar ambos métodos (cubrimiento y retiro).*

Demostración: El instructor del curso debe explicar todos los pasos que se incluyen en el cubrimiento o retiro de muebles y pertenencias del área de trabajo. Use a los alumnos para demostrar el traslado de sillas fuera del área de trabajo. Cubra una mesa con láminas plásticas y fíjelas con cinta adhesiva, de modo que no quede ninguna parte de la mesa al descubierto. Comente la colocación de otros elementos debajo de la mesa para una mayor eficacia en la preparación del área de trabajo. La demostración no debe durar más de 3 minutos, incluido el tiempo necesario para repartir los materiales.

Evaluación de los alumnos: El instructor debe permitir a los alumnos que practiquen estos pasos en la siguiente página, mientras se observa cómo los realizan. Realice correcciones y haga sugerencias a medida que los ejercicios avancen y determine si se necesita más práctica. *Opción: Solicite a los alumnos que digan los pasos a medida que trabajan.* Los alumnos deben completar todos los pasos obligatorios para ser "Competentes". Evalúe el trabajo de cada alumno y, después de que todos hayan completado correctamente los elementos obligatorios del ejercicio, registre el rendimiento como "Competente" en el campo del registro de progreso del participante, que corresponda al conjunto de destrezas N° 3 y al nombre del alumno en particular.

Conjunto de destrezas N° 3: Cubrimiento o retiro de muebles - continuación

Práctica de destrezas:

Paso 1: Saque todos los muebles del área de trabajo.

Nota: Si el área de capacitación es pequeña, designe un área contra una pared para que represente la zona “fuera del área de trabajo”, donde se puedan colocar los muebles retirados del área de trabajo. En una sala de clases, mueva las sillas y la mayoría de las mesas hacia el área designada y cubra las mesas.

Paso 2: Reúna a los alumnos en grupos de 2 a 6 integrantes. Cubra varias de las mesas donde trabajan los alumnos. Esto se hace de la siguiente manera:

Paso 3: Corte un trozo de lámina plástica lo suficientemente grande como para cubrir la mesa y superponer el piso de 3 a 6 pulgadas.*

Paso 4: Fije la lámina plástica a la mesa o al piso con cinta adhesiva.*

Paso 5: Si no es necesario trasladar la mesa durante el trabajo, la lámina plástica puede fijarse al piso con cinta adhesiva para conductos o de protección según sea apropiado para la superficie.*

Paso 6: Si es necesario trasladar la mesa durante el trabajo, envuélvala con láminas plásticas incluidas las patas y fije la lámina plástica con cinta adhesiva. Tenga cuidado al aplicar la cinta para no dañar las superficies de acabado del mueble.*

Nota: Los alumnos deben comprender que se espera que retiren o cubran todos los elementos decorativos de ventanas, muebles y tapetes que se encuentren a 6 pies de las superficies que se van a renovar, reparar o pintar. Es recomendable retirar los muebles cada vez que sea posible.

*Indica las destrezas obligatorias que se deben lograr para obtener una calificación de "Competente".

Conjunto de destrezas N° 4: Instalación de contención interior

Tiempo: 10 minutos

9 de febrero

Artículos necesarios:

- Conos anaranjados
- Cuerda o cinta de barrera (preferiblemente de color brillante)
- Letreros de advertencia
- Cinta métrica
- Cinta adhesiva (conductos, para pintores y de protección)
- Lámina plástica de alta resistencia
- Herramienta cortadora (por ejemplo, navaja, cuchillo cortacartón o tijeras)
- Cubiertas magnéticas
- Almohadilla adhesiva desechable

Propósito: El propósito de este ejercicio práctico es mostrar a los alumnos los pasos correctos para cubrir pisos y cerrar y sellar puertas, ventanas y sistemas de climatización del área de trabajo.

Nota para el instructor: *Lea el propósito de esta actividad a los alumnos. Recuérdeles que estos pasos de instalación se deben completar antes de alterar más de 6 pie² por habitación de pintura a base de plomo, o cuando se vaya a reemplazar una ventana o hacer una demolición.*

Demostración: El instructor del curso debe explicar todos los pasos que se incluyen en el cubrimiento y sellado de pisos y otras superficies horizontales del área de trabajo y en el cierre y sellado de puertas y ventanas entre el área de trabajo y zonas adyacentes. Use alumnos para demostrar el cierre y aplicación de cinta de protección a ventanas y puertas. Recuérdeles que están tratando de evitar que el polvo se escape del área de trabajo.

Evaluación de los alumnos: Permita que los alumnos practiquen los pasos para cubrir los pisos, cerrar y sellar ventanas y cerrar y sellar puertas. Observe a cada alumno seguir los pasos en la página siguiente. Haga correcciones y sugerencias a medida que los ejercicios avancen y determine si se necesita más práctica. *Opción: Solicite a los alumnos que digan los pasos a medida que trabajan.* Los alumnos deben completar todos los pasos obligatorios para ser "Competentes". Evalúe el trabajo de cada alumno y, después de que todos hayan completado correctamente los elementos obligatorios del ejercicio, registre el rendimiento como "Competente" en el campo del registro de progreso del participante, que corresponda al conjunto de destrezas N° 4 y al nombre del alumno en particular.

Conjunto de destrezas N° 4: Instalación de contención interior - continuación

Práctica de destrezas:

- Paso 1: En cada puerta que no sea de ingreso al área de trabajo, coloque un cono anaranjado, cinta de barrera y un letrero con la instrucción "No entrar".*
- Paso 2: Cierre todas las puertas y ventanas en el camino al área de trabajo.*
- Paso 3: Aplique cinta adhesiva para pintores, de protección para conductos a las juntas alrededor de cada marco de puerta y ventana.*
- Paso 4: Corte la lámina plástica, de modo que cubra todas las superficies expuestas dentro de 6 pies de los componentes que se verán afectados por el trabajo.*
- Paso 5: Fije la lámina plástica al piso y a las paredes con cinta adhesiva.*
- Paso 6: Use láminas plásticas estrechas para no pisar la alfombra o los pisos al salir caminando del área de trabajo. Fíjelas al piso con cinta adhesiva.*
- Paso 7: Cierre y cubra todas las tomas de aire acondicionado y calefacción, con cubiertas magnéticas, cinta adhesiva o láminas plásticas y cinta adhesiva.* Además, si es posible, apague el sistema de climatización mientras trabaja.* Las unidades de climatización pueden volver a encenderse después de la verificación de la limpieza o después de obtener la aprobación.
- Paso 8: Organice todas las herramientas, artículos y equipos que necesite para llevar a cabo el trabajo de renovación, reparación o pintura sobre la lámina plástica en el área de trabajo para no contaminarla.*
- Paso 9: Ubique una almohadilla adhesiva desechable en la esquina de la lámina plástica más cercana a la puerta de entrada, a fin de controlar que no caiga polvo en dicha lámina.*

*Indica las destrezas obligatorias que se deben lograr para obtener una calificación de "Competente".

Conjunto de destrezas N° 5: Instalación de contención exterior

Tiempo: 15 minutos

9 de febrero

Suministros necesarios:

- Conos anaranjados
- Cuerda o cinta de barrera (preferiblemente de color brillante) y estacas de cerca
- Letreros de advertencia
- Lámina plástica de alta resistencia
- Cinta adhesiva (conductos, para pintores y de protección)
- Herramienta cortadora (por ejemplo, navaja, cuchillo cortacartón o tijeras)
- Cinta métrica
- Almohadilla adhesiva desechable

Propósito: El propósito de este ejercicio práctico es mostrar a los alumnos los pasos correctos para restringir el ingreso al área de trabajo exterior y proteger de la contaminación el suelo de debajo y alrededor del área de trabajo.

Nota para el instructor: *Lea el propósito de esta actividad a los alumnos. Recuérdeles que estos pasos de instalación se deben completar antes de alterar más de 20 pie² de pintura en componentes que han sido determinados como pintura a base de plomo, o cuando se vaya a reemplazar una ventana o hacer una demolición.*

Demostración: El instructor del curso debe explicar todos los pasos que se incluyen en la restricción del acceso al área de trabajo y la contención de polvo dentro de ésta última. Enfatique a los alumnos que una instalación apropiada restringirá el acceso y evitará que el polvo y los escombros se escapen del área de trabajo.

Evaluación de los alumnos: Permita que los alumnos cubran el suelo e instalen barreras para evitar el acceso no autorizado al área de trabajo. Observe a cada alumno seguir los pasos en la siguiente página. Realice correcciones y haga sugerencias a medida que los ejercicios avancen y determine si se necesita más práctica. *Opción: Solicite a los alumnos que digan los pasos a medida que trabajan.* Los alumnos deben completar todos los pasos obligatorios para ser "Competentes". Evalúe el trabajo de cada alumno y, después de que todos hayan completado correctamente los elementos obligatorios del ejercicio, registre el rendimiento como "Competente" en el campo del registro de progreso del participante, que corresponda al conjunto de destrezas N° 5 y al nombre del alumno en particular.

Conjunto de destrezas N° 5: Instalación de contención exterior - continuación

Práctica de destrezas:

- Paso 1: En cada puerta que no sea de ingreso de camino al área de trabajo, coloque un cono anaranjado, cinta de barrera y un letrero con la instrucción "No entrar".*
- Paso 2: Cierre todas las puertas y ventanas a 20 pies como máximo del área de trabajo.*
- Paso 3: Coloque láminas plásticas como cubiertas para el suelo a un mínimo de 10 pies en todas las direcciones desde la ubicación real de una área de alteración de la pintura.*
- Paso 4: Aplique peso a los bordes de la lámina plástica con listones de 2x4 o ladrillos o bien, clávelos al suelo.*
- Paso 5: Fije la lámina plástica al piso y a las paredes con cinta o materiales aislantes y estacas.*
- Paso 6: Coloque cercas de barrera o una cuerda alrededor del perímetro del área de trabajo a 20 pies desde ésta última y en todos los costados expuestos.*
- Paso 7: Establezca un punto de ingreso al área de trabajo y coloque un letrero con la instrucción "No entrar; no se permite comer, beber ni fumar".*.
- Paso 8: Contenga los bordes de la lámina plástica para evitar que se escape el polvo.* Puede contenerlos colocando una cuerda de baja altura cerca del suelo y tendiendo la lámina plástica sobre la cuerda. Ésta debe estar sólo a unas pulgadas del suelo. También puede usar un listón de 2x4 estacado al suelo para elevar los bordes de la lámina plástica en lugar del método de la cuerda.
- Paso 9: Organice todas las herramientas, artículos y equipos que necesite para llevar a cabo el trabajo de renovación, reparación o pintura sobre la lámina plástica en el área de trabajo para no contaminarla.*
- Paso 10: Ubique una almohadilla adhesiva desechable en la esquina de la lámina plástica más cercana a la puerta de entrada, a fin de controlar que no caiga polvo en dicha lámina.*

*Indica las destrezas obligatorias que se deben lograr para obtener una calificación de "Competente"

Diapositiva 4-15: Preguntas sobre el ejercicio práctico

Utilice esta diapositiva para hacer preguntas sobre el ejercicio.

- Pregunte a los asistentes cuáles fueron las dificultades para contener el área de trabajo.
- Indique a los asistentes lo que hicieron bien y dónde tuvieron dificultades.

Demuestre cómo realizar algunos de los trabajos más difíciles: por ejemplo, unir dos trozos de plástico o crear un pliegue en forma de S en la puerta.

Preguntas después del ejercicio práctico

- ¿Cuál fue el resultado?
- ¿Qué fue lo más complicado?

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Informe de los ejercicios prácticos.

Tenga en cuenta las preguntas anteriores. Coméntelas como si se tratara de una clase.

Diapositiva 4-16: Ahora ya saben...

- Utilice esta diapositiva para cerrar el módulo y realizar la transición al módulo siguiente (Módulo 5: Mientras trabaja).
- Enfatice que la contención apropiada del área de trabajo facilitará el resto del trabajo, como lo verán en los módulos 5 y 6.

Ahora ya saben...

- **Cómo realizar las instalaciones para un trabajo**
 - **Contención interior**
 - **Contención exterior**

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4-16

Ahora sabe cómo preparar un trabajo. En el siguiente módulo analizaremos la realización de las prácticas laborales de seguras con el plomo durante el trabajo.

Módulo 5: Mientras Trabaja

Descripción general de este módulo: La siguiente tabla resume el contenido y los métodos de enseñanza de este módulo. Es para su propia referencia. **No trate este punto con los asistentes.**

Módulo 5: Mientras trabaja	50 minutos
• 5-1: Módulo 5: Mientras trabaja • 5-2: Las renovaciones tradicionales crean polvo con plomo en el aire • 5-3: Prácticas prohibidas • 5-4: Herramientas especializadas • 5-5: Protéjase • 5-6: Controle la propagación del polvo • 5-7: Limpieza mientras trabaja • 5-8: Ejercicio: Equipos de protección personal (conjunto de destrezas N° 6) • 5-9: Ahora ya saben...	Mensaje clave: Las prácticas tradicionales de renovación producen polvo, mientras las prácticas seguras con el plomo lo disminuyen, lo cual aumenta la seguridad de la renovación, reparación y pintura. Notas: Después de las diapositivas se realiza un ejercicio ▪ Diapositivas: (40 minutos) ▪ Ejercicio práctico: (10 minutos) Preparación para este módulo: Prepare una lista con las tareas que deberán realizar los asistentes y reúna los materiales necesarios para el ejercicio práctico. Materiales necesarios: Consulte la lista de suministros para el equipo de protección personal (PPE, por sus siglas en inglés). Opciones: Los ejercicios prácticos son un requisito. Sin embargo, el instructor puede tomar la decisión de realizar el ejercicio práctico de esta sección como parte de un ejercicio integral de actividades prácticas (según se muestra en la planificación de clase 2).

Diapositiva 5-1: Módulo 5: Mientras trabaja

- Este módulo presenta prácticas de trabajo seguras con el plomo que minimizan el polvo, el segundo de los tres pasos más importantes para la seguridad con el plomo. El primer paso fue la instalación y el tercer paso, limpieza, se abordará en el módulo siguiente.
- Este módulo abarca la lista de temas que aparece en la diapositiva. Repase esta lista con los alumnos.
- Objetivo del módulo: El propósito de este módulo es enseñar prácticas de trabajo que reducen la cantidad de polvo que se produce durante una renovación y mostrar cómo aplicarlos en el trabajo.
- Mencione que primero explicará qué son las prácticas de trabajo que reducen el polvo y, posteriormente, realice un ejercicio en el que los asistentes puedan pensar cómo aplicar las prácticas de trabajo seguras con el polvo en el trabajo.
- Enfatice que las prácticas de trabajo que reducen el polvo son prácticas específicas que han demostrado disminuir la creación y propagación del polvo con plomo. Muchas de estas prácticas no son un requisito de la regla RRP de la EPA. Asegúrese de dejar en claro que la EPA prohíbe ciertas prácticas y que la empresa certificada es responsable de garantizar que ni el polvo ni los escombros salgan de la contención y que no contaminen áreas o propiedades adyacentes. Las notas del alumno abarcan este tema con más detalle, y puede ser útil leer el primer párrafo.

Módulo 5: Mientras trabaja

Descripción general:

- Las renovaciones tradicionales crean polvo en el aire.
- Prácticas prohibidas.
- Protéjase y prepare una caja de herramientas de equipos de protección personal.
- Controle la propagación del polvo.
- Ejercicio práctico (conjunto de destrezas N° 6).



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Requisitos en la regla RRP de la EPA:

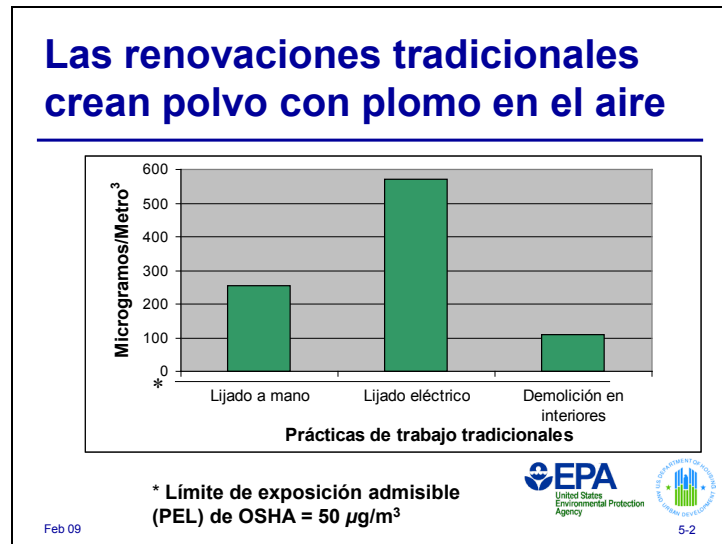
La regla RRP prohíbe el uso de ciertas prácticas. En este módulo se analizan estas prácticas prohibidas. Además, contiene recomendaciones sobre cómo reducir el polvo durante las actividades de trabajo que no se requieren o no se incluyen de manera específica en la regla RRP. Las prácticas que decida usar en el área de trabajo contenida no deben incluir prácticas prohibidas. Salvo lo mencionado anteriormente, tiene plena libertad de usar las prácticas que desee para finalizar el trabajo, siempre y cuando el polvo y los escombros generados se mantengan en el área de trabajo y no se desplacen a otras áreas o propiedades. Las recomendaciones en esta sección le ayudarán a reducir la cantidad de polvo generada durante el trabajo. La reducción de polvo en el área de trabajo hará que el lugar de trabajo sea más seguro para los empleados y que la limpieza sea más fácil.

Al finalizar este módulo sabrá:

- Qué prácticas de trabajo se prohíben en la regla RRP, debido a que producen cantidades peligrosas de polvo y cáscaras de pintura.
- Qué prácticas debe usar para controlar el polvo, los escombros o las cáscaras de pintura; y
- Qué herramientas necesitará.

Diapositiva 5-2: Las renovaciones tradicionales crean polvo con plomo en el aire

- Esta tabla ilustra que las prácticas de trabajo tradicionales generan una gran cantidad de polvo. Indique que la tabla muestra una medición de la cantidad de polvo en el aire para tres prácticas de trabajo comunes.
- La fuente de los datos de esta tabla es un estudio que midió las cantidades de polvo con plomo en el aire causadas por cada tipo de trabajo. El polvo se midió en microgramos por metro cúbico ($\mu\text{g}/\text{m}^3$).
- El nivel de activación de OSHA en el que se requieren medidas especiales de protección para los trabajadores (conocido como el límite de exposición admisible o PEL, por sus siglas en inglés) es de $50 \mu\text{g}/\text{m}^3$ (50 microgramos por metro cúbico; promedio ponderado durante un día laboral de 8 horas). Según se señala en la tabla, la cantidad de polvo con plomo que se crea a partir del lijado manual y demoliciones es mucho más alto que el PEL. OSHA exige medidas especiales de protección para los trabajadores durante el desempeño de estas actividades.



Los datos previos forman parte del informe *Lead Exposure Associated with Renovation and Remodeling Activities: Summary Report* (Exposición al plomo relacionada con las actividades de renovación y remodelación: Informe de resumen), preparado por Battelle para la Agencia de Protección Ambiental de los Estados Unidos en mayo de 1997, EPA 747-R-96-005.

¡Las prácticas de trabajo tradicionales generan cantidades de polvo más grandes!

- Esta tabla muestra las cantidades de polvo con plomo que se generan mediante tres prácticas comunes de construcción: lijado manual, lijado eléctrico y demolición de interiores. **La regla RRP prohíbe el uso de lijado, esmerilado, cepillado y corte eléctrico sin contar con una ventilación de captura local con filtro HEPA, ya que estas prácticas producen mucho polvo.**
- Al utilizar prácticas de trabajo seguras, puede controlar y reducir considerablemente la cantidad de polvo generada en el trabajo. Es importante controlar el polvo con plomo en el lugar de origen, ya que el polvo que se desprende en el aire se depositará finalmente en el piso. Más adelante en este capítulo, aprenderá prácticas de trabajo seguras que pueden reemplazar estas prácticas de trabajo prohibidas. En esta sección también encontrará recomendaciones de las mejores prácticas para reducir el polvo en el área de trabajo.

Diapositiva 5-3: Prácticas prohibidas

Esta diapositiva señala varias prácticas que crean grandes cantidades de polvo y riesgos de exposición para residentes y trabajadores. Estas prácticas son:

1. Quemar con llama o con soplete.
2. Remoción de pintura con pistola de aire caliente a más de 1,100 grados F.

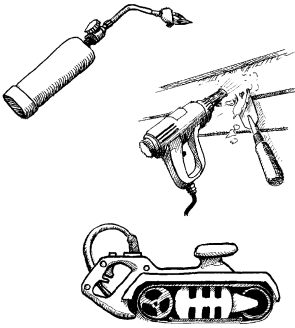
NOTA: Las notas del alumno en la página que se muestra analizan el hecho de que se puedan generar pequeñas partículas de polvo con plomo ("humos") a partir del calentamiento o combustión de pintura a altas temperaturas. Estas partículas son muy pequeñas y es muy sencillo aspirarlas y que se introduzcan en los pulmones. Por lo tanto, son más peligrosas que el polvo, que suele pasar al estómago después de su ingestión. Los pulmones transfieren el plomo al torrente sanguíneo con mucha más eficacia que el estómago. Debido a esto, los humos son mucho más peligrosos que el polvo con plomo ordinario. Por este motivo, está prohibida la remoción de pintura a base de plomo con pistola de aire caliente a más de 1,100 grados F, con combustión de llama y con soplete.

3. Está prohibido el uso de máquinas que alteran la pintura por medio de operaciones de alta velocidad como lijado y esmerilado eléctrico o la limpieza con abrasivos sin un accesorio de aspiración HEPA.

Nota: El término "limpieza con abrasivos" incluye herramientas especiales que usan aire de alta presión mezclado con otro material como arena, cáscaras de nueces, sales químicas o hielo seco para remover pintura de superficies.

Destaque que la regla del HUD prohíbe actividades adicionales en propiedades que reciban asistencia federal para la vivienda. Por ejemplo, la regla del HUD prohíbe raspar en seco y lijar a mano en exceso (la regla RRP de la EPA no prohíbe esta práctica). Consulte la diapositiva 2-13 y el apéndice 2 para obtener mayor información.

Prácticas prohibidas



- Quemar con llama o soplete.
- Pistola de aire caliente a más de 1100° F.
- Lijado, esmerilado y cepillado eléctrico, pistolas de aguja, limpieza con abrasivos y limpieza con chorros de arena, sin un accesorio de aspiración HEPA.

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5-3

La regla de renovación, reparación y pintura no aborda de manera específica qué medidas se deben tomar para reducir la cantidad de polvo generada en el trabajo. Por el contrario, la regla indica tres prácticas prohibidas que no se deben usar en el trabajo.

- Quemar con llama o soplete.
- Pistola de aire caliente a más de 1,100° F (grados Fahrenheit).
- Está prohibido usar máquinas que quiten la pintura a base de plomo mediante una operación a alta velocidad, tales como lijado, esmerilado, cepillado, uso de pistolas de aguja, limpieza con abrasivos o limpieza con chorros de arena, a menos que dichas máquinas se utilicen con una ventilación de captura local con filtro HEPA acoplado.

Una clave para minimizar la propagación de polvo y cáscaras de pintura es no usar ciertas prácticas de trabajo tradicionales, que se sabe que producen grandes cantidades de polvo y escombros.

- **Quemar pintura con llama o soplete y el uso de una pistola de aire caliente a más de 1,100° F** genera partículas de polvo con plomo muy finas ("humos") que son peligrosas para los trabajadores si las respiran. Las pequeñas partículas de polvo con plomo que se generan al quemar o calentar también se depositan en las superficies adyacentes y son muy difíciles de limpiar.
- **El lijado, el esmerilado y el cepillado eléctrico, las pistolas de aguja, la limpieza con abrasivos y la limpieza con chorros de arena** generan una gran cantidad de polvo que flota en el aire y luego se deposita en las superficies interiores y exteriores del área de trabajo. Estas actividades están prohibidas, a menos que estén equipadas con dispositivos de ventilación de captura local con filtros HEPA, para controlar el escape cargado de polvo.

Consulte el Apéndice 5 *Pasos para la renovación, reparación y pintura SEGURAS CON EL PLOMO* para obtener más información.



Las prácticas que se indican en la diapositiva también están prohibidas en las propiedades construidas antes de 1978 con pintura a base de plomo, que reciben ayuda federal para la vivienda. La regla del Departamento de Vivienda y Urbanismo también prohíbe raspar en seco y lijar a mano en exceso y decapar la pintura en un espacio con poca ventilación utilizando un decapante volátil. Algunos estados, localidades o tribus también pueden prohibir estas prácticas.

Diapositiva 5-4: Herramientas especializadas

- Debido a que muchos contratistas utilizan herramientas eléctricas en su trabajo, habitualmente no es posible rociar las superficies con agua por el riesgo de descarga eléctrica. Utilice herramientas de pilas o neumáticas con filtración HEPA y proporcione interruptores accionados por pérdidas a tierra (GFCI, por sus siglas en inglés) al trabajar cerca de tomas y cableados eléctricos, en áreas húmedas o en superficies mojadas para prevenir peligros de descargas eléctricas.
- Los contratistas deben pensar en invertir en herramientas eléctricas especializadas con ventilación de captura local con filtro HEPA acoplada o comprar accesorios que sean apropiados para sus herramientas eléctricas actuales. Esta inversión se compensará a largo plazo, ya que los trabajadores realizarán sus labores más rápidamente y contendrán el polvo mejor con estas herramientas que sin ellas. También puede ser posible alquilar estas herramientas localmente. Señale que los accesorios no capturan todo el polvo que se genera durante el trabajo, por tanto sigue siendo importante tomar otras precauciones, en especial sistemas de contención.

Herramientas especializadas

- Los trabajos de mayor envergadura pueden requerir consideraciones especiales para la realización del trabajo, como por ejemplo:
 - Lijadoras, esmeriladoras y cepilladoras eléctricas, pistolas de aguja y limpiadores con abrasivos o chorros de arena, cada uno con accesorios de captura con filtros HEPA.
 - Herramientas neumáticas y de pilas para protegerse contra los peligros de descarga eléctrica.
 - Planificación y contención especializadas.



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Solamente se pueden utilizar herramientas eléctricas equipadas con ventilación de captura local con filtro HEPA acoplado cuando hay pintura a base de plomo, o se cree que está presente.

- Las herramientas eléctricas, como lijadoras, esmeriladoras, sierras circulares, sierras alternativas, cepilladoras y taladros producen polvo y escombros. Como son eléctricas, los métodos con humedad no son seguros. Las herramientas neumáticas y de pilas evitan los peligros de descarga eléctrica. Las herramientas con filtros HEPA acoplados o el uso de cubiertas acopladas a aspiradoras en estas herramientas contienen el peligroso polvo con plomo y las cáscaras de pintura que se generan al usarlas.
- Las herramientas con ventilación de captura local con filtro HEPA acoplado recogen y filtran el polvo y los escombros a medida que se generan. Una cubierta en la cabeza de la herramienta ayuda a contener el polvo y las cáscaras de pintura a medida que la aspiradora los arrastra para almacenarlos de manera segura en el recipiente de la aspiradora. Esto hace que el trabajo sea más limpio y seguro.
- La limpieza con abrasivos es bastante eficaz al retirar grandes áreas de pintura rápidamente, pero estas prácticas requieren equipos especiales de filtración HEPA que contengan el medio de limpieza, el polvo y las cáscaras de pintura sin desprender el polvo al aire o dentro de la contención.

La contención es incluso más importante cuando se usan herramientas especializadas.

- La contención y limpieza correctas son fundamentales incluso cuando se usan herramientas especializadas con filtros HEPA. Estas herramientas generan mucho polvo dentro de un entorno localizado (vacío) con presión negativa. Si se destruye el vacío o si se rompe el sello de vacío creado por la cubierta protectora, se podrían desprender grandes volúmenes de polvo. Sin embargo, las herramientas especializadas con filtro HEPA pueden reducir los niveles de polvo cuando se usan correctamente y pueden ayudar a la producción del trabajo, disminuyendo el tiempo de limpieza y los costos.
- Consulte la lista de compras de herramientas y suministros en el Apéndice 5 *Pasos para la renovación, reparación y pintura SEGURAS CON EL PLOMO* para obtener más información.

Diapositiva 5-5: Protéjase

- Los trabajadores deben tomar precauciones para protegerse de los peligros del polvo en el trabajo.

Nota: Estas son precauciones mínimas. Los empleadores deben cumplir los reglamentos de la OSHA que puedan requerir mayores medidas de protección para los trabajadores, particularmente para trabajos en que exista gran cantidad de polvo.

- Mientras menciona las precauciones específicas para la protección de los trabajadores, consulte la siguiente diapositiva:
 - Protección del trabajador. Equipo de protección personal: una gorra de pintor, overoles y mascarillas respiratorias N-100 desechables. N-100 es una categoría de mascarillas respiratorias que se pueden usar en un ambiente de polvo con plomo. N-100 significa que el respirador tiene una capacidad de filtración HEPA. La mascarilla N-100 es aceptable para trabajos pequeños, pero en otras condiciones de trabajo, OSHA puede exigir otro tipo de mascarilla respiratoria.
 - No es necesario que los trabajadores utilicen guantes, pero deben lavarse las manos con frecuencia, particularmente antes de comer, fumar y al marcharse al final del día. El plomo del polvo con plomo no pasa a través de la piel.
 - Los supervisores pueden comprar overoles extra grandes y acomodar su tamaño con cinta adhesiva para conductos. Algunos overoles también tienen capuchas para que no se deposite polvo en el cabello. Los overoles pueden usarse varias veces en la misma obra, pero se deben lavar en un servicio comercial que tenga los equipos adecuados para manejar ropa contaminada con plomo o bien se deben desechar al finalizar el trabajo.
 - Las reglas OSHA pueden especificar que se deben tomar más medidas de protección para el trabajador en un trabajo en particular o en algunas actividades de trabajo particulares. Algunas actividades de trabajo, debido a su naturaleza, activan los requisitos de OSHA.

Protéjase

- Los trabajadores deben llevar:
 - Una gorra de pintor desechable.
- Overoles desechables:
 - Deben reparar las rasgaduras con cinta adhesiva para conductos.
 - Deben colocarlos en bolsas de plástico.
- Mascarilla respiratoria desechable N-100, R-100 ó P-100.
- Lavarse la cara y las manos con frecuencia y al final de cada turno.
 - Lavarse ayuda a reducir la ingesta de polvo con plomo cuando se lleva las manos a la boca.
- Es posible que OSHA exija una mayor protección según el trabajo que se realice.



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Los trabajadores deben protegerse.

- **Las gorras de pintor** son una manera económica de mantener el polvo y las cáscaras de pintura fuera del cabello del trabajador. Dichas gorras se pueden desechar fácilmente y se debe hacer al final de cada día o al final del trabajo.
- **Los overoles desechables** son una buena manera de mantener el polvo fuera de la ropa de calle de los trabajadores y disminuir la posibilidad de llevar polvo mientras caminan de un lado a otro. Los trabajadores se pueden quitar los overoles cuando se marchan de la obra y los pueden guardar en bolsas de plástico por la noche. Recuerde usar una aspiradora HEPA para eliminar el polvo y los residuos de los overoles u otras prendas exteriores ("descontaminación en seco") antes de salir del área de trabajo. Para mantener bajos los costos, considere la compra overoles de tamaño extragrande y ajustarlos al tamaño de un trabajador con cinta adhesiva para conductos. Algunos tienen una capucha para impedir que se deposite polvo en el cabello.
- **Protección respiratoria.** Los empleadores deben considerar que los trabajadores lleven protección respiratoria, como una mascarilla desechable N-100, R-100 ó P-100, para evitar que inhalen polvo con plomo. Estas mascarillas son respiradores que filtran partículas y no son adecuadas como protección contra sustancias químicas decapantes. OSHA brinda información adicional sobre las mascarillas respiratorias en el Código de Regulación Federal 1910.134, parte 29.
- **Debe lavarse las manos y la cara al fin de cada turno. Los trabajadores deben lavarse** las manos y el rostro periódicamente para no ingerir polvo con plomo. Se requiere que se lave bien antes de comer, beber o fumar. Está **prohibido para cualquier persona comer, beber o fumar en el área de trabajo**. Algo del polvo que se deposita en la cara, alrededor de la boca, encuentra siempre la forma de entrar en la boca. Los trabajadores también deben lavarse al final del día, antes de subirse a sus autos o irse a casa. No deben llevar polvo con plomo a sus hogares con sus familias.
- La protección personal es de especial importancia en los trabajos que generan altas cantidades de polvo, cuando se altera la pintura a base de plomo o el polvo contaminado con plomo y mientras se realiza la limpieza. Sin embargo, el mismo nivel de protección no es necesario durante las etapas de planificación, pruebas o instalaciones del trabajo, cuando no se está alterando el plomo.
- Los equipos de protección indicados anteriormente tienen como fin mostrar lo que se necesita durante las actividades de alteración de la pintura a base de plomo y el polvo contaminado con plomo. Según las prácticas de trabajo que se usen, las reglas de OSHA pueden requerir que los empleados realicen pasos adicionales para proteger la salud de los trabajadores en la obra.
- OSHA brinda información adicional sobre el trabajo con plomo en sus Reglamentos de Seguridad y Salud para el Plomo en la Industria de la Construcción (Código de Regulación Federal 1926.62, parte 29).

Diapositiva 5-6: Controle la propagación del polvo

- Esta diapositiva muestra los pasos que deben seguir los trabajadores para controlar la propagación de polvo desde la obra.
- El polvo puede propagarse cuando los trabajadores salen de la obra para buscar herramientas, transportar escombros, tomar un descanso, marcharse al final del día, etc. Los límites de la obra dependen del área de contención. Por ejemplo, puede ser sólo el área cubierta por láminas protectoras o puede ser una habitación completa.
- Los trabajadores pueden transportar polvo fuera del área de trabajo en los zapatos y en la ropa. Se debe limpiar siempre la parte superior e inferior de sus zapatos y limpiar la ropa con una aspiradora antes de salir de las láminas protectoras. Antes de salir del área de trabajo, los renovadores se deben quitar las prendas desechables (como cubrezapatos, trajes protectores, overoles, gorras y guantes).
- Los trabajadores deben tomar precauciones adicionales al limpiarse antes de volver a casa, debido a que pueden transportar polvo a sus hogares en la ropa, en el cabello, en el cuerpo y en su automóvil. Se han desarrollado estudios que muestran los niveles de plomo en la sangre de familias de los trabajadores. Estos estudios confirman que los hijos de trabajadores de la construcción sufren envenenamiento provocado por polvo con plomo que ha sido transportado a su vivienda desde las obras. Recuerde el video anterior sobre el contratista que envenenó con plomo a sus propios hijos.

Controle la propagación del polvo

- Cuando se marche de la obra, límpiese todo el cuerpo y también las herramientas.
 - Quítese los cubrezapatos y use la aspiradora HEPA o limpie los zapatos.
 - Camine sobre almohadillas adhesivas desechables para retirar el polvo de las suelas.
 - Use la aspiradora HEPA y quítese el overol, y úsela para limpiar la ropa.
 - Quítese los guantes, si los utilizó, y lávese las manos y la cara con cuidado.
 - Deseche toda la ropa desechable en bolsas de plástico.
 - Al final del día, no lleve plomo a su hogar con su familia en su ropa ni en su automóvil.
 - Utilice la aspiradora HEPA en la ropa, los zapatos, etc.
 - Cámbiese de ropa; deseche o coloque la ropa de trabajo con polvo en una bolsa de plástico para lavarla por separado de la ropa sucia de su familia.
- ¡No abrace a su familia hasta que esté limpio!
- Lávese las manos y el rostro.
 - Dúchese tan pronto como llegue a su hogar.



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Precauciones que debe tomar al marcharse de la obra

- Cuando se marche de la obra (el área cubierta por láminas de protección o la habitación de trabajo), tome precauciones para evitar la propagación de polvo y cáscaras de pintura en la ropa y zapatos a otras partes de la residencia.
- Cada vez que deje las láminas de plástico alrededor de las superficies que se renovarán, quítese los cubrezapatos desechables y límpiese los zapatos con un trapo o una aspiradora antes de salir de las láminas de plástico. El uso de una gran esponja adhesiva desechable en el piso le puede ayudar a limpiar las suelas de los zapatos.
- Cada vez que salga del área de contención, use la aspiradora HEPA y quítese los overoles y cubrezapatos desechables. Limpie o use la aspiradora en sus zapatos, y lávese las manos y la cara.
- Al final del día:
 - Cámbiese de ropa y lávese para reducir el riesgo de contaminar su automóvil y llevar polvo con plomo a su hogar con su familia.
 - Antes de marcharse de la obra, quítese toda la ropa de protección, use la aspiradora HEPA para eliminar el polvo de la ropa que no sea de protección y lávese las manos y la cara cuidadosamente. Elimine la ropa desechable o colóquela en una bolsa de plástico para que el polvo no pase otra ropa en el hogar.
 - Si no puede limpiarse en la obra, coloque un pedazo de plástico en su automóvil para proteger el piso y los asientos de la contaminación por plomo.
 - Tan pronto llegue a casa, dúchese y asegúrese de lavarse bien el cabello, especialmente antes de jugar con niños. Lave su ropa por separado de la ropa sucia normal de su familia, para que el plomo no contamine otras prendas.
 - Asegúrese de estar limpio antes de entrar en contacto con familiares, en especial con niños. Recuerde el video sobre el contratista que envenenó con plomo a sus propios hijos.

Diapositiva 5-7: Limpieza mientras trabaja

- Debido a su naturaleza, los trabajos de renovación, reparación y pintura crean escombros que se pueden acumular en el área de trabajo. Los escombros se deben retirar periódicamente para evitar que se transformen en una fuente de polvo que se pueda dispersar con facilidad mediante las actividades laborales y por el tránsito de personas en la obra. Por ejemplo, las cáscaras de pintura se pueden transportar con mucha facilidad a otras partes de la vivienda (recuerde la demostración con el edulcorante que vio esta mañana). Es importante que se limpie los zapatos antes de salir de las láminas protectoras.
- La limpieza para controlar los escombros y el polvo se puede desarrollar en etapas, pero se debe realizar al menos una vez por día.
- La contención, remoción y eliminación de los desechos son esenciales para reducir lo más posible el polvo y los escombros en el área de trabajo.

Limpieza mientras trabaja

- Una obra limpia reduce la propagación de polvo y las cáscaras de pintura.
- Limpie a medida que trabaja.
 - Use la aspiradora HEPA en superficies horizontales.
 - Retire los escombros con frecuencia.
 - Retire las cáscaras de pintura a medida que se generan.
 - A medida que se retiran los componentes de la construcción, envuélvalos y elimínelos inmediatamente.
- Limpie con frecuencia (en etapas, al menos diariamente).



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5-7

Limpie la obra con frecuencia.

- Al limpiar la obra con frecuencia a medida que avanza el trabajo, reduce la propagación de polvo y cáscaras de pintura. La limpieza diaria no necesita ser tan cuidadosa como la limpieza final. Sin embargo, debe evitar que los escombros, el polvo y las cáscaras de pintura se apilen y se propaguen más allá de la obra inmediata.

La limpieza diaria durante el trabajo incluye:

- **Retirar escombros con frecuencia:** Selle y deseche los escombros de la construcción a medida que se crean.
- **Limpiar frecuentemente con una aspiradora las superficies horizontales:** Use la aspiradora HEPA para eliminar el polvo y las cáscaras de pintura que se depositan en las superficies, incluidas las láminas de protección. A medida que los trabajadores caminan de un lado a otro durante el día de trabajo, los escombros se propagan fácilmente. La limpieza periódica en el día de trabajo ayuda a minimizar la propagación de polvo.
- **Reunir las cáscaras de pintura a medida que se generan:** Cuando retire la pintura, las cáscaras de pintura se pueden propagar hacia el exterior del área de trabajo inmediata, a medida que los trabajadores caminan fuera y dentro de la obra. Para que las cáscaras de pintura no se propaguen más allá de la obra, asegúrese de reunir las a medida que se generan. Use la aspiradora HEPA periódicamente y deseche las cáscaras de pintura.
- **Envolver y eliminar los componentes retirados:** Cuando retire los componentes pintados, como ventanas, molduras y gabinetes, envuélvalos en láminas de plástico y elimínelos en etapas. Esto evitará la propagación de escombros y mantendrá a los residentes, particularmente a los niños, lejos de estar en contacto con el polvo con plomo que se generó en el trabajo.
- **Eliminar desechos de forma segura:** Se debe contener todo el desecho producto de la renovación del área de trabajo antes de retirarlo, guardarlo o desecharlo, a fin de evitar que se libere polvo y escombros. Las rampas para retirar los desechos del área de trabajo también se deben cubrir. Al final de cada día de trabajo, reúna los desechos y guárdelos en un área de contención, en un lugar cerrado o detrás de una barrera que evite el desprendimiento de polvo y escombros, o el acceso a los mismos. Cuando transporte desechos del área de trabajo de renovación, deben estar contenidos para evitar que se desprendan polvo y escombros.

¿Con qué frecuencia se debe realizar la limpieza durante el trabajo?

- El objetivo es mantener el polvo y los escombros bajo control, no mantener una obra completamente limpia todo el tiempo. Cada trabajo es diferente, así que limpie cuando se deba hacer, sin dificultar el avance. Quite grandes cantidades de polvo, cáscaras de pintura y escombros con frecuencia, al menos diariamente.

Diapositiva 5-8: Ejercicio: Equipos de protección personal

Con este ejercicio los alumnos aprenderán a ponerse y quitarse los equipos de protección personal, cómo descontaminarse y cómo desechar los equipos usados.

Prepare este ejercicio por adelantado:

- Asegúrese de que los suministros apropiados estén listos (consulte la lista en el conjunto de destrezas N° 6 después de la diapositiva 5-8 y en el Apéndice 6).
- Repase el conjunto de destrezas N° 6.

Opción

- Puede tomar la decisión de realizar este ejercicio como parte de un ejercicio integral de actividades prácticas después del módulo 8, según se describe en la planificación de clase 2.

Ejercicio: Equipos de protección personal

- **Observe cómo el instructor viste al voluntario con los equipos de protección personal.**
 - **Conjunto de destrezas N° 6 - Equipos de protección (10 min.)**
- **Practique ponerse y quitarse los equipos de protección personal.**
- **Deseche apropiadamente los equipos usados y limpie.**

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5-8

Equipos de protección personal

Este ejercicio le brinda la oportunidad de aprender y practicar los pasos correctos para ponerse y quitarse los equipos de protección personal, desechar los equipos usados y descontaminarse. Esta diapositiva brinda una instrucción básica.

Conjunto de destrezas N° 6: Equipos de protección personal

Tiempo: 10 minutos

9 de febrero

Artículos necesarios:

- Overoles desechables
- Guantes desechables que no sean de látex
- Cubrezapatos desechables
- Protección para los ojos
- Guantes de trabajo de lona o cuero
- Mascarilla respiratoria N-100
- Bolsas de desperdicio desechables
- Cinta adhesiva para conductos
- Instalaciones para lavarse las manos y jabón

Propósito: El propósito de este ejercicio práctico es mostrar a los alumnos los pasos correctos para ponerse (vestirse) y quitarse (desvestirse) los equipos de protección personal y los pasos para descontaminar y eliminar el equipo usado.

Nota para el instructor: Lea el propósito de esta actividad a los alumnos.

Demostración: El instructor del curso debe explicar todos los pasos que hay que seguir para ponerse los equipos de protección personal y para ello, debe vestir a un alumno voluntario con dichos equipos. Enfatique a los alumnos que estos equipos evitan su exposición al plomo, al mismo tiempo que previenen la contaminación de áreas externas al área de trabajo.

Evaluación de los alumnos: Observe a cada alumno seguir los pasos de la siguiente página. Realice correcciones y haga sugerencias a medida que los ejercicios avancen y determine si se necesita más práctica. *Opción: Solicite a los alumnos que digan los pasos a medida que trabajan.* Los alumnos deben completar todos los pasos obligatorios para ser "Competentes". Evalúe el trabajo de cada alumno y, después de que todos hayan completado correctamente los elementos obligatorios del ejercicio, registre el rendimiento como "Competente" en el campo del registro de avance del participante, que corresponda al conjunto de destrezas N° 6 y al nombre del alumno en particular.

Conjunto de destrezas N° 6: Equipos de protección personal - continuación

Práctica de destrezas:

- Paso 1: Póngase (vístase con) un overol protector.*
- Paso 2: Póngase guantes desechables.*
- Paso 3: Póngase cubiertas para botas sobre el calzado.*
- Paso 4: Póngase gafas protectoras.*
- Paso 5: Póngase guantes de trabajo.*
- Paso 6: Cuando esté vestido con estos equipos de protección personal, hable sobre el uso de mascarillas respiratorias y muestre el método correcto para colocarse y fijar la mascarilla.
Nota: Los alumnos no deben usar mascarilla respiratoria si no están inscritos actualmente en el programa de protección respiratoria de la empresa de capacitación. Observe la demostración pero no use mascarillas respiratorias si lo antes mencionado se aplica en su caso.
- Paso 7: Quítese los guantes de trabajo y póngalos en una bolsa de desechos marcada.*
- Paso 8: Quítese las cubiertas para botas tirando de ellas desde el talón y enrollándolas de adentro hacia afuera a medida que las retira. Cuando la haya quitado, póngala en una bolsa de desechos marcada.*
- Paso 9: Quítese el traje bajando la cremallera y enróllelo de adentro hacia afuera para no desprender polvo. Cuando se lo haya quitado, póngalo en una bolsa de desechos marcada.*
- Paso 10: Quítese los guantes desechables que no sean de látex: tome el puño de un guante y tire del mismo de adentro hacia afuera hasta sacarlo completamente. Sostenga el guante que se ha quitado en la palma de la mano que aún conserva el guante puesto. Meta un dedo de la mano sin guante debajo del puño de la mano que conserva el guante y comience a retirarlo de forma que vaya enrollando el guante ya sacado que sostiene en la mano. Cuando se los quite, tendrá un guante dentro de otro con el lado sucio contenido. Coloque los guantes en la bolsa de desechos marcada.*
- Paso 11: Lávese las manos, la cara y los zapatos con agua y jabón. Séquese las manos y la cara con una toalla desechable.*

*Indica las destrezas obligatorias que se deben lograr para obtener una calificación de "Competente".

Diapositiva 5-9: Ahora ya saben...

- Utilice esta diapositiva para cerrar este módulo y realizar la transición al módulo siguiente.

Ahora ya saben...

- Qué prácticas de trabajo producen polvo.
- Qué prácticas de trabajo están prohibidas según la EPA y el HUD.
- Cómo trabajar de manera segura cerca de pintura a base de plomo y polvo con plomo.
- El uso correcto de los equipos de protección personal.

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5-9

Las prácticas que aprendió en este módulo le ayudarán a generar menos polvo mientras trabaja. En el siguiente módulo, analizaremos cómo realizar la limpieza final del área de trabajo y cómo verificar que la limpieza esté completa.

Módulo 6: Actividades de Limpieza y Verificación del Trabajo

Descripción general de este módulo: La siguiente tabla resume el contenido y los métodos de enseñanza de este módulo. Es para su propia referencia. No trate este punto con los asistentes.

Módulo 6: Actividades de limpieza y verificación del trabajo		90 minutos
6-1: Módulo 6: Actividades de limpieza y verificación del trabajo 6-2: ¿Qué es una limpieza eficaz? 6-3: Requisitos de limpieza interior 6-4: Procedimiento de inspección visual 6-5: Procedimiento de verificación de la limpieza (CV) 6-6: Examen de aprobación referente al polvo 6-7: Requisitos de limpieza exterior 6-8: Exterior - Verifique la eficacia de la limpieza 6-9: Desechado 6-10: Desechado - Información federal, estatal y local 6-11: Ejercicio: Procedimiento de limpieza y verificación de la limpieza 6-12: Ahora ya saben...	Mensaje clave: Limpie correctamente. Utilice trapeadores húmedos y aspiradoras HEPA. Los métodos tradicionales no sirven. Notas: Después de las diapositivas se realiza un ejercicio - Diapositivas: (40 minutos) - Ejercicio práctico: (50 minutos) Preparación para este módulo: Prepare los materiales para un ejercicio práctico, las demostraciones de verificación y de aprobación de limpieza. Materiales necesarios: Materiales de verificación de limpieza y herramientas indicadas en la lista de artículos de limpieza. Opciones: Los ejercicios prácticos de este módulo no son opcionales, pero el instructor puede decidir cuándo usarlos. Puede optar por usar los ejercicios durante la realización de este módulo (como se muestra en la planificación de clase 1) o como parte de un ejercicio práctico integral (como se muestra en la planificación de clase 2).	

Diapositiva 6-1: Módulo 6: Actividades de limpieza y verificación del trabajo

Este módulo se centra en cómo limpiar el área de trabajo a fin de pasar una revisión visual y un control de verificación o una aprobación. La revisión visual se refiere a que un área se limpió hasta el punto en que a simple vista no se puede ver polvo, escombros o cáscaras de pintura. El control de verificación implica comparar un paño de limpieza desechable usado después de la limpieza con una tarjeta de verificación estándar para determinar el grado de limpieza. La aprobación implica tomar muestras de polvo y enviarlas para su análisis y compararlas con las normas de polvo correspondientes para determinar si el área está lo suficientemente limpia.

- La limpieza eficaz incluye el uso de técnicas específicas y seguir el orden adecuado para limpiar. En esta sección, los asistentes aprenderán lo siguiente:
 - cómo llevar a cabo una limpieza eficaz;
 - las herramientas que debe tener siempre en su camión y en la obra;
 - las técnicas eficaces para limpiar los trabajos interiores y exteriores;
 - los métodos seguros de desecho; y
 - cómo verificar su trabajo.

Módulo 6: Actividades de limpieza y verificación del trabajo

Descripción general

- ¿Qué es una limpieza eficaz?
- Técnicas de limpieza de interiores.
- Técnicas de limpieza de exteriores.
- Cómo verificar su trabajo.
- Procedimiento de verificación de limpieza.
- Examen de aprobación.
- Prácticas seguras de eliminación.

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6-1

Lo que estudiaremos en este módulo:

Este módulo abarcará todos los temas que aparecen en la diapositiva anterior.

- El objetivo de la limpieza es que el área de trabajo quede tan limpia o más de lo que estaba cuando llegó, de modo tal que como resultado de su trabajo, no quede polvo con plomo que pueda envenenar a los residentes.
 - Al terminar este módulo, sabrá cómo verificar su trabajo para asegurarse de que el área de trabajo esté lo suficientemente limpia como para pasar la inspección visual y el procedimiento de verificación de limpieza o pasar el examen de aprobación.
- Si utiliza las técnicas que se describen en este módulo, podrá limpiar un área de trabajo de forma rápida y eficaz. Recuerde, el enfoque que se le da a una limpieza es similar al que se le da a un trabajo. Una preparación y una planificación apropiadas servirán para que su limpieza sea más eficiente y eficaz.
- Asigne siempre tiempo al final de cada día para limpiar meticulosamente el área de trabajo.

Diapositiva 6-2: ¿Qué es una limpieza eficaz?

- Comente sobre las similitudes entre planificar para la limpieza y abordar un trabajo. Explique que, tal como aborda un trabajo planificándolo para que contenga eficazmente el polvo y los escombros, debe abordar la limpieza disponiendo en primer lugar de una contención eficaz y después siguiendo cuidadosamente los procedimientos específicos para limpiar de manera óptima el área de trabajo. Las técnicas descritas en esta sección deben hacer que la limpieza sea más rápida, más eficiente y más eficaz.

Recuerde:

- Lleve a cabo siempre una revisión visual del área de trabajo para asegurarse de que todo el trabajo esté completo.
- La eliminación adecuada de los desechos y la verificación de su trabajo son esenciales para el proceso de limpieza.
- La limpieza más eficaz seguirá la siguiente secuencia:
 1. **Recoja todas las cáscaras de pintura y los escombros visibles.**
 2. **Limpie y deseche las láminas protectoras.**

Para las renovaciones interiores:

3. Paredes: Limpie lentamente con una aspiradora HEPA o con un paño húmedo, trabajando desde arriba hacia abajo.
 4. Otras superficies: Limpie minuciosamente con una aspiradora HEPA todas las superficies, incluidos muebles y accesorios. Limpie las superficies restantes con un paño húmedo. La aspiradora HEPA debe tener una barra sacudidora para las alfombras.
 5. Pase un trapeador por los pisos sin alfombrar utilizando el método de limpieza de balde de dos lados.
 6. Inspeccione visualmente el trabajo.
 7. Deposite todos los desechos en bolsas plásticas de alta resistencia, cierre con un sello de cuello de cisne y elimínelos de acuerdo con los reglamentos federales, estatales y locales.
 8. Realice la verificación de la limpieza en los antepechos de ventanas, encimeras y pisos sin alfombrar.
 9. Retire los letreros de advertencia.
- **Demuestre cómo se hace un sello de cuello de cisne en una bolsa plástica de alto rendimiento y tenga presente que esto se tratará nuevamente en la sección de desechado.**
 - Comente la razón por la que esta secuencia de limpieza debe dar un buen resultado.
 - **Al recoger todos los escombros y las cáscaras de pintura visibles**, se prepara un área de trabajo para utilizar la aspiradora HEPA por primera vez.
 - **Limpie y deseche las láminas protectoras.** Este paso debe realizarse antes de utilizar una aspiradora HEPA a fin de recoger todo el polvo que pueda escaparse de las láminas protectoras.
 - **Limpie el área con una aspiradora HEPA desde arriba hacia abajo.** El primer uso de la aspiradora HEPA recogerá el polvo y los escombros que no sean visibles a simple vista.
 - **Una limpieza húmeda y con trapeador** del área eliminará aún más polvo contaminado con plomo o escombros no recogidos en la primera pasada de la aspiradora HEPA. La limpieza húmeda también recoge el polvo y los escombros que están “adheridos” a las superficies.

- **Si es necesario, una pasada final de la aspiradora HEPA o el paño de limpieza húmedo** capturará todo el polvo o los escombros restantes que queden después de la limpieza húmeda.
- El último paso debe ser **revisar su trabajo** para asegurarse de que se pueda aprobar la inspección de la revisión visual y de que todos los desechos se hayan depositado en bolsas plásticas de acuerdo con las leyes federales, estatales y locales.

Puede que las leyes federales, estatales, tribales o locales, o bien el propietario, exijan un examen de aprobación referente al polvo. De ser así, el examen de aprobación reemplazará el proceso de verificación de limpieza. El HUD exige la aprobación en muchos hogares que reciben ayuda federal para la vivienda. Para obtener más información acerca de la aprobación, consulte la diapositiva 6-6.

¿Qué es una limpieza eficaz?

- Evitar que el polvo regrese a áreas que ya se han limpiado.
- Utilizar técnicas de limpieza apropiadas.
- Limpiar todas las superficies, herramientas y prendas de vestir.
- Verificación de su trabajo.
 - Normalmente incluye una verificación de limpieza.
 - Podría incluir un examen de aprobación.
- Eliminación segura de desechos.



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6-2

Contención

- La limpieza eficaz comienza con una preparación y una contención apropiadas. La limpieza será mucho más sencilla y eficaz si una contención apropiada ha mantenido aislados el polvo y los escombros del área de trabajo. Durante la limpieza, también es importante mantener el polvo en el área que se limpie. No sería bueno que áreas limpias vuelvan a contaminarse después de la limpieza.

Técnicas de limpieza apropiadas

- Utilice el enfoque "de arriba hacia abajo y siempre hacia atrás", para que no tenga que volver a entrar en un área que ya se ha limpiado. Comience a limpiar desde lo más alto hacia abajo. Debe tener cuidado de no propagar polvo a otras áreas mientras limpie. Siga una secuencia ordenada de limpieza para garantizar que no contamine otras áreas. Por ejemplo, si se limpian los pisos antes de las encimeras, deberá caminar sobre el piso para buscar las encimeras, lo que abre la posibilidad de que se vuelva a contaminar el piso. No vuelva a entrar nunca en un área que ya esté limpia. Además, las encimeras se ubican más arriba que los pisos y pueden dejar caer polvo sobre éstos.

Limpieza de todas las superficies

- El término "todas las superficies" incluye todas las superficies verticales, como paredes y ventanas, y todas las superficies horizontales, como pisos, parte superior y molduras de puertas, y canales y antepecho de ventanas. La limpieza debe realizarse desde arriba hacia abajo, es decir, desde la parte más alta de la pared hasta la ventana y luego hasta el piso.

Verificación del trabajo

- Realice una inspección visual después de completar la limpieza. Busque cáscaras de pintura, polvo y escombros.
- Realice una verificación de limpieza hasta que todas las áreas cumplan con los parámetros de la tarjeta de verificación de limpieza.
- Un examen de aprobación referente al polvo puede reemplazar una verificación de limpieza en caso de que lo requiera el dueño o la ley federal, estatal, tribal o local.

Eliminación segura de desechos

- Ponga los desechos en bolsas plásticas de alta resistencia y utilice un sello de tipo cuello de cisne. Elimine de manera segura todos los desechos de acuerdo con los reglamentos federales, estatales y locales. Consulte las diapositivas 6-9 y 6-10 para obtener mayor información sobre la eliminación.

Diapositiva 6-3: Requisitos de limpieza interior

Revise el material de la diapositiva leyendo los requisitos reales tal como aparecen en el texto del alumno debajo de la diapositiva.

- **Pregunte:** ¿Por qué deben recoger las cáscaras de pintura y otros escombros antes de recoger las láminas protectoras? ¿Por qué deben rociar con agua y mojar con un paño húmedo las láminas protectoras antes de recogerlas?

[Respuesta a ambas preguntas: Para evitar la propagación accidental de las cáscaras de pintura contaminadas con plomo y eliminar el polvo de las láminas protectoras].

- Después de la primera inspección visual del área de trabajo, el siguiente paso es limpiar, doblar y desechar las láminas protectoras. Limpie las láminas protectoras con una aspiradora HEPA y con un paño húmedo, si es necesario. Cuando estén limpias, dóblelas (con el lado sucio hacia adentro), selle las láminas y elimínelas con el resto de los desechos. Cuando recoja y doble las láminas protectoras (con el lado sucio hacia adentro), tenga cuidado de no propagar el polvo que pueda quedar.
- A este proceso le sigue la utilización de una aspiradora HEPA y la limpieza con un trapeador húmedo (que se analiza en la siguiente diapositiva) para limpiar todo el polvo que escapó de las láminas protectoras.
- Tenga en cuenta que las láminas que cubren el ingreso al área de trabajo deben permanecer en su lugar hasta después de la limpieza y del desecho de las demás láminas.
- **Enfatice que los trabajadores deben limpiar siempre como mínimo 2 pies más allá del área de trabajo.**
- Comente también por qué la limpieza debe realizarse siempre desde arriba hacia abajo.
- [Respuesta: La limpieza desde arriba hacia abajo es más eficiente y eficaz porque todo el polvo o los escombros desprendidos caerán al piso. Del mismo modo que se limpian los escalones desde arriba hacia abajo, la limpieza del área de trabajo debe realizarse desde arriba hacia abajo para “empujar” todo el polvo sin recoger hasta el piso, que debe limpiarse al final.].

Requisitos de limpieza de interiores



- Recoja todas las cáscaras de pintura y los escombros, y séllelos en bolsas plásticas de alta resistencia.
- Rocíe agua, quite, doble (el lado sucio hacia adentro) y cierre con cinta adhesiva o selle la lámina protectora. Elimine la lámina como si fuera desecho.
- Las láminas plásticas que estén entre habitaciones no contaminadas y áreas de trabajo deben permanecer en su lugar hasta después de la limpieza y remoción de otras láminas.
- Limpie las paredes con una aspiradora aprobada por HEPA o con un paño húmedo y, posteriormente, limpie las demás superficies con estos mismos elementos.
- Limpie 2 pies más allá del área de trabajo contenida.
- Utilice paños desechables o cambie los paños frecuentemente.
- Para alfombrado, utilice la aspiradora aprobada por HEPA con una barra sacudidora.
- Limpie los pisos sin alfombrar con una aspiradora aprobada por HEPA y con una trapeadora húmeda, utilizando un sistema de limpieza de dos baldes o un sistema de limpieza húmedo.



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6-3

Recoja

- Comience siempre sus actividades de limpieza recogiendo las cáscaras de pintura y escombros visibles con un paño húmedo desechable sin dispersar estos elementos; posteriormente, séllelos en una bolsa de alta resistencia.
- Cuando complete su trabajo, rocíe agua a la lámina, dóblela (el lado sucio hacia adentro) y séllela con cinta o en una bolsa de alta resistencia. Doble siempre el lado sucio hacia adentro y selle con cinta o coloque dentro de una bolsa de alta resistencia. Si se coloca en una bolsa de alta resistencia, cierre con un sello tipo cuello de cisne y elimínela junto con el resto de sus desechos. Elimine todas las láminas como desecho utilizando el procedimiento de doblez y eliminación correcto, después de haber limpiado con una aspiradora.

Limpie según un plan

- Comience la limpieza en el extremo más alejado del área de trabajo, retrocediendo hacia la salida.
- Limpie las paredes con una aspiradora aprobada por HEPA o con un paño desechable húmedo: comience por la parte más alta de las paredes, la parte superior de las puertas y sus marcos, y continúe hasta el piso.
- Aspire minuciosamente los demás objetos y superficies del área de trabajo, como artefactos y muebles. La aspiradora aprobada por HEPA debe estar equipada con una barra sacudidora para limpiar alfombrados.
- Limpie todas las superficies y los objetos que quedaron en el área de trabajo, excepto las superficies alfombradas o tapizadas, con un paño húmedo.

Limpie el piso al final

- Limpie con un sistema de limpieza húmedo o con un balde de trapeadora de dos lados.
- Limpie completamente el área de trabajo y el área ubicada hasta 2 pies del área de trabajo.
- Si utiliza el sistema de balde de trapeadora de dos lados, repita el proceso utilizando una cabeza de trapeadora nueva y agua limpia. Recuerde, mantenga siempre un balde para la solución de limpieza y el otro balde para escurrir el paño o la cabeza de la trapeadora. No se olvide de separar el agua de limpieza y el agua enjuagar. Cambie el agua de enjuagar a menudo.
- **Verifique su trabajo**
- Antes de que un renovador certificado inspeccione visualmente el área de trabajo, verifique su trabajo para determinar la presencia de polvo, escombros o residuos. En caso de que aún haya polvo, escombros o residuos, estas condiciones deben corregirse antes de que se realice la inspección visual.

Diapositiva 6-4: Procedimiento de inspección visual

- Lleve a cabo siempre una revisión visual después de completar la limpieza. Si encuentra polvo o escombros, pase nuevamente la aspiradora HEPA y, si fuera necesario, vuelva a hacer una limpieza húmeda. Debe continuar con estos pasos hasta que la obra pase la revisión visual. La diapositiva 6-11 contiene un ejercicio que demuestra la limpieza, inspección visual y verificación de la limpieza. **Este ejercicio es obligatorio.**
- Después de pasar una revisión visual, puede realizar el procedimiento de verificación de limpieza o que se haga un examen de aprobación para revisar su trabajo. En algunos casos, tal vez sea necesario otro muestreo de polvo.
- **Enfatice que la limpieza siempre debe realizarse como si se fuera a llevar a cabo un examen de aprobación después de la limpieza.**

Procedimiento de inspección visual

1. Realizada por un renovador certificado.
2. Póngase cubrezapatos desechables antes de entrar en el área de trabajo.
3. Asegúrese de que la iluminación del área de trabajo sea adecuada.
 - Encienda todas las luces o utilice una linterna brillante de luz blanca.
4. Busque sistemáticamente polvo y escombros en cada superficie horizontal en el área de trabajo y 2 pies más allá.
 - Trabaje desde el área más alejada hacia la entrada.
 - Revise cuidadosamente cada superficie.
5. En caso de que encuentre polvo o escombros visibles, vuelva a limpiar el área de trabajo y repita el paso 4.
6. Después de que haya observado cuidadosamente todas las superficies y no haya encontrado polvo ni escombros, continúe con el procedimiento de verificación de limpieza o aprobación.



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6-4

- La inspección visual después de la limpieza es un requisito según la regla RRP. La inspección visual es sólo el primer paso.
- Un renovador certificado debe realizar una inspección visual cuando se complete la limpieza y antes de la verificación de limpieza o del examen de aprobación del área de trabajo.
- En una inspección visual, el renovador certificado busca cáscaras de pintura, polvo y escombros visibles.
- Asegúrese de que la iluminación sea adecuada durante la limpieza e inspección visual del área de trabajo. El polvo y las pequeñas cáscaras de pintura sólo se pueden ver si la iluminación es adecuada.
- Revise completamente el área de trabajo y el área ubicada 2 pies más allá del área de trabajo en todos los lados de la contención.
- La inspección visual sólo del área de trabajo no verificará que el área de trabajo se haya limpiado adecuadamente: la inspección visual es sólo el primer paso. En muchas ocasiones, el polvo con plomo es invisible para el ojo humano y no se detectará durante una inspección visual. Después de que se haya completado la inspección visual y no haya presencia de polvo ni de escombros, el área de trabajo debe pasar el procedimiento de verificación de limpieza o un examen de aprobación para que el proyecto se complete de acuerdo con la regla RRP.
- Los requisitos normativos o los términos del contrato de renovación determinarán si se realiza un procedimiento de verificación de limpieza o un examen de aprobación.

Diapositiva 6-5: Procedimiento de verificación de la limpieza (CV)

- Esta diapositiva describe en detalle el procedimiento de verificación de limpieza. El instructor debe demostrar paso a paso el procedimiento a los alumnos.
- Diga a los alumnos que pueden quedarse con la tarjeta de verificación de limpieza si completan satisfactoriamente el curso. Estas tarjetas son entregadas por la EPA a proveedores de capacitación acreditados para distribuir las a los renovadores certificados.

Demostración: Según el tiempo disponible, el instructor debe demostrar el proceso de verificación de limpieza durante la charla o como parte del ejercicio práctico. La demostración debe incluir: sujeción de un paño de limpieza desechable húmedo a un dispositivo de aplicación, limpiar un área conocida del piso, retirar el paño y compararlo con la tarjeta de verificación de limpieza.

Ya sea que realice o no la demostración ahora, debe mostrar a los alumnos la tarjeta de verificación de limpieza y asegurarse de que entienden cómo llevar a cabo el proceso de comparación e interpretar sus resultados.

Analice el procedimiento de limpieza de alfombras y enfatice que el procedimiento de verificación de limpieza no se aplica a las alfombras, por lo tanto, se deben tomar medidas adicionales para que no caiga polvo en las alfombras de las áreas alfombradas. Esto puede requerir capas adicionales de plástico como una buena práctica de trabajo para evitar que el polvo caiga en la alfombra cuando se lleve a cabo el trabajo.

Los ejercicios prácticos de este módulo son obligatorios.

Procedimiento de verificación de la limpieza (CV)

- Limpie con un paño los antepechos de las ventanas del área de trabajo. Utilice un paño húmedo desechable por cada antepecho de ventana.
- Limpie los pisos sin alfombrar y las encimeras con paños húmedos desechables. Limpie hasta 40 pies² por paño.
- Compare cada paño con la tarjeta CV (verificación de limpieza). Si el paño está igual o más claro que la tarjeta CV, la superficie ha pasado la verificación de limpieza y no se deben llevar a cabo más acciones.
- Si el paño está más oscuro que la tarjeta CV, vuelva a limpiar y repita el proceso de CV.
- Si el segundo paño húmedo no arroja resultados positivos, espere 1 hora o hasta que las superficies estén secas y limpie con un paño desechable de limpieza blanco cargado con electricidad estática, diseñado para ser utilizado en superficies difíciles de limpiar. Así se completará la verificación de la limpieza.



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6-5

Después de la inspección visual, debe realizarse una de dos actividades. Un renovador certificado debe realizar una verificación de limpieza u otros profesionales certificados deben realizar un examen de aprobación. Los pasos del procedimiento de verificación de limpieza se explican a continuación.

Antepechos de las ventanas

- Con un paño de limpieza desechable húmedo, limpie toda la superficie del antepecho de cada ventana en el área de trabajo.

Limpie las encimeras y los pisos

- Limpie toda la superficie de cada encimera y piso sin alfombrar dentro del área de trabajo con paños de limpieza desechables húmedos. Los pisos deben limpiarse utilizando un sistema de limpieza húmedo que incluya un dispositivo de largo alcance con una cabeza en donde se pueda colocar un paño de limpieza desechable húmedo. El paño debe permanecer húmedo todo el tiempo que se use para limpiar el piso.
- Si la superficie de una encimera o de un piso dentro del área de trabajo mide más de 40 pies cuadrados, la superficie del área de trabajo se debe dividir en secciones relativamente iguales que midan menos de 40 pies cuadrados cada una. Limpie cada sección de superficie separadamente utilizando un nuevo paño de limpieza desechable húmedo.

Interprete el procedimiento de verificación de limpieza.

- Compare cada paño que representa una sección de superficie específica con la tarjeta de verificación de limpieza. Si el paño que se usó para limpiar cada sección de superficie del área de trabajo está igual o más claro que la tarjeta de verificación de limpieza, quiere decir que esa sección de superficie se ha limpiado adecuadamente.
- Si el paño está más oscuro que la tarjeta de verificación de limpieza, vuelva a limpiar esa sección de la superficie y, posteriormente, utilice un nuevo paño de limpieza desechable húmedo para limpiar la sección de superficie. Si el paño está igual o más claro que la tarjeta de verificación de limpieza, quiere decir que esa sección de superficie se ha limpiado adecuadamente.
- Si el segundo paño no es igual y no es más claro que la tarjeta de verificación de limpieza, vuelva a limpiar la superficie y espere 1 hora o hasta que la superficie se haya secado completamente (lo que tome más tiempo). Luego, limpie la sección de superficie con un paño desechable de limpieza blanco cargado con electricidad estática, diseñado para ser utilizado en superficies difíciles de limpiar. El procedimiento de verificación de limpieza se habrá completado ahora y se considerará que la superficie está limpia.
- Cuando se haya completado la verificación de limpieza en todas las superficies del área de trabajo (incluidos los antepechos de las ventanas), se pueden quitar los letreros de advertencia.

Diapositiva 6-6: Examen de aprobación referente al polvo

Comente los siguientes casos, en los que se puede requerir un examen de aprobación referente al polvo (Código de Regulación Federal 745.227(e) (8), parte 40) en lugar del procedimiento de verificación de limpieza:

- El HUD exige un examen de aprobación referente al polvo después de realizar ciertos tipos de trabajo en viviendas de interés que reciben ayuda federal para la vivienda. Pregunte si la propiedad recibe ayuda federal. De ser así, pregunte si se exige un examen de aprobación.
- En algunos estados, la ley exige que una persona capacitada o certificada lleve a cabo un examen de aprobación. Debe informarse de las leyes relativas a los exámenes de aprobación y el trabajo de renovación en su estado y localidad.
- En algunos casos, el propietario puede solicitar que se tomen muestras con paños de limpieza de polvo para buscar peligros relacionados al plomo y garantizar que la limpieza fue eficaz. Si sigue las técnicas de limpieza descritas anteriormente, debe ser capaz de pasar las pruebas de aprobación.
- Enfatice que una vez que comienza el examen de aprobación, si no pasa la aprobación, debe seguir el ciclo al volver a limpiar, realizar la inspección visual y tomar pruebas con paños de limpieza de polvo hasta que los resultados de estos últimos cumplan con las normas de aprobación que rigen el trabajo.

Examen de aprobación referente al polvo

Se puede realizar un examen de aprobación referente al polvo en lugar de una verificación de limpieza.

- Quienes pueden realizar un examen de aprobación son: un inspector de plomo certificado, un evaluador de riesgos o un técnico en muestreo de polvo.
- En el caso de que no se pase el examen de aprobación, la empresa de renovación debe volver a limpiar el área de trabajo hasta que los estándares de polvo cumplan con los estándares estatales, territoriales, tribales y locales.

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Examen de aprobación (pruebas de aprobación referentes al polvo) - Opcional según la regla RRP

- Se pueden realizar pruebas de aprobación referente al polvo para verificar la efectividad de las limpiezas. La aprobación es una opción según la regla de renovación, reparación y pintado de la EPA y, en muchos casos, es un requisito de la regla del Departamento de Vivienda y Urbanismo (HUD, por sus siglas en inglés).
- Las pruebas aprobación referente al polvo se realizan para verificar la efectividad de las limpiezas.
- En algunos casos, se pueden requerir estas pruebas como parte de la "aprobación" (proceso definido por el reglamento para garantizar que un área de trabajo no esté contaminada con polvo de plomo después de completar un trabajo). No se necesita realizar una verificación de limpieza si se requieren pruebas de aprobación referente al polvo al finalizar una renovación. En esos casos, las pruebas de aprobación referente al polvo sólo las puede realizar un inspector de plomo certificado, un evaluador de riesgos o técnico de muestreo de polvo. Se requiere que la empresa renovadora certificada vuelva a limpiar el área de trabajo hasta que los niveles de polvo de plomo en el área de trabajo cumplan los estándares de la aprobación. Algunas leyes estatales, locales y tribales pueden requerir un examen de aprobación después de un trabajo de renovación y remodelación, a niveles distintos de los estándares de permiso federales. La selección de una CV o de un examen de aprobación se basarán en los requisitos normativos o en el contrato de renovación.



La aprobación es un requisito para muchas propiedades anteriores a 1978 que reciben asistencia federal para la vivienda. La agencia que administra la asistencia puede programar el examen de aprobación. La persona que realice este examen debe ser independiente de la empresa de renovación que realice el trabajo. Consulte con su cliente o comuníquese con la agencia que administre la asistencia a la propiedad para averiguar si se necesitará un examen de aprobación al terminar el trabajo y quién la programará. Recuerde: si la propiedad no pasa la aprobación, será necesario volver a limpiar la unidad y realizar otro examen de aprobación. En algunos casos, el costo de volver a limpiar y realizar un examen de aprobación adicional será responsabilidad del contratista. Una buena limpieza la primera vez ahorrará tiempo y dinero

Diapositiva 6-7: Requisitos de limpieza exterior

- El propósito principal de la limpieza después de un trabajo de renovación exterior es no dejar que el polvo se propague más allá del área de trabajo. La atención debe centrarse específicamente en las áreas a las que los niños tienen acceso. Esto incluye el suelo sin cubrir, las áreas de juego, los porches exteriores y los antepechos exteriores de las ventanas.
- Inspecciones siempre visualmente más allá del área de trabajo. Recoja y deseche todas las cáscaras de pintura, el polvo y los escombros que encuentre.

Requisitos de limpieza de exteriores

- Limpie todas las superficies en el área de trabajo hasta que no hayan polvo, escombros ni residuos visibles.
- Elimine el polvo y los escombros sin dispersarlos y séllelos en bolsas plásticas de alta resistencia.
- Quite la lámina plástica protectora y rocíe agua en ella antes de doblarla (el lado sucio hacia adentro).
- Verifique su trabajo.
 - Concéntrese en áreas como los antepechos de ventanas, suelo sin cubrir y áreas de juegos para niños.
 - Busque polvo, escombros y cáscaras de pintura.

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Trabajos exteriores específicos

- En el caso que el trabajo se realice en una escalera o en un porche exterior, debe utilizar una aspiradora aprobada por HEPA, hacer una limpieza húmeda con un trapeador, además de realizar una meticulosa inspección visual. Para estos trabajos, la limpieza puede ser similar a la que se realiza en trabajos interiores. Recoja y elimine todo el polvo y los escombros con el resto de sus desechos.

Recuerde

- El suelo contaminado con plomo puede envenenar a los niños.
- Evite rastrillar y palear en seco, y dispersar el polvo. Sin embargo, es apropiado rastrillar y palear el suelo si éste se ha rociado con agua previamente.

Uso de láminas protectoras

- Recoja el polvo y los escombros en la lámina, y colóquelos en bolsas plásticas.
- Rocíe agua en la lámina, doble el lado sucio hacia adentro y elimine como desecho. Esto es particularmente importante, debido a que no limpiará el suelo con posterioridad. Recuerde que usted es responsable de que no queden polvo ni escombros.
- El renovador certificado debe inspeccionar el plástico después de limpiar, en búsqueda de polvo y escombros. Recuerde que el renovador certificado debe certificar que el área de trabajo se haya limpiado apropiadamente al finalizar el trabajo.
- Las láminas protectoras se deben eliminar como desecho.

Inspección visual

- Se debe realizar una meticulosa inspección visual del área de trabajo, después de cualquier trabajo en exteriores. Todas las cáscaras de pintura, astillas y otros escombros visibles del área de trabajo se deben recoger y eliminar con el resto de sus desechos.
- Centre su inspección visual en áreas como los porches exteriores, áreas de juego del exterior, suelos y terrenos sin cubrir, y antepechos de ventanas, pero no ignore otras áreas.

Diapositiva 6-8: Exterior - Verifique la eficacia de la limpieza

- Comente por qué es necesaria una inspección visual para comprobar la limpieza.
- Mediante la inspección visual se comprueba que no haya polvo y escombros visibles e incluye todas las partes del área de trabajo, las áreas no cubiertas por las láminas protectoras y las áreas 2 pies fuera de la contención.

Exterior – Verifique la eficacia de la limpieza

- **Inspección visual**
 - Un renovador certificado debe realizar una inspección visual después de cualquier limpieza.
 - Determina si existen polvo o escombros visibles en el área de trabajo y más allá de sus límites.
- En caso de que encuentre polvo o escombros, recoja y elimine todas las cáscaras de pintura, el polvo y los escombros que se identifiquen durante la inspección visual.
- Después de volver a limpiar, el renovador certificado debe realizar otra inspección visual.
- Después de que se hayan aprobado todas las áreas, se pueden quitar los letreros de advertencia.



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Verificación del trabajo

- La parte más importante de la verificación de su limpieza después de un trabajo en exteriores es una meticulosa inspección visual. Debe recoger y eliminar todas las cáscaras de pintura, astillas y escombros que se encuentren durante la inspección visual.
- La inspección visual debe realizarse después de completar la limpieza, para verificar su trabajo.
- El renovador certificado debe realizar la inspección visual para determinar si existe la presencia de polvo, escombros o residuos en el área de trabajo o bajo ella, lo que incluye los antepechos de ventanas y el suelo.
- Si hubiese polvo o residuos, limpie nuevamente y repita la inspección visual.
- Los letreros de advertencia se pueden quitar después de aprobar una inspección visual.



Permisos para trabajos en exteriores. Para aprobar permisos de trabajos en exteriores, el Departamento de Vivienda y Urbanismo necesita sólo una evaluación visual del área de trabajo. No se necesitan pruebas de polvo ni de suelo. Si usted sigue los procedimientos que se enseñan en este curso, cumplirá con los requisitos del Departamento de Vivienda y Urbanismo.

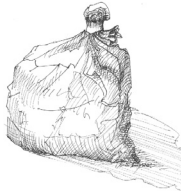
Diapositiva 6-9: Desechado

Disponga de bolsas y cintas adhesivas listas para la demostración, si decide hacerla, y para la actividad práctica obligatoria.

- Los desechos se deben almacenar en un área segura para evitar que los niños las abran y se expongan al polvo con plomo.
- Comente los métodos para tratar las aguas residuales.
- Las aguas residuales producidas durante el trabajo de limpieza con trapeador, limpieza húmeda o rociado de agua no se deben verter en el fregadero o en la tina (porque los contaminarán), en el patio o en el desagüe de aguas pluviales.
- Antes de desecharlas, las aguas residuales debe filtrarse a través de un filtro con un capacidad de filtrado de partículas de 5 micras o mayores, de acuerdo con los reglamentos estatales y locales de aguas residuales.
- Si los reglamentos locales lo permiten, las aguas residuales se pueden verter en el inodoro. Si no está permitido por los reglamentos locales, es posible que deba contener y hacer una prueba del agua, además de comunicarse con la empresa de tratamiento de desechos para que le ayuden en el desechado. Su autoridad local de tratamiento de aguas puede ayudarle a tomar esta decisión.
- Sepa siempre cuáles son los reglamentos federales, estatales y locales con respecto al desechado de las aguas residuales.
- Todos los desechos se deben manipular con precaución y sellar en bolsas plásticas de alta resistencia.
- No llene las bolsas en exceso. Los escombros de renovación son pesados y, en caso de llenar las bolsas en exceso, éstas se pueden romper y lesionar a los trabajadores.
- Las empresas certificadas deben conocer todos los componentes de los desechos producidos en la obra y el método adecuado de desechado. Repetimos, sepa siempre cuáles con los reglamentos federales, estatales y locales con respecto a la eliminación de desechos.

Eliminación

- ¿Qué debo hacer con mis desechos?
- En la obra:
 - Coloque los desechos en bolsas plásticas de alta resistencia.
 - Aplique un sello cuello de cisne a la bolsa con cinta para conductos.
 - Elimine cuidadosamente los desechos de acuerdo con los reglamentos federales y otros que correspondan.
 - Limpie el exterior de la bolsa de desperdicio con una aspiradora aprobada por HEPA antes de sacarla del área de trabajo.
 - Acumule los desechos en un área segura.



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En la obra

- Recoja siempre todos los desperdicios en la obra y en el área de trabajo, colóquelos en una bolsa y séllela. Limpie el exterior de las bolsas de desperdicio con una aspiradora aprobada por HEPA o con un paño antes de sacarlas del área de trabajo. No lleve sus desperdicios a otra habitación o área antes de envolverlos en una bolsa y sellarla. Acumule todos los desechos en un recipiente o contenedor de escombros seguro, hasta su eliminación. Limite el tiempo de almacenamiento en la obra. No transporte los desperdicios en un camión abierto o en un vehículo personal. Algunos ejemplos de desperdicios son las láminas protectoras, los filtros aprobados por HEPA, cáscaras de pintura, polvo, agua sucia, paños usados, cabezas de trapeador usadas, prendas de vestir protectoras, mascarillas de respiración usadas y componentes arquitectónicos. Los componentes arquitectónicos que son demasiado grandes como para colocar en bolsas se deben envolver en plástico y sellar con cinta antes de sacarlos del área de trabajo. Si es necesario, utilice "bolsas dobles" para depositar sus desechos y evitar que se escapen en caso de que la bolsa se corte o se rasgue.

Aguas residuales

- Las aguas que se utilizaron durante la limpieza se deben filtrar y verter en un inodoro, si así lo permiten las reglas locales. No vierta nunca estas aguas en un sumidero, tina, desagüe de aguas pluviales ni en el suelo. En el caso que pueda existir una contaminación de plomo (como cáscaras de pintura y polvo) en el agua, tal vez sea necesario filtrar las aguas residuales con un filtro de 5 micra. **Para mayor información, consulte con su autoridad local de tratamiento de aguas y en los reglamentos federales y estatales.**

Elimine siempre las aguas residuales de acuerdo con los reglamentos federales, estatales y locales.



El Departamento de Vivienda y Urbanismo recomienda que si los componentes de construcción se reciclan o venden, los que se hayan pintado se deben lavar antes de su reinstalación. Si no se lavan los componentes, nunca se debieran reinstalar en una vivienda.

Diapositiva 6-10: Desechado - Información federal, estatal y local

- La eliminación de desechos está regulada conforme a la Ley de Conservación y Recuperación de Recursos (RCRA, por sus siglas en inglés) y diversas leyes y reglamentos locales.
- Algunos desechos generados a partir del trabajo con plomo cumplen con la definición de “desechos peligrosos” porque son tóxicos, corrosivos, combustibles o explosivos. Por lo tanto, es importante que los contratistas separen los desechos en categorías, que probablemente sean peligrosos y no peligrosos. Algunos ejemplos de desechos peligrosos son las cáscaras de pintura, escombros de aspiradora, lodo o desechos químicos de decapantes y filtros HEPA.
- Los generadores de menos de 220 libras de desechos por obra al mes están exentos de los reglamentos de eliminación de desechos federales y de la mayoría de los reglamentos estatales.
- Muchos estados tienen reglamentos más estrictos que los requisitos federales. En consecuencia, es importante que los contratistas sepan cuáles son sus obligaciones conforme a estas leyes y reglamentos.
- Debe saber siempre cuántos desechos genera por obra al mes.
- El sitio Web de la EPA tiene enlaces a información de los estados sobre la eliminación de desechos sólidos y peligrosos en <http://www.epa.gov/epawaste/wyl/stateprograms.htm>.
- En un memorándum a los asesores superiores de políticas de RCRA y las regiones de EPA 1 a 10, con fecha 31 de julio de 2000, la Oficina de desechos sólidos de la EPA estableció que los desechos domésticos de pintura a base de plomo se pueden eliminar como basura doméstica sujeta a los reglamentos estatales aplicables. Para obtener más información, consulte el Apéndice 8 y el sitio Web de la EPA en www.epa.gov/lead/pubs/fslbp.htm. Aunque la EPA considere que los desechos de pintura a base de plomo generados comúnmente durante las renovaciones y pintura residenciales son desechos domésticos, algunos estados no han adoptado esta interpretación. Hasta que los estados adopten la interpretación de la EPA, pueden seguir regulando los desechos de pintura a base de plomo como posiblemente peligrosos, si se generan en cantidades lo suficientemente grandes.

Eliminación – Información federal, estatal y local

- De acuerdo con la ley federal:
 - En las viviendas: Los desperdicios se deben eliminar como desechos domésticos normales.
 - En instalaciones no residenciales habitadas por niños: Si los desperdicios superan las 220 lb, los escombros se deben considerar como peligrosos.
- ¡Verifique siempre los requisitos locales!

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6-10

Problemas con la eliminación de desechos

Debido a que la EPA considera la mayoría de las renovaciones y remodelaciones residenciales como "mantenimiento residencial de rutina", los desechos que se generan durante estas actividades están clasificados como desechos sólidos no peligrosos y se deben llevar a un vertedero de desechos sólidos. **Esto no es aplicable para instalaciones comerciales, públicas u otras instalaciones no residenciales ocupadas por niños.**

- En el caso que usted genere algún desecho peligroso, debe determinar si genera más de 220 libras de desechos peligrosos mensuales por obra. Si tiene menos de 220 libras mensuales por obra, trate sus desechos como si fueran desechos sólidos y no peligrosos. Si genera más de 220 libras de desechos peligrosos, debe comunicarse con sus autoridades estatales y locales para averiguar cómo eliminar estos desechos apropiadamente.
- Algunos ejemplos **posibles** de **desechos peligrosos** son: cáscaras de pintura; escombros de aspiradora; lodo o desechos químicos de las máquinas extractoras y; filtros aprobados por HEPA.
- Algunos ejemplos **posibles** de **desechos no peligrosos** pueden ser: prendas de vestir desechables; filtros de mascarillas de respiración; alfombrados; láminas protectoras y; componentes sólidos sin pintura descascarada.
- Todos los desechos se deben sellar en bolsas plásticas de alta resistencia y se deben manipular con precaución.
- Los componentes arquitectónicos grandes se deben envolver y sellar con láminas plásticas para luego eliminarlos junto con otros desechos.
- **Verifique siempre los requisitos federales, estatales y locales antes de eliminar los desechos. Algunos estados han promulgado requisitos de gestión y eliminación de desechos más estrictos que los reglamentos federales. Debe averiguar cómo los requisitos federales, estatales y locales afectan la gestión y eliminación de desechos de renovación en su área.**

Diapositiva 6-11: Ejercicio: Procedimiento de limpieza y verificación de la limpieza

Prepare este ejercicio por adelantado:

Tenga listos las herramientas y los artículos adecuados. Las herramientas y los artículos necesarios incluyen baldes, trapeadores, agua, detergente, una aspiradora HEPA, paños, láminas plásticas, bolsas plásticas, paños de limpieza desechables y tarjetas de verificación de limpieza. Consulte los conjuntos de destrezas N° 7 y 11 para conocer una lista completa de materiales y artículos.

- Necesitará tener acceso a agua.
- Espolvoree cada área de trabajo con almidón de maíz o talco para bebés para simular polvo.
- Consulte los conjuntos de destrezas N° 7 y 11 a continuación y el Apéndice 6 para obtener una lista de las destrezas que los asistentes deben practicar.
- Varíe el color y tipo de las superficies del área de trabajo si es posible.

Al realizar este ejercicio:

- Indique a los asistentes que permanezcan en sus grupos.
- Circule mientras trabajan, para cerciorarse de que el trabajo se realice de manera correcta.
- Guíelos cuanto sea necesario para corregir cualquier comportamiento incorrecto.
- Déles una advertencia de cinco minutos.
- Cuando se acabe el tiempo para cada conjunto de destrezas, dígales que se detengan. Apéguese al horario.

Opción

También puede realizar este ejercicio de limpieza más adelante en el curso, como parte de un módulo práctico más amplio e integral, según se describe en la planificación de clase 2 en la *Nota para el instructor sobre cómo usar este programa de estudios* en la introducción. El módulo práctico integral combina los componentes prácticos de los módulos 4, 5 y 6.

Nota: En algunas instalaciones de capacitación, como hoteles, puede que no tenga acceso a agua en la sala de capacitación. En estos casos, indique a los asistentes paso a paso del proceso, practicando el orden de los pasos: uso de la aspiradora HEPA, lavado con balde de dos lados, limpieza desde arriba hacia abajo, etc. Como demostración de lo difícil que es limpiar el polvo, considere espolvorear almidón de maíz o talco para bebés en una mesa y experimente con distintos métodos para limpiarlo: pala y escoba, aspiradora HEPA, paño húmedo, etc.

Ejercicio: Procedimiento de limpieza y verificación de la limpieza

- Trabaje en grupos de 2 a 6 personas.
- Tareas:
 - Conjunto de destrezas N 7: Limpieza final interior
 - Conjunto de destrezas N 8: Limpieza final exterior
 - Conjunto de destrezas N 9: Recogida de desechos en bolsas
 - Conjunto de destrezas N 10: Inspección visual
 - Conjunto de destrezas N 11: Procedimiento de verificación de limpieza
- Seleccione las herramientas y los suministros que necesite para limpiar el área de trabajo.
- Limpie su área de trabajo.
- Tiene 40 minutos.

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6-11

Ejercicio: Limpieza y verificación de limpieza

Este ejercicio le brinda una oportunidad para demostrar las técnicas de limpieza, evaluación visual, verificación de limpieza y recogida apropiada de desechos en bolsas. Esta diapositiva brinda una instrucción básica.

- Permanezcan en su grupo de 2 a 6 alumnos, en su área de trabajo.
- Seleccionen las herramientas correctas. Algunas de las herramientas disponibles son baldes, trapeadoras, agua, detergente, aspiradoras aprobadas por HEPA, paños, láminas plásticas, bolsas plásticas, cinta, etc.
- Elimine el polvo.
- Deposite los desechos en bolsas.
- Verifique su trabajo.
- Verifique la limpieza.

Conjunto de destrezas N° 7: Limpieza final de interiores

Tiempo: 10 minutos

9 de febrero

Artículos necesarios:

- Lámina plástica de alta resistencia
- Cinta adhesiva para conductos
- Aspiradoras HEPA con accesorios y una barra sacudidora eléctrica
- Pulverizador de jardín
- Herramienta cortadora (por ejemplo, navaja, cuchillo cortacartón o tijeras)
- Toallas de limpieza húmedas desechables
- Bolsas de desperdicio plásticas de alta resistencia
- Balde para trapeador de dos lados con escurridora (o equivalente); cabezas desechables del trapeador; trapeador con mango largo en donde se puedan colocar los paños de limpieza desechables; o un sistema de limpieza húmedo.

Propósito: El propósito de este ejercicio práctico es mostrar a los alumnos los pasos correctos para limpiar el área de trabajo interior después de terminar el trabajo y antes de la inspección visual y procedimiento de verificación de limpieza o examen de aprobación.

Nota para el instructor: Lea el propósito de esta actividad a los alumnos. Recuérdeles que deben intentar limpiar completamente todo el polvo y escombros visibles del área de trabajo y que éste actividad será revisada. Recuérdeles que se puede alcanzar este nivel de limpieza, pero que requiere de atención y ejecución cuidadosas.

- El instructor del curso debe explicar todos los pasos que se incluyen en la limpieza del área de trabajo. Enfatice a los alumnos que no existen atajos para aprobar la inspección visual.
- Los equipos de protección personal recomendados durante las actividades de limpieza final constan de un conjunto de overoles, guantes y zapatos desechables.
- Si la lámina plástica no está en su lugar debido a ejercicios previos, coloque láminas plásticas en el piso o alfombra.

Evaluación de los alumnos: Observe a cada alumno seguir los pasos en la siguiente página. Realice correcciones y haga sugerencias a medida que los ejercicios avancen y determine si se necesita más práctica. Los alumnos deben completar todos los pasos obligatorios para ser "Competentes". Evalúe el trabajo de cada alumno y, después de que todos hayan completado correctamente los elementos obligatorios del ejercicio, registre el rendimiento como "Competente" en el campo del registro de progreso del participante, que corresponda al conjunto de destrezas N° 7 y al nombre del alumno en particular.

Conjunto de destrezas N° 7: Limpieza final de interiores - continuación

Práctica de destrezas:

- Paso 1: Envuelva y selle, o coloque en bolsas todos los componentes y otros materiales grandes, y luego retírelos del área de trabajo.*
- Paso 2: Limpie la lámina plástica con una aspiradora HEPA (este procedimiento no es obligatorio, pero es más rápido que limpiar el polvo y los escombros a mano). Rocíe agua en la lámina plástica y doble el lado sucio hacia adentro. Selle los bordes de la lámina plástica plegada con cinta adhesiva o colóquela en una bolsa plástica de alta resistencia. Deseche la lámina protectora.*
- Paso 3: Retire todos los desechos del área de trabajo y colóquelos en recipientes de desechos adecuados.*
- Paso 4: Limpie todas las superficies dentro del área de trabajo y en un espacio de 2 pies más allá de esta área hasta que no quede polvo ni escombros. Comience a limpiar desde la parte superior de las paredes en dirección al piso, use una aspiradora HEPA o una toalla húmeda en todas las superficies de las paredes del área de trabajo. Limpie con una aspiradora HEPA todas las superficies restantes del área de trabajo, incluidos muebles y accesorios. Use el accesorio para tapiz y limpie las superficies de las ventanas y la herramienta para fisuras en los bordes de las paredes. Use la aspiradora HEPA con una barra sacudidora para limpiar la alfombra. Trabaje desde el extremo más alejado del área de trabajo hacia la entrada, asegurándose de no pisar las áreas que ya se limpiaron.*
- Paso 5: Luego, limpie todas las superficies y objetos restantes del área de trabajo, salvo las superficies alfombradas y tapizadas, con toallas de limpieza húmedas desechables. Trapee también los pisos que no tienen alfombras con un sistema de limpieza de dos baldes o un sistema de limpieza húmedo. Trabaje desde el extremo más alejado del área de trabajo hacia la entrada, asegurándose de no pisar las áreas que ya se limpiaron. Para las áreas alfombradas, lleve a cabo una segunda pasada con la aspiradora HEPA con la barra sacudidora en lugar de limpiar con una toalla de limpieza húmeda.*
- Paso 6: Si la propiedad está regulada por el HUD, repita el paso 4 para las paredes, encimeras y pisos y luego siga con el paso 7. De lo contrario, continúe con el paso 7.
- Paso 7: Después de finalizar los procedimientos de limpieza, revise su trabajo. Lleve a cabo una inspección visual detenida del área de trabajo en busca de polvo y escombros visibles. Si encuentra polvo y escombros visibles, repita los pasos 4 y 5, según sea necesario, para asegurarse de que no queden residuos y vuelva a revisar su trabajo con una inspección visual completa del área. Cuando no detecte residuos de ningún tipo, continúe con el paso 8.*
- Paso 8: Notifique al renovador certificado a cargo del proyecto que el área de trabajo está lista para la inspección visual.*

*Indica las destrezas obligatorias que se deben lograr para obtener una calificación de "Competente".

Conjunto de destrezas N° 8: Limpieza final de exteriores

Tiempo: 10 minutos

9 de febrero

Artículos necesarios:

- Lámina plástica de alta resistencia
- Bolsas de desperdicio plásticas de alta resistencia
- Cinta adhesiva (conductos, para pintores y de protección)
- Herramienta cortadora (por ejemplo, navaja, cuchillo cortacartón o tijeras)
- Linterna.
- Toallas de limpieza húmedas desechables
- Aspiradora HEPA con accesorios
- Balde para trapeador de dos lados con escurridora (o equivalente); cabezas desechables del trapeador; trapeador con mango largo en donde se puedan colocar los paños de limpieza desechables; o un sistema de limpieza húmedo.

Propósito: El propósito de este ejercicio práctico es mostrar a los alumnos los pasos correctos para limpiar el área de trabajo exterior después de terminar el trabajo y antes de la inspección visual (si es necesario) y procedimiento de verificación de limpieza o examen de aprobación.

Nota para el instructor: *Lea el propósito de esta actividad a los alumnos. Recuérdeles que deben intentar limpiar todo el polvo y escombros visibles del área de trabajo y que éste será revisado. Recuérdeles que se puede alcanzar este nivel de limpieza, pero que requiere de atención y ejecución cuidadosas.*

- El instructor del curso debe explicar todos los pasos que se incluyen en la limpieza del área de trabajo. Enfatice a los alumnos que no existen atajos para aprobar la inspección visual.
- Los equipos de protección personal recomendados durante las actividades de limpieza constan de un conjunto de overoles, guantes y zapatos desechables.
- Si la lámina plástica no está en su lugar debido a ejercicios previos, coloque láminas plásticas en el piso o alfombra.

Evaluación de los alumnos: Observe a cada alumno seguir los pasos en la siguiente página. Haga correcciones y sugerencias a medida que los ejercicios avancen y determine si se necesita más práctica. *Opción: Solicite a los alumnos que digan los pasos a medida que trabajan.* Los alumnos deben completar todos los pasos obligatorios para ser "Competentes". Evalúe el trabajo de cada alumno y, luego que todos hayan completado correctamente los elementos obligatorios del ejercicio, registre el rendimiento como "Competente" en el campo del registro de progreso del participante, que corresponda al conjunto de destrezas N° 8 y al nombre del alumno en particular.

Conjunto de destrezas N° 8: Limpieza final de exteriores - continuación

Práctica de destrezas:

- Paso 1: Envuelva y selle, o coloque en bolsas todos los componentes y otros materiales grandes, y luego retírelos del área de trabajo.*
- Paso 2: Limpie la lámina plástica con una aspiradora HEPA (este procedimiento no es obligatorio, pero es mucho más rápido que limpiar el polvo y los escombros a mano). Rocíe agua en la lámina plástica y doble el lado sucio hacia adentro. Selle los bordes de la lámina plástica con cinta o colóquela en una bolsa plástica de alta resistencia. Elimine la lámina plástica.*
- Paso 3: Retire todos los desechos del área de trabajo y colóquelos en recipientes de desechos adecuados.*
- Paso 4: Limpie todas las superficies del área de trabajo y de los espacios a 2 pies alrededor de ésta, hasta que no quede polvo, escombros ni cáscaras de pintura.*

Procedimiento de limpieza sugerido para superficies exteriores que se pueden limpiar:

Comience a limpiar desde la parte superior de las paredes en dirección al piso, con una aspiradora HEPA o con una toalla húmeda por todas las superficies que se puedan limpiar en el área de trabajo, incluidos muebles y accesorios. Use la aspiradora HEPA con el accesorio para tapiz para las ventanas y la herramienta para fisuras en las paredes. Trabaje desde el extremo más alejado del área de trabajo hacia la entrada, asegurándose de no pisar las áreas que ya se limpiaron.

- Paso 5: Después de finalizar la limpieza, revise su trabajo. Lleve a cabo una inspección visual detenida del área de trabajo en busca de polvo, escombros o cáscaras de pintura visibles sobre las superficies difíciles de limpiar y busque los mismos desechos en el suelo debajo de la lámina protectora del área de trabajo. Si encuentra polvo o escombros, vuelva a limpiar y revise nuevamente su trabajo con una inspección visual completa del área de trabajo. Cuando no detecte desechos de ningún tipo, continúe con el paso 6.*
- Paso 6: Notifique al renovador certificado a cargo del proyecto que el área de trabajo está lista para la inspección visual.*

*Indica las destrezas obligatorias que se deben lograr para obtener una calificación de "Competente".

Conjunto de destrezas N° 9: Recogida de desechos en bolsas

Tiempo: 10 minutos

9 de febrero

Artículos necesarios:

- Láminas plásticas usadas y equipo de protección personal usado (de los ejercicios anteriores)
- Polvo y escombros (de los ejercicios anteriores)
- Lámina plástica de alta resistencia
- Bolsas de desperdicio plásticas de alta resistencia
- Herramienta cortadora (por ejemplo, navaja, cuchillo cortacartón o tijeras)
- Aspiradora HEPA con accesorios
- Cinta adhesiva para conductos

Propósito: El propósito de este ejercicio práctico es mostrar a los alumnos los pasos correctos para depositar en bolsas los desechos y aplicar el sello de cuello de cisne a éstas últimas, envolver trozos grandes de escombros y eliminar los desechos del área de trabajo.

Nota para el instructor: *Lea el propósito de esta actividad a los alumnos.*

- **Demostración:** El instructor del curso debe demostrar la técnica correcta del sello de cuello de cisne a las bolsas de desechos.
- **Carrera de relevos para la recogida de desechos en bolsas:** Este ejercicio puede realizarse como una carrera de relevos. Divida a los alumnos en grupos y haga que cada miembro seleccione una bolsa de desechos, que la cargue con material simulado, aplique el sello de cuello de cisne, aspire el exterior de la bolsa y la entregue como finalizada en el área de almacenamiento simulada. Esto permitirá que los instructores observen la competencia en el método de cierre de bolsas y aplicación de la técnica de cuello de cisne; además será una forma entretenida de aprender para los alumnos.

Evaluación de los alumnos: Observe a cada estudiante efectuar el sello de cuello de cisne en una bolsa de desechos. Los alumnos deben completar todos los pasos obligatorios para ser "Competentes". Cuando el alumno haya completado exitosamente todos los elementos requeridos del ejercicio, registre el rendimiento como "Competente" en el campo del registro de progreso del participante, que corresponda al conjunto de destrezas N° 9 y al nombre del alumno en particular.

Conjunto de destrezas N° 9: Recogida de desechos en bolsas - continuación

Práctica de destrezas:

Nota: Este ejercicio requiere que los materiales de desecho generados durante los ejercicios se almacenen en bolsas sin sellar o en láminas de plástico.

Procedimiento de cuello de cisne para bolsas de desechos:

- Paso 1: Cada alumno debe recibir una bolsa de desechos y colocar materiales en su interior, los cuales se eliminarán como desechos simulados. No llene las bolsas en exceso.
- Paso 2: Tome con una mano el extremo abierto de la bolsa justo debajo de la abertura.*
- Paso 3: Tuerza la bolsa de modo que el cuello de ésta gire en la misma dirección y forme una columna de 8 a 10 pulgadas.*
- Paso 4: Pliegue la columna torcida sobre sí misma, de forma similar a como cuando pliega una manguera para cortar el paso de agua.*
- Paso 5: Tome el cuello plegado de la bolsa con una mano y enrolle cinta adhesiva alrededor de él para asegurar el plegado en su lugar.*
- Paso 6: Ahora enrolle la cinta alrededor de 2 a 3 pulgadas desde la parte superior del pliegue, varias veces, de modo que la bolsa no pueda abrirse. El cuello de la bolsa luce como el cuello de un cisne plegado sobre sí mismo (sello de cuello de cisne).*
- Paso 7: Use la aspiradora HEPA para eliminar el polvo que provenga del interior de la bolsa. Traslade las bolsas fuera del área de trabajo al contenedor de desechos adecuado.*

Envoltura de trozos grandes de escombros:

- Paso 1: Corte un trozo de plástico, de modo que con él pueda envolver los escombros que se van a eliminar.*
- Paso 2: Cuando estén envueltos en plástico, aplique cinta adhesiva a las juntas del paquete.*
- Paso 3: Enrolle cinta alrededor del ancho del paquete en tres puntos para evitar que se desenrede.*
- Paso 4: Use la aspiradora HEPA para retirar el polvo del exterior del paquete y trasladar los escombros envueltos fuera del área de trabajo al contenedor de desechos adecuado.*

*Indica las destrezas obligatorias que se deben lograr para obtener una calificación de "Competente".

Conjunto de destrezas N° 10: Inspección visual

Tiempo: 5 minutos

9 de febrero

Artículos necesarios:

- Cubrezapatos desechables
- Linterna

Propósito: El propósito de este ejercicio práctico es mostrar a los alumnos los pasos correctos para llevar a cabo una inspección visual del área de trabajo antes de realizar el procedimiento de verificación de limpieza.

Nota para el instructor: Lea el propósito de esta actividad a los alumnos. Recuérdeles que deben tratar de verificar que se haya limpiado todo el polvo y escombros visibles del área de trabajo. Recuérdeles que se puede alcanzar este nivel de limpieza, pero que requiere de atención y ejecución cuidadosa. Léales la siguiente nota.

Nota para los alumnos: Si se va a realizar un examen de aprobación, el renovador certificado tiene que realizar de todas formas la inspección visual antes de llevar a cabo el examen de aprobación de dos partes. El examen de aprobación consta de una inspección visual separada y una prueba de toalla de limpieza del polvo. El examen de aprobación de dos partes es efectuado por un inspector de plomo certificado, evaluador de riesgos de plomo certificado o técnico en muestreo de polvo certificado.

Demostración: El instructor de curso debe explicar todos los pasos que se incluyen en la aprobación visual del área de trabajo. Enfatique a los alumnos que no existen atajos para aprobar la inspección visual.

Evaluación de los alumnos: Observe a cada alumno llevar a cabo una inspección visual y escuche a medida que señalen problemas que deban resolverse. Los alumnos deben completar todos los pasos obligatorios para ser "Competentes". Evalúe el trabajo de cada alumno y, después de que todos hayan completado correctamente los elementos obligatorios del ejercicio, registre el rendimiento como "Competente" en el campo del registro de progreso del participante, que corresponda al conjunto de destrezas N° 10 y al nombre del alumno en particular.

Conjunto de destrezas N° 10: Inspección visual - continuación

Práctica de destrezas:

Paso 1: Colóquese cubrezapatos desechables, de modo que no saque ni ingrese polvo ni escombros al área de trabajo.*

Paso 2: Encienda todas las luces disponibles en el área de trabajo. Lleve consigo una linterna de luz blanca para asegurarse de contar con una iluminación adecuada.*

Paso 3: Busque sistemáticamente en cada superficie horizontal del área de trabajo, avanzando desde el punto más alejado de la entrada sin recorrer sus pasos. Acérquese a las superficies que inspeccione.*

Nota: Recuerde que ésta es una inspección visual, pero en la verificación de limpieza se limpiará el polvo con una toalla para realizar una comparación con la tarjeta de verificación de limpieza. Si sospecha que hay una superficie sucia, haga que la vuelvan a limpiar con un paño húmedo nuevo.

Paso 4: En caso de que encuentre polvo o escombros visibles, vuelva a limpiar el área de trabajo y repita el paso 3.*

Paso 5: Cuando haya inspeccionado cuidadosamente todas las superficies y no haya encontrado polvo ni escombros, continúe con el procedimiento de verificación de limpieza del conjunto de destrezas N° 11.*

*Indica las destrezas obligatorias que se deben lograr para obtener una calificación de "Competente".

Conjunto de destrezas N° 11: Procedimiento de verificación de limpieza

Tiempo: 15 minutos

9 de febrero

Artículos necesarios:

- Talco para bebés o almidón de maíz
- Cubrezapatos desechables
- Linterna
- Guantes desechables que no sean de látex
- Toallas de limpieza húmedas desechables
- Tarjeta de verificación de limpieza; cada alumno tomará y guardará una
- Paños de limpieza desechables, de color blanco y cargados de manera electrostática, diseñados para limpiar superficies duras
- Trapeador con mango largo, diseñado para toallas de limpieza húmedas
- Cinta métrica
- Reloj de pared o pulsera

Propósito: El propósito de este ejercicio práctico es mostrar a los alumnos los pasos correctos para llevar a cabo el procedimiento de verificación de limpieza.

- El instructor del curso debe explicar todos los pasos que se incluyen en la realización del procedimiento de verificación de limpieza.

Evaluación de los alumnos: Observe a cada alumno llevar a cabo el procedimiento de verificación de limpieza y escuche a medida que señalen problemas que deban ser solucionados. Los alumnos deben completar todos los pasos obligatorios para ser "Competentes". Evalúe el trabajo de cada alumno y, después de que todos hayan completado correctamente los elementos obligatorios del ejercicio, registre el rendimiento como "Competente" en el campo del registro de progreso del participante, que corresponda al conjunto de destrezas N° 11 y al nombre del alumno en particular.

Conjunto de destrezas N° 11: Procedimiento de verificación de limpieza – continuación

Práctica de destrezas:

Paso 1: Cuando ingrese en el área de trabajo, colóquese cubrezapatos desechables, de modo que no saque ni ingrese polvo ni escombros al área de trabajo.*

Paso 2: Encienda todas las luces disponibles en el área de trabajo. Asegúrese de tener la iluminación necesaria.*

Para los antepechos de las ventanas:

Paso 3: Con los guantes puestos, limpie cada antepecho de ventana del área de trabajo con una toalla de limpieza blanca y húmeda.*

Paso 4: Compare la toalla de limpieza con la tarjeta de verificación de limpieza. Si la primera toalla es igual o más blanca (más clara) que la tarjeta de verificación, el antepecho de la ventana está limpio; siga con el paso 6. Si la primera toalla de limpieza no es igual ni más blanca (más clara) que la tarjeta de verificación de limpieza, vuelva a limpiar el antepecho de la ventana y repita el paso 3 y luego siga con el paso 5 (omite este paso).*

Paso 5: Compare la segunda toalla de limpieza con la tarjeta de verificación de limpieza. Si la segunda toalla es igual o más blanca (más clara) que la tarjeta de verificación de limpieza, el antepecho de la ventana está limpio; siga con el paso 6. Si la segunda toalla de limpieza no es igual ni más blanca (no más clara) que la tarjeta de verificación de limpieza, espere una hora o hasta que la superficie húmeda se seque (para propósitos de este ejercicio no deberá esperar). Luego, vuelva a limpiar la superficie con un paño de limpieza seco, blanco, cargado con electricidad estática desechable diseñado para uso en superficies difíciles de limpiar. El antepecho de la ventana estará limpio y habrá finalizado el procedimiento de verificación de limpieza.*

Para pisos y encimeras:

Paso 6: Con los guantes puestos, limpie cada piso o encimera del área de trabajo con una toalla de limpieza blanca y húmeda. Para los pisos, use un trapeador con mango largo diseñada para contener una toalla de limpieza. Para los pisos, limpie no más de 40 pies cuadrados con cada toalla. Para las encimeras, limpie la superficie completa de la encimera hasta 40 pies cuadrado con cada toalla.*

Paso 7: Compare cada toalla de limpieza de piso y encimera con la tarjeta de verificación de limpieza. Si la primera toalla es igual o más blanca (más clara) que la tarjeta de verificación, el piso o la encimera están limpios. Si la primera toalla no es igual ni más blanca (no más clara) que la tarjeta de verificación de limpieza, vuelva a limpiar la sección del piso o de la encimera, limpie la sección del piso o encimera con una toalla húmeda limpia y repita el paso 6 para dicha sección y siga con el paso 8 (omite este paso).*

Paso 8: Compare la segunda toalla de limpieza del piso o encimera con la tarjeta de verificación de limpieza. Si la segunda toalla es igual o más blanca (más clara) que la tarjeta de verificación, la sección del piso o de la encimera se ha limpiado correctamente. Si la segunda toalla de limpieza no es igual ni más blanca (no más clara) que la tarjeta de verificación, espere una hora o hasta que se seque la superficie húmeda (para este ejercicio no deberá esperar). Luego, vuelva a limpiar la superficie con un paño de limpieza seco, blanco, cargado con electricidad estática desechable diseñado para uso en superficies difíciles de limpiar. La sección del piso o encimera estará limpia y habrá finalizado el procedimiento de verificación de limpieza.*

Paso 9: Cuando la verificación de limpieza muestre que todas las áreas se han limpiado correctamente, retire los letreros y las barreras críticas de los alrededores del área de trabajo.*

*Indica las destrezas obligatorias que se deben lograr para obtener una calificación de "Competente"

Diapositiva 6-12: Ahora ya saben...

- Revise la siguiente diapositiva con los alumnos para recordarles lo que aprendieron durante este módulo.

Ahora ya saben...

- **Cómo limpiar el área de trabajo sistemáticamente.**
- **Cómo verificar la efectividad de la limpieza.**
- **Cómo realizar una inspección visual del área de trabajo.**
- **Cómo realizar el procedimiento de verificación de la limpieza.**
- **Cómo preparar el área de trabajo para las pruebas de aprobación.**
- **Cómo eliminar los desechos de manera apropiada.**

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6-12

La información de la diapositiva anterior resume los temas que se abordaron en este módulo.

Módulo 7: Administración de Registros

Descripción general de este módulo: La siguiente tabla resume el contenido y los métodos de enseñanza de este módulo. Es para su propia referencia. No trate este punto con los asistentes.

Módulo 7: Administración de registros		20 minutos
• 7-1: Módulo 7: Administración de registros • 7-2: Registros del lugar de trabajo • 7-3: Administración de registros: Registros educativos previos a la renovación • 7-4: Confirmación de muestra del recibo de <i>Renovar correctamente</i> • 7-5: Administración de registros: Capacitación para el trabajador no certificado • 7-6: Administración de registros: Informes del equipo de pruebas • 7-7: Administración de registros: Informes posteriores a la renovación • 7-8: Ahora ya saben...		Mensaje clave: Los registros deben estar completos, exactos y organizados. <u>Notas:</u> Este módulo corresponde a una charla. Los asistentes averiguarán qué registros deben conservar. Preparación para este módulo: Revise los materiales con anticipación, para familiarizarse con ellos.

Diapositiva 7-1: Módulo 7: Administración de registros

- El propósito de este módulo es enseñar al renovador certificado y a los gerentes de la empresa certificada, la forma de mantener los registros obligatorios del trabajo y determinar los registros que se deben conservar.
- Anuncie el módulo y pase rápidamente a la siguiente diapositiva.

Módulo 7: Administración de registros

Descripción general:

- En esta sección obtendrá información acerca de los registros que se requieren para cada trabajo.
- Los registros se deben conservar y poner a disposición de la EPA, cuando lo solicite, durante 3 años después de finalizar la renovación.

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7-1

El lenguaje de la regla RRP es:

"Las empresas que realicen renovaciones deben conservar todos los registros necesarios para demostrar el cumplimiento y ponerlos a disposición de la EPA, en caso que lo solicite... durante tres años después de finalizar la renovación".



El Departamento de Vivienda y Urbanismo (HUD, por sus siglas en inglés) también tiene un requisito de retención de registros de 3 años para los anuncios, las evaluaciones y los informes de permiso o reducción de plomo (Código de Regulación Federal 24 35.175).

Diapositiva 7-2: Registros del lugar de trabajo

- Comente los temas a tratar de manera breve.
- Enfatice que las copias del certificado de capacitación del renovador certificado y la certificación de la empresa certificada, al igual que la documentación de capacitación para trabajadores no certificados (si corresponde), se deben conservar en la obra cuando se trabaja en viviendas de interés o instalaciones ocupadas por niños, donde se altera la pintura a base de plomo, o aquella que se cree que contiene plomo. Asegúrese de que los alumnos comprendan que se debe conservar el resto de los documentos que aquí se indican, pero no se deben conservar en la obra.

Registros del lugar de trabajo

- Copias de la empresa certificada y certificaciones del renovador certificado (se deben conservar en la obra).
- Cuando se utiliza un kit de pruebas reconocido por la Agencia de Protección Ambiental (EPA, por sus siglas en inglés), se pueden realizar pruebas de la pintura a base de plomo.
- Comprobante de educación del propietario u ocupante antes de la renovación.
- Certificación de renuncia voluntaria por parte del propietario u ocupante, cuando estos califican y deciden renunciar voluntariamente a los requisitos de las prácticas de trabajo seguras con el plomo.
- Documentación de capacitación para el trabajador no certificado (se debe conservar en la obra).



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7-2

La empresa certificada debe designar (por escrito) un renovador certificado para que sea responsable de cada trabajo de renovación en viviendas de interés o en instalaciones habitadas por niños. Ésta es la persona correcta para organizar y conservar los registros del lugar de trabajo durante el trabajo. En el lugar de trabajo, los registros se deben conservar en un lugar seguro, limpio y seco. Luego que finalice el proyecto, se pueden completar algunos registros con otros registros de la empresa, mientras que puede que otros se deban trasladar al siguiente lugar de trabajo.

Registros que se deben conservar en el lugar se incluyen:

- Copia de las certificaciones de la empresa y de los renovadores certificados.
- Documentación de capacitación para el trabajador no certificado.

Registros que se deben conservar para documentar el trabajo:

- Copia de las certificaciones de la empresa y de los renovadores certificados.
- Documentación de capacitación para el trabajador no certificado.
- Designación de un renovador certificado en el trabajo.
- La información y los resultados de uso de los kits de pruebas reconocidos por la EPA que proporcionó un renovador certificado, que actuó como representante de la empresa certificada en la obra y que realizó pruebas para encontrar la presencia de pintura a base de plomo en las superficies que se verán afectadas por la renovación.
- Los informes de inspección de pintura a base de plomo que proporciona un inspector de plomo certificado o un evaluador de riesgos del plomo certificado, si corresponde.
- Comprobante de educación del propietario u ocupante antes de la renovación
- Certificación de renuncia voluntaria por parte del propietario u ocupante, cuando estos califican y deciden renunciar voluntariamente a los requisitos de las prácticas de trabajo seguras con el plomo.
- Cualquier otro documento firmado y con fecha del propietario o los residentes, sobre cómo llevar a cabo la renovación y los requisitos en la regla RRP de la EPA.
- Todos los informes requeridos de la empresa certificada y del renovador certificado según la regla RRP de la EPA.

Diapositiva 7-3: Administración de registros: Registros educacionales previos a la renovación

- Comente los temas a tratar de manera breve.

Administración de registros: Registros educacionales previos a la renovación

En viviendas de interés - Unidades individuales:

- Debe obtener un comprobante de recibo por escrito, por parte de un ocupante adulto o un comprobante de entrega/entrega insatisfactoria de *Renovar correctamente*, o:
- Comprobante de recibo por escrito de *Renovar Correctamente* por parte del propietario o un comprobante de correo (si es por correo, envío 7 días antes de la renovación).

En viviendas de interés - Áreas comunes (Dos opciones):

- Proporcione notificaciones por escrito a cada unidad afectada y ponga a disposición un folleto de *Renovar Correctamente* en caso que lo soliciten; o:
- Conserve copias o fotografías de los letreros y anuncios que se instalen.

En instalaciones habitadas por niños

- Comprobante de recibo por escrito de *Renovar correctamente*, por parte del propietario o un comprobante de correo requerido (si es por correo, envío 7 días antes de la renovación).
- Conserve el comprobante de recibo por parte del propietario o un representante adulto, o certifique por escrito que se entregó el folleto *Renovar correctamente* a la instalación.
- Conserve copias o fotografías de los letreros y anuncios que se instalen.



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Además de los requisitos anteriores, conserve todos los registros de la actividades educacionales previas a la renovación que contengan información sobre lo siguiente:

En viviendas de interés – Unidades individuales:

- Cuándo se intentó tomar contacto con el propietario y los habitantes.
- Comprobante por escrito del momento en que se realizaron los contactos.

En viviendas de interés - Áreas comunes:

- Documentación de cuándo y a quién se enviaron las notificaciones por escrito de cada unidad afectada.
- Qué avisos se publicaron, cuándo y dónde lo hicieron.

En instalaciones habitadas por niños:

- Cuándo se intentó tomar contacto con el propietario y los habitantes.
- Comprobante por escrito del momento en que se realizaron los contactos.
- Si se contactó con el propietario o el representante adulto de la instalación habitada por niños y cuándo se hizo el contacto.
- Qué avisos se publicaron, cuándo y dónde lo hicieron.

Diapositiva 7-4: Confirmación de muestra del recibo de *Renovar* correctamente

- Repase la diapositiva y los materiales en las tres páginas siguientes.

Confirmación de muestra del recibo de *Renovar correctamente*

- ☐ He recibido una copia del folleto, *Renovar correctamente: Información importante para familias, proveedores de cuidado infantil y escuelas acerca del peligro del plomo.*

Firma del destinatario: _____ Nombre en letras de imprenta: _____ Fecha: __/__/__

Opción de autocertificación (sólo para viviendas habitadas por arrendatarios): Si se entregó el folleto sobre el plomo pero no se obtuvo la firma del arrendatario, puede marcar la casilla correspondiente a continuación.

- ☐ **Negativa para firmar.**
☐ **No disponible para firmar.**

Recopile la siguiente información:

- Nombre en letras de imprenta y firma de la persona que certifica la entrega del folleto sobre el plomo.
- Fecha y hora de la entrega del folleto sobre el plomo.
- Dirección de la unidad.



Ejemplo de formulario futuro anterior a la renovación

Este ejemplo de formulario puede ser utilizado por las empresas para documentar el cumplimiento de los requisitos del Programa Federal de Pintado, Renovación y Reparación de Pinturas a base de Plomo a partir de abril de 2010.

Confirmación del ocupante

Recibo del folleto

___ He recibido una copia del folleto sobre el plomo informándome sobre el posible riesgo de la exposición al plomo resultante de actividades de renovación que se realizarán en mi vivienda. He recibido este folleto antes de comenzar el trabajo.

Reconocimiento de no participación del propietario-ocupante

___ (A) Confirmando que soy propietario y residente de esta vivienda, que no hay niños menores de 6 años que residan aquí, que no hay mujeres embarazadas que residan aquí y que esta vivienda no es un centro ocupado por niños.

Nota: Un niño reside en la residencia primaria de sus padres, tutores legales, padres de crianza o cuidador informal si vive y duerme la mayor parte del tiempo en la residencia del cuidador.

Nota: Un centro ocupado por niños es un edificio construido antes de 1978 visitado con regularidad por el mismo niño, menor de 6 años de edad, al menos dos días por semana, por 3 horas como mínimo cada día, siempre y cuando las visitas sumen en total al menos 60 horas por año.

Si seleccionó la casilla A, marque la B o la C, pero no ambas.

___ (B) Solicito que la empresa de renovación emplee las mismas normas laborales para trabajar de una manera segura con el plomo requeridas por el Programa de Pintado, Renovación y Reparación de Pinturas a base de Plomo de la EPA; o

___ (C) Entiendo que la empresa que realiza la renovación no tendrá que emplear las normas laborales para trabajar de una manera segura con el plomo requeridas por el Programa de Pintado, Renovación y Reparación de Pinturas a base de Plomo de la EPA.

Nombre del propietario - ocupante (en letra de imprenta)

Firma del propietario - ocupante

Fecha de firma

Opción de autocertificación del renovador (solamente para viviendas con inquilinos)

Instrucciones para el renovador: Si el folleto sobre el plomo se entregó pero no se pudo obtener la firma de un inquilino, puede marcar la casilla correspondiente abajo.

___ **Se negó a firmar** – Certifico que he realizado un esfuerzo de buena fe por entregar el folleto sobre el plomo a la vivienda de alquiler mencionada abajo en la fecha y hora indicadas, y que el ocupante se negó a firmar el acuse de recibo. Asimismo, certifico que he dejado una copia del folleto en la vivienda con el ocupante.

___ **No estaba disponible para firmar** – Certifico que he realizado un esfuerzo de buena fe por entregar el folleto sobre el plomo a la vivienda de alquiler mencionada abajo y que el ocupante no estaba disponible para firmar el acuse de recibo. Asimismo certifico que he dejado una copia del folleto en la unidad deslizándola por debajo de la puerta o (escriba cómo dejó el folleto). _____

Nombre de la persona que certifica haber intentado la entrega (en letra de imprenta)

Fecha del intento de entrega

Firma de la persona que certifica haber entregado el folleto sobre el plomo

Dirección de la unidad

Nota sobre la opción de envío por correo — Como alternativa a la entrega en persona, puede enviar el folleto sobre el plomo por correo al propietario e/o inquilino. Debe enviarlo con una antelación mínima de 7 días a la renovación. El envío debe ser documentado con un certificado de envío por correo de la oficina de correos.

Ejemplo de formularios (continuación)

Aviso de renovación — *Para notificar a inquilinos sobre las renovaciones en áreas comunes de viviendas multifamiliares.*

Las siguientes actividades de renovación se llevarán a cabo en estos lugares:

Actividad (ej.: lijado, sustitución de ventanas)

Lugar (ej.: vestíbulo, centro de recreo)

La fecha anticipada de comienzo es _____ y la fecha anticipada de terminación es _____. Puesto que se trata de un edificio construido antes de 1978, parte de la pintura alterada en la renovación puede contener plomo. Puede obtener una copia del folleto, *Remodelar correctamente*, llamándome al _____. Por favor, deje un mensaje incluyendo su nombre, número de teléfono y dirección. Le enviaré un panfleto por correo o lo deslizaré por debajo de su puerta.

Fecha

Nombre del renovador (en letra de imprenta)

Firma del renovador

Registro de procedimiento de notificación de inquilinos — *Ejemplo de lista futura de registro de renovaciones*

Dirección del proyecto _____

Calle (n° de apt.) _____

Ciudad _____ Estado _____

Código postal _____

Propietario de viviendas multifamiliares

N° de unidades de vivienda

Método de entrega de formularios de aviso (ej.: entrega a unidades, a buzones de unidades)

Nombre de la persona que entrega los formularios de aviso

Firma de la persona que entrega los formularios de aviso

Fecha de entrega

Diapositiva 7-5: Administración de registros: Capacitación para el trabajador no certificado

- Comente los temas a tratar de manera breve.

Administración de registros: Capacitación para el trabajador no certificado

- **Nombre del trabajador.**
- **Descripción de las prácticas laborales seguras con el plomo que el trabajador está capacitado para realizar.**
- **Listas de verificación de evaluación de destrezas completas y firmadas.**
- **Fechas de capacitación.**
- **Nombre y firma del renovador certificado que realizó la capacitación.**

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Documentación de capacitación para los renovadores no certificados

El renovador certificado que realizó la capacitación para el trabajador no certificado debe documentar la información enseñada a cada persona sobre capacitación y las competencias del conjunto de destrezas que alcanzaron. Esta capacitación se puede realizar en una sala de clases con actividades prácticas o actividades en el trabajo simuladas. La documentación puede variar para cada persona en capacitación, ya que no todos ellos pueden asignarse para realizar todas las prácticas laborales seguras con el plomo; además, sólo se necesita que la capacitación sea específica para cada tarea.

Para simplificar esta documentación, su manual de capacitación incluye un formulario que se puede adaptar para documentar la capacitación práctica y relacionada con el tema para trabajadores no certificados (consulte el Apéndice 6).

Diapositiva 7-6: Administración de registros: Informes del kit de pruebas

- Comente los temas a tratar de manera breve.

Administración de registros: Informes del equipo de pruebas

Si se utiliza un kit de pruebas reconocido por la EPA para probar superficies en el área de trabajo, la empresa debe:

- Enviar un informe a la persona que contrata el trabajo en un plazo de 30 días después del fin de la renovación, que contenga:
 - El fabricante y el modelo del kit de pruebas reconocido por la EPA.
 - Una descripción de los componentes probados.
 - La ubicación de los componentes probados.
 - Los resultados de las pruebas.
- Conserve una copia del formulario de documentación del kit de pruebas



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Revisión de pintura a base de plomo con los kits de pruebas reconocidos por la EPA:

- Visite www.epa.gov para ver una lista de kits de pruebas reconocidos por la EPA.
- Se debe inspeccionar cada componente que se renovará o que tendrá un impacto por la renovación. Si se encuentra que todas las superficies carecen de pintura a base de plomo, no se aplicará la regla RRP.
- Si un conjunto de componentes afectados conforman un conjunto completo (tales como una huella o una contrahuella de una única escalera; o el marco, el alféizar, la pena, el travesaño o el canal de la ventana de un sistema de marco de ventana), entonces solamente se debe probar uno de los componentes individuales de ese conjunto.

Kits de prueba reconocidos por la EPA:

- Hasta el 1 de septiembre de 2010, la EPA sólo exigirá el uso de equipos de prueba que determinen que no hay pintura con base a plomo presente en las superficies probadas. Si no hay cambio de color, no se requieren prácticas laborales seguras con el plomo. Si se produce un cambio de color, aunque el cambio no signifique con certeza que hay pintura a base de plomo presente, se debe suponer que la superficie está revestida con pintura a base de plomo.
- Para contar con el reconocimiento de la EPA después del 1 de septiembre de 2010, el kit de prueba debe poder identificar la pintura a base de plomo. Para entonces, un resultado positivo significará que hay pintura a base de plomo presente en el revestimiento y que se deben seguir las prácticas laborales seguras con el plomo cuando se altere superficie. Un resultado negativo en la prueba significa que no se necesitan prácticas laborales seguras con el plomo. Es posible que estos equipos estén disponibles en septiembre de 2009.
- Si el indicador positivo del equipo de pruebas está presente en cualquiera de las superficies inspeccionadas, se deben utilizar las prácticas laborales seguras con el plomo. O bien, el muestreo lo puede llevar a cabo un inspector de plomo certificado o un evaluador de riesgo, para comprobar mediante análisis de laboratorio que no haya pintura a base de plomo presente.
- Los renovadores certificados deben usar un kit de pruebas reconocido por la EPA para probar las superficies afectadas. Los kits de pruebas reconocidos por la EPA están en una lista en el sitio Web de EPA www.epa.gov.

Informes:

- Cuando se utilizan equipos de pruebas, en un plazo de 30 días después de haber completado la renovación, la empresa de renovación certificada debe proporcionar la información relacionada con los fabricantes y modelos de los equipos de pruebas; una descripción de los componentes inspeccionados, incluidas las ubicaciones; y los resultados de las pruebas, al cliente que contrató la renovación.
- Conserve una copia del formulario de documentación del equipo de pruebas.

Diapositiva 7-7: Administración de registros: Informes posteriores a la renovación

- Comente los temas a tratar de manera breve.
- La “Lista de verificación de la administración de registros para la futura renovación de muestra” se incluye en el Apéndice 4 y se puede acceder en línea en: <http://epa.gov/lead/pubs/renovation.htm#contractors>.

Administración de registros: Informes posteriores a la renovación

- Al final de cada renovación, el renovador certificado debe firmar un informe que incluya lo siguiente:
 - Nombre del renovador certificado asignado para liderar el proyecto.
 - Copia de las certificaciones del renovador certificado.
 - Certificación por parte de un renovador certificado sobre la capacitación del trabajador no certificado y una lista de los temas abordados.
 - Certificación de la instalación de letreros de advertencia.
 - Descripción de las pruebas locales de sustancias químicas, si se realizaron.
 - Certificación por parte del renovador certificado de la contención del área de trabajo, la contención y el transporte de desechos del lugar, la limpieza correcta del área de trabajo posterior a la renovación y la verificación de una buena limpieza.
 - Informe de aprobación, si se realizó.



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Informes posteriores a la renovación

El fin del informe de renovación debe describir el proyecto completo, desde la instalación de letreros hasta la verificación o aprobación de limpieza. El informe debe indicar el renovador certificado que designó la empresa certificada, como responsable de las prácticas laborales seguras con el plomo en dicho proyecto. También debe incluir el comprobante de certificación del renovador certificado designado. Además, debe incluir una declaración firmada del renovador certificado que abarque las siguientes áreas:

- Comprobante de capacitación para el trabajador no certificado;
- Comprobante de la instalación de señales de advertencia;
- Descripción de los resultados del uso de kits de pruebas locales de sustancias químicas reconocidos por la EPA;
- Descripción de la contención del área de trabajo;
- Descripción de la contención y transporte de los desechos del lugar;
- Comprobante de la correcta limpieza del área de trabajo posterior a la renovación;
- Registros de inspecciones o evaluaciones de riesgos realizadas por el inspector de plomo certificado o el evaluador de riesgos, si corresponde.
- Comprobante de verificación de buena limpieza.

Si se realiza el muestreo de la aprobación con respecto al polvo en lugar de la verificación de limpieza, proporcione una copia del informe de muestreo de polvo a la persona que contrató la renovación, en un plazo de 30 días a partir de la finalización de la renovación (consulte el Código de Regulación Federal 40 745.86(d)).

Ejemplo de lista futura de registro de renovaciones

(en efecto a partir de abril de 2010)

Nombre de la empresa: _____

Fecha y lugar de la renovación: _____

Breve descripción de la renovación: _____

Nombre del renovador asignado: _____

Nombre(s) del/de los trabajador(es) capacitado(s), si se emplean: _____

Nombre del técnico de muestras de polvo, inspector o asesor de riesgos, si se emplea: _____

___ Copias de las calificaciones del renovador y del técnico de muestras de polvo (certificados de capacitación, acreditaciones) archivadas.

___ El renovador acreditado brindó capacitación a los trabajadores sobre (marque todas las aplicables):

___ Cómo colocar rótulos de advertencia	___ Cómo poner barreras de contención de plástico
___ Cómo mantener la contención	___ Cómo evitar que se transmita polvo a zonas adyacentes
___ Cómo manejar los desechos	___ Limpieza después de la renovación
___ Kits de pruebas utilizados por el renovador acreditado para determinar si existía plomo en los componentes afectados por la renovación (identifique los kits utilizados y describa los lugares de muestra y los resultados):	

___ Rótulos de advertencia colocados a la entrada de la zona de trabajo.

___ Área de trabajo contenida para evitar el escape y diseminación de polvo y restos

- ___ Todos los objetos en el área de trabajo retirados o cubiertos (interiores)
- ___ Conductos de HVAC en el área de trabajo cerrados y cubiertos (interiores)
- ___ Ventanas en el área de trabajo cerradas (interiores)
- ___ Ventanas en y dentro de 20 pies de distancia del área de trabajo cerradas (exteriores)
- ___ Puertas en el área de trabajo cerradas y selladas (interiores)
- ___ Puertas en y dentro de 20 pies de distancia del área de trabajo cerradas y selladas (exteriores)
- ___ Puertas que deben utilizarse en el área de trabajo cubiertas para permitir el paso pero para evitar la transmisión de polvo
- ___ Pisos en el área de trabajo cubiertos con plástico sujeto con cinta adhesiva (interiores)
- ___ Suelo cubierto por plástico extendido a 10 pies del área de trabajo - plástico sujeto al edificio y anclado con pesos (exteriores)
- ___ Si es necesaria, contención vertical instalada para evitar la transmisión de polvo y restos a instalaciones contiguas (exteriores)

___ Contención de desechos en el lugar y mientras se transportan fuera del lugar.

___ Lugar de trabajo limpiado correctamente después de la renovación

- ___ Pintura y restos recogidos, protección rociada, doblada con el lado sucio hacia adentro y sujeta con cinta adhesiva para retirarla del área
- ___ Superficies y objetos del área de trabajo limpiados con un aspirador HEPA y/o paños o trapeadores húmedos (interiores)

___ El renovador acreditado realizó la verificación de limpieza posterior a la renovación (describir los resultados, incluyendo el número de paños húmedos y secos usados): _____

___ Si se realizó una prueba de aprobación de polvo, adjunte una copia del informe

___ Certifico bajo juramento que la información anterior es cierta y completa.

Nombre y cargo

Fecha

Diapositiva 7-8: Ahora ya saben...

- Realice un debate breve sobre la diapositiva.

Ahora ya saben...

- Que deben tener los siguientes registros en el lugar de trabajo:
 - Capacitación de renovadores certificados y no certificados.
 - Certificaciones para la empresa certificada y los renovadores certificados.
- Que deben conservar todos los registros al menos 3 años después de finalizar la renovación.
- Que deben conservar registros de:
 - Capacitación y certificaciones de todo el personal de renovación y la certificación de la empresa.
 - Distribución de la información obligatoria.
 - Comunicaciones con los propietarios y los residentes, además de sus certificaciones.
 - Actividades de trabajo que cumplan con la regla.
 - Informes posteriores a la renovación.



Módulo 8: Capacitación para Renovadores no Certificados

Descripción general de este módulo: Como referencia, la siguiente tabla resume el contenido y los métodos de enseñanza para este módulo. **No trate este punto con los asistentes.**

Módulo 8: Capacitación para renovadores no certificados		40 minutos
8-1: Módulo 8: Capacitación para renovadores no certificados 8-2: La enseñanza de prácticas de trabajo seguras con el plomo significa: 8-3: Función del renovador certificado 8-4: Función de los renovadores capacitados pero no certificados 8-5: Pasos para la enseñanza de seguridad con el plomo en los trabajos de renovación 8-6: Use la guía de “Pasos” 8-7: Paso 1: Determine si el trabajo comprende pintura a base de plomo 8-8: Paso 2: Organícelo de forma segura 8-9: Paso 2: Organícelo de forma segura (continuación) 8-10: Paso 3: Protéjase 8-11: Paso 4: Controle la propagación del polvo 8-12: Paso 5: Deje limpia el área de trabajo 8-13: Paso 6: Controle los desechos 8-14: Paso 7: Verificación o pruebas de aprobación de limpieza 8-15: Documentación de capacitación 8-16: Ahora ya saben...	Mensaje clave: Los renovadores certificados enseñan las prácticas de trabajo seguras con el plomo a los renovadores no certificados. Notas: Enfatique que esta capacitación pretende dar a los renovadores certificados las herramientas y destrezas necesarias para efectuar la capacitación de “caja de herramientas” en la obra o la capacitación en aula para renovadores no certificados. Toda la capacitación debe apuntar principalmente a que los alumnos aprendan a efectuar las tareas necesarias para que se puedan desempeñar como renovadores no certificados en el lugar de trabajo. Se deben enfatizar particularmente las destrezas prácticas y las actividades de prácticas laborales seguras con el plomo utilizando el máximo posible de instrucción práctica. Preparación para este módulo: Revise los materiales para familiarizarse con ellos.	

Diapositiva 8-1: Módulo 8: Capacitación para renovadores no certificados

Notas para el instructor:

- Anuncie el módulo y pase rápidamente a la siguiente diapositiva.
- Revise el objetivo de este módulo:

Permitir que renovadores certificados enseñen de manera eficaz la forma de usar las prácticas de trabajo seguras con el plomo a trabajadores no certificados durante el trabajo de renovación, reparación y pintura en viviendas de interés e instalaciones habitadas por niños.

:

Módulo 8: Capacitación para renovadores no certificados

Los renovadores certificados enseñan las prácticas de trabajo seguras con el plomo a los renovadores no certificados.



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La regla RRP requiere que usted, el renovador certificado, sea responsable de la instrucción de los renovadores no certificados.

Diapositiva 8-2: La enseñanza de prácticas de trabajo seguras con el plomo significa:

- Repase la diapositiva y las notas de los alumnos junto con los demás.

La enseñanza de prácticas de trabajo seguras con el plomo significa:

- Capacitar a los trabajadores para que utilicen apropiadamente los letreros, las barreras de polvo, las prácticas de trabajo que minimicen el polvo y las prácticas de limpieza de polvo durante actividades de renovación, reparación y pintura para prevenir o reducir la contaminación potencialmente peligrosa por polvo con plomo en el hogar.
- Para capacitar con efectividad a los trabajadores, usted debe:
 - Conocer la seguridad con el plomo.
 - Mostrar a los alumnos lo que sabe.
 - Revise la lista de compras en *Pasos para la renovación, reparación y pintura SEGURAS CON EL PLOMO* y tenga a mano los materiales apropiados.



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- ¿Recuerda las destrezas que aprendió durante los ejercicios de conjuntos de destrezas? Ahora las enseñará a trabajadores no certificados para que las aprendan.
- La lista de compras que se encuentra al final del apéndice *Pasos para la renovación, reparación y pintura SEGURAS CON EL PLOMO* detalla los equipos y suministros que podría necesitar para realizar ejercicios prácticos durante la capacitación en la obra de los renovadores no certificados.
- Todo lo que se presenta a continuación tiene como objetivo asistirle en la realización de la capacitación.

Diapositiva 8-3: La función del renovador certificado

- La información de esta diapositiva se brinda para recordar a los alumnos que desean ser renovadores certificados, que estos últimos aparecen, según la regla RRP, como los responsables de enseñar las prácticas seguras con el plomo a renovadores no certificados.
- Repase la diapositiva y las notas de los alumnos junto con los demás.

Función del renovador certificado

Los renovadores certificados:

- Realizan trabajos seguros con el plomo según lo descrito en la regla RRP.
- Capacitan a los trabajadores no certificados en prácticas seguras con el plomo.
- Son una guía constante en la obra para los trabajadores no certificados durante la instalación y la limpieza.
- Están disponibles por teléfono en caso de no estar presentes en la obra durante el trabajo.
- Mantienen un comprobante de certificación en la obra como renovador certificado y los registros de capacitación de todos los renovadores no certificados.



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8-3

¿Cuáles son las responsabilidades de un renovador certificado? Los renovadores certificados son responsables de garantizar el cumplimiento general de los requisitos del programa de renovación, reparación y pintura para las prácticas de trabajo seguras con el plomo en las renovaciones que tengan asignadas.

Un renovador certificado:

- Debe utilizar un kit de pruebas reconocido por la EPA (cuando lo solicite la parte que contrate servicios de renovación) para determinar si los componentes afectados por la renovación contienen pintura a base de plomo (EPA anunciará qué kits de pruebas reconocerá antes de abril de 2010. Vea www.epa.gov/lead).
- Debe capacitar a los trabajadores en prácticas de trabajo seguras con el plomo, para que estos trabajadores puedan realizar con seguridad las tareas que tengan asignadas. El renovador certificado puede proporcionar esta capacitación en el lugar de trabajo o en un salón de clases, considerando la disponibilidad de actividades prácticas adecuadas. Esta capacitación también la podría realizar un tercero, aunque el instructor deberá ser un renovador certificado.
- Debe estar presente en la obra cuando se ubiquen los letreros de advertencia, mientras se establece la contención del área de trabajo y mientras se realice la limpieza del área de trabajo. (*Nota: Utilice los términos **Instalación y Limpieza** para describir este trabajo*).
- Debe supervisar el trabajo que realizan las personas no certificadas para garantizar que se sigan las prácticas de trabajo seguras con el plomo. Esto incluye mantener la integridad de las barreras de contención y asegurarse de que no se dispersen polvo ni escombros del área de trabajo.
- Debe estar disponible en todo momento, en la obra o por vía telefónica, durante la renovación.
- Debe realizar la verificación de limpieza del proyecto.
- Debe tener copias de sus certificados de finalización del curso inicial y del curso de actualización en la obra. La certificación de renovador certificado dura 5 años. El renovador certificado debe tomar un curso de perfeccionamiento cada 5 años para mantener su certificación.
- Debe preparar la documentación del trabajo que sea necesaria.

La regla de renovación, reparación y pintura de la EPA se puede encontrar en el Código de Regulación Federal 40 745.85 (a) y (b).

Diapositiva 8-4: Función de los renovadores capacitados pero no certificados

- Repase la diapositiva y las notas de los alumnos junto con los demás.

Función de los renovadores capacitados pero no certificados

- Los renovadores capacitados pero no certificados son personas que trabajan en renovación, reparación y pintura que han sido capacitados en la obra o en un salón de clases por parte de un renovador certificado, para realizar tareas cumpliendo la regla RRP de la EPA.
- Deben realizar prácticas de trabajo seguras con el plomo según lo descrito en la regla RRP:
 - Proteger la vivienda con una "instalación" del área de trabajo.
 - Protegerse.
 - Realizar el trabajo de renovación con seguridad.
 - No deben realizarse prácticas prohibidas.
 - Controlar el polvo y los escombros.
 - Limpiar el área de trabajo.



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8-4

Se debe realizar una capacitación en la obra para cada trabajador y para cada trabajo, de modo que cada trabajador esté capacitado adecuadamente para las tareas que deberá realizar. Esta capacitación puede ocurrir mientras el trabajador está realizando trabajo productivo, lo que le proporciona conocimientos y destrezas esenciales para un desempeño completo y adecuado del trabajo. Sin embargo, el trabajo que se realice durante la capacitación debe cumplir plenamente con la regla RRP.

Las personas en capacitación se beneficiarán al ver los "Pasos" para lograr la seguridad con el plomo, que se pueden encontrar en *Pasos para la renovación, reparación y pintura SEGURAS CON EL PLOMO* en el apéndice 5 (dicho documento también recibe el nombre "Guía de pasos"). Contiene una lista de siete pasos de seguridad con el plomo y se puede entregar a quienes reciban capacitación en la obra. En la "Guía de pasos", los pasos 2 al 6 contienen información específica para los trabajos que realice personal no certificado; los pasos 1 al 7 contienen información respecto de las pruebas de superficies pintadas y verificación de limpieza, que son responsabilidades de los renovadores certificados. Además, el paso 7 comenta el examen de aprobación que sólo puede realizar un inspector de plomo certificado, un evaluador de riesgos de plomo certificado y un técnico certificado en muestreo de polvo.

La información de la "Guía de pasos" se puede revisar en aproximadamente 5 minutos por paso y luego se puede reforzar con ejercicios prácticos en el trabajo, como la instalación de barreras y letreros, demostraciones de procedimientos de limpieza, etc. Se recomienda revisar el material de la "Guía de pasos" en un formato de reunión informativa (en la obra), con folletos para la información específica que se revisará.

Es muy importante que se autorice al personal no certificado a participar en el aprendizaje práctico a medida que avance el trabajo y que se documenten los conjuntos de destrezas que aprenda cada alumno. La documentación es un requisito de la regla RRP para garantizar que los trabajadores no certificados reciban una capacitación para realizar las actividades de renovación que les asignaron. Recuerde que la regla RRP requiere que el personal no certificado reciba capacitación de destrezas específicas para las tareas que realizarán en el trabajo y que la capacitación de cada persona se documente por tema abordado en la capacitación en la obra que se realice. La documentación necesaria se detallará más adelante.

Diapositiva 8-5: Pasos para la enseñanza de seguridad con el plomo en los trabajos de renovación

- Repase la diapositiva y las notas de los alumnos junto con los demás.

Pasos para la enseñanza de seguridad con el plomo en los trabajos de renovación

- **Enfoque para capacitar a renovadores no certificados**



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8-5

La capacitación para los renovadores no certificados puede proporcionarse en una sesión que cubra los 7 pasos o la información que se pueda abarcar en una serie de reuniones informativas durante varios días. Debe detenerse entre 5 y 10 minutos en la información de cada "paso" y luego realizar una capacitación en la obra para enseñar las destrezas que se necesitan para renovar el plomo con seguridad.

Si esta capacitación se realiza en una sala de clases, las diapositivas 8-6 a 8-15 se pueden usar para enseñar el material que se encuentra en la guía ***Pasos para la renovación, reparación y pintura SEGURAS CON EL PLOMO***. Se incluye este documento como apéndice 5 en su manual del estudiante. Utilice la guía ***Pasos para la renovación, reparación y pintura SEGURAS CON EL PLOMO*** como un folleto educativo para la capacitación de renovadores no certificados. El folleto debe incluir, además, demostraciones, ejercicios prácticos y una lista de verificación de las destrezas que se desea reforzar en las "charlas informativas" o en la capacitación en sala de clases. Ya sea durante las "charlas informativas" o durante la instrucción en sala de clases, solicite a los renovadores no certificados en capacitación que consulten el folleto de capacitación a medida que imparte la información.

Diapositiva 8-6: Use la guía de “Pasos”

- Repase la diapositiva y las notas de los alumnos junto con los demás.

Use la guía de “Pasos”



- *Pasos para la renovación, reparación y pintura SEGURAS CON EL PLOMO* abarca las prácticas básicas seguras con el plomo y se puede usar como una guía de capacitación fuera del salón de clases, junto con demostraciones en el trabajo y capacitación práctica.
- Se recomienda que esta guía sea la base de su capacitación.



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8-6

Antes de la capacitación: Imprima copias de *Pasos para la renovación, reparación y pintura SEGURAS CON EL PLOMO* y entregue una copia a cada renovador no certificado que vaya a ser capacitado.

Diapositiva 8-7: Paso 1: Determine si el trabajo comprende pintura a base de plomo

- Repase la diapositiva y las notas de los alumnos junto con los demás.

Paso 1: Determine si el trabajo comprende pintura a base de plomo

- La pintura a base de plomo (LBP, por sus siglas en inglés) se encuentra en muchas viviendas antiguas:
 - Viviendas entre 1960 y 1978 – 1 de cada 4 tienen LBP.
 - Viviendas entre 1940 y 1960 – 7 de cada 10 tienen LBP.
 - Viviendas anteriores a 1940 – 9 de cada 10 tienen LBP.
- Una renovación, reparación o pintura que altere la pintura a base de plomo puede crear grandes riesgos relacionados con la pintura a base de plomo en viviendas.
- Incluso una pequeña cantidad de polvo de pintura a base de plomo puede envenenar a niños, padres y mascotas y puede causar problemas en mujeres embarazadas y en el desarrollo de sus fetos.
- El renovador certificado determinará si existe pintura a base de plomo en las superficies de trabajo.
- Si no hubiese información disponible acerca de la pintura a base de plomo para viviendas anteriores a 1978 o para una instalación habitada por niños, suponga que sí hay pintura a base de plomo y utilice prácticas de trabajo seguras con el plomo.

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8-7

Durante la capacitación:

Revise la información de esta diapositiva con los alumnos renovadores no certificados mientras leen las páginas 4 y 5 de la guía ***Pasos para la renovación, reparación y pintura SEGURAS CON EL PLOMO.***

Notas para el instructor en la obra: Esta información se incluye en la capacitación en la obra, de modo que los renovadores no certificados entiendan por qué deben utilizar prácticas de trabajo seguras con el plomo. No es necesario que los renovadores no certificados determinen la presencia de pintura a base de plomo, pero deben entender que en caso de que se compruebe su presencia, generar polvo puede causar graves problemas si no se controla apropiadamente y con seguridad.

Más información:

- Revise las páginas 4 y 5 de la guía ***Pasos para la renovación, reparación y pintura SEGURAS CON EL PLOMO.***

Diapositiva 8-8: Paso 2: Organízelo de forma segura

- Repase la diapositiva y las notas de los alumnos junto con los demás.

Paso 2: Organícelo de forma segura

- La contención se usa para mantener el polvo **DENTRO** del área de trabajo y a quienes no sean trabajadores **FUERA**.
- Los letreros y las barreras se usan para limitar el acceso.
- Trabajos de interiores comparados con trabajos de exteriores
 - Revise todos los procedimientos y diferencias en lo que se refiere a la instalación.



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8-8

Qué hacer

Para mantener el polvo dentro y las personas fuera de su área de trabajo, tendrá que realizar pasos ligeramente diferentes para los trabajos de interiores que para los trabajos de exteriores.

Para trabajos de interiores

- Ubique letreros, cintas de barrera o conos para mantener fuera del área de trabajo a quienes no sean trabajadores (particularmente niños). Mantenga las mascotas fuera del área de trabajo para su seguridad y para evitar que introduzcan polvo y escombros con las patas en el interior de la vivienda.
- Saque los muebles y otras pertenencias del área de trabajo. En caso de que algún elemento sea demasiado grande o pesado como para moverlo, cúbralo con láminas de plástico de alta resistencia y asegúrelas en su lugar con cinta.
- Utilice láminas de plástico de alta resistencia para cubrir pisos en el área de trabajo hasta un mínimo de 6 pies (1.83 m) a partir del área de alteración de la pintura. Cierre y selle las puertas y cierre las ventanas.
- Cierre y cubra los respiraderos del área de trabajo. Esto impedirá que el polvo entre en el sistema y se mueva a través de la vivienda.

Para trabajos de exteriores

- Mantenga fuera del área de trabajo a quienes no son trabajadores, con letreros, cinta o conos. Solicite a los dueños sacar sus mascotas del área de trabajo.
- Cubra el suelo y las plantas con láminas de plástico de alta resistencia para atrapar escombros. La cubierta debe extenderse al menos 10 pies más allá del edificio. Asegure la cubierta al exterior.
- Cierre las ventanas y puertas en un radio de 20 pies alrededor del área de trabajo para evitar que entre polvo y escombros en las viviendas.
- Si es posible, traslade o cubra las áreas y los equipos de juegos infantiles en un radio de 20 pies alrededor del área de trabajo.

Diapositiva 8-9: Paso 2: Organízelo de forma segura (continuación)

- Repase la diapositiva y las notas de los alumnos junto con los demás.

Paso 2: Organícelo de forma segura (continuación)

Revise las instalaciones especiales para trabajos más "polvorientos", como:

- **Demoliciones.**
- **Apertura de cavidades en paredes.**
- **Remoción de techos falsos antiguos.**
- **Raspado de pintura/lijado en seco a mano.**

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8-9

Algunos trabajos crean más polvo del que se puede contener con los métodos descritos en la página anterior. Los renovadores certificados deben utilizar su sentido común en cuanto a si esos métodos proporcionan una contención suficiente o si es necesario tomar precauciones adicionales. Algunos trabajos que suelen requerir precauciones adicionales son:

- Demoliciones.
- Apertura de cavidades en paredes.
- Remoción de techos falsos antiguos.
- Raspado de pintura/lijado en seco a mano.

Esos trabajos requieren pasos adicionales para contener el polvo dentro del área de trabajo. Además de las prácticas que se han mencionado hasta ahora, considere las siguientes:

- Apague los sistemas de calefacción por aire a presión y de aire acondicionado. Esto impedirá que el polvo circule a través de la casa.
- Instale una contención vertical para limitar el tamaño del área de trabajo.

Diapositiva 8-10: Paso 3: Protéjase

- Repase la diapositiva y las notas de los alumnos junto con los demás.

Paso 3: Protéjase

- Sin el correcto equipo de protección personal (PPE, por sus siglas en inglés), los trabajadores pueden ingerir e inhalar plomo en el trabajo; además, pueden transportar plomo en la piel y en la ropa de trabajo hasta sus hogares y sus familias.
- Repase la "lista de compras".
- Recomiende a los trabajadores que:
 - Se protejan los ojos.
 - Mantengan su ropa limpia o utilicen prendas desechables.
 - Utilicen una mascarilla de respiración. Una mascarilla de respiración apropiada impide que entre plomo en los pulmones y en el estómago.
 - Se laven cada vez que salgan del área de trabajo, particularmente al final del día.



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8-10

Protéjase los ojos.

- Utilice siempre gafas protectoras al raspar, martillar, etc.

Utilice prendas protectoras y considere el uso de guantes.

- Las prendas protectoras y los cubrezapatos son muy importantes para prevenir el traslado de plomo fuera del área de trabajo. También pueden ayudar a impedir la contaminación de áreas que ya se han limpiado durante la limpieza final.
- Mantenga limpia su ropa. Al final del día de trabajo, aspire el polvo de las prendas polvorientas o cámbiese de ropa. No utilice aire comprimido para "desplazar" el polvo de las prendas de vestir. Lave sus prendas de trabajo sucias separadamente de la ropa sucia de su hogar.
- Utilice una gorra de pintor para protegerse la cabeza del polvo y los escombros.
- La regla RRP no exige el uso de guantes; sin embargo, ayudan a prevenir exposiciones al plomo.

Utilice una mascarilla de respiración protectora.

- Cuando el trabajo produce polvo o cáscaras de pintura, los empleados deben considerar utilizar protección respiratoria, como la mascarilla de respiración N-100, para impedir que inspiren polvo con plomo.

Ubique letreros de advertencia.

- Ubique un letrero de advertencia en la entrada de cada área de trabajo.
- Los letreros deben decir: "Advertencia, área de trabajo con plomo, veneno, prohibido fumar o comer" para recordar a los trabajadores que está prohibido comer, beber y fumar en el área de trabajo.

Lávese.

- Los trabajadores deben lavarse las manos y las cara cada vez que dejan de trabajar. Es particularmente importante lavarse antes de comer y al final del día.

Nota: Las reglas de OSHA pueden requerir que los empleados realicen pasos adicionales para proteger la salud de los trabajadores.

Diapositiva 8-11: Paso 4: Controle la propagación del polvo

- Repase la diapositiva y las notas de los alumnos junto con los demás.

Paso 4: Controle la propagación del polvo

- El objetivo es controlar la propagación del polvo generado.
- Repase la “lista de compras”.
- Utilice las herramientas correctas.
- Las cubiertas desechables de plástico controlan la propagación del polvo y los escombros.
- Evite las prácticas prohibidas.



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8-11

Controle la propagación del polvo.

- Mantenga el área de trabajo aislada del resto de la vivienda.
- No saque polvo ni escombros del área de trabajo.
- Manténgase dentro del área de trabajo contenida y en los caminos contenidos.
- Aspire los trajes al salir del área de trabajo de modo que el polvo se quede dentro de la contención.
- Quítese los cubrezapatos desechables y asegúrese de que sus zapatos estén limpios utilizando almohadillas adhesivas o toallas de papel húmedas para limpiarse los zapatos cada vez que sale de la lámina protectora.
- Mantenga los componentes dentro del área de trabajo hasta que estén envueltos con seguridad en láminas o bolsas plásticas de alta resistencia. Una vez se hayan envuelto o depositado en bolsas plásticas, limpie el exterior con una aspiradora HEPA y sáquelas del área de trabajo para almacenarlas en un área segura, lejos de los residentes.
- Lave las prendas protectoras que no sean desechables separadamente de la ropa sucia de su familia.
- No utilice prácticas prohibidas, como:
 - Quemar pintura con llama o quitarla a alta temperatura y
 - Herramientas eléctricas (como una lijadora) sin accesorios HEPA.



La regla del Departamento de Vivienda y Urbanismo también prohíbe raspar en seco y lijar a mano en demasía, utilizar pistolas de aire caliente que calcinen la pintura y lavar la pintura en un espacio con poca ventilación utilizando un decapante volátil. Algunos estados, localidades o tribus pueden prohibir otras prácticas de trabajo.

Diapositiva 8-12: Paso 5: Deje limpia el área de trabajo

- Repase la diapositiva y las notas de los alumnos junto con los demás.

Paso 5: Deje limpia el área de trabajo

- El objetivo debe ser dejar el área de trabajo sin polvo ni escombros.
- Repase la “lista de compras”.
- Comente los procedimientos diarios de limpieza.
- Comente los procedimientos de limpieza para el final del día de trabajo.



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8-12

Recoja diariamente elementos que estén en el suelo del área de trabajo (recomendado).

- Recoja mientras camina. Coloque la basura en bolsas plásticas de alta resistencia.
- Aspire el área de trabajo con una aspiradora HEPA varias veces durante el día y de todas maneras en el final del día. No limpie con aspiradoras domésticas. Utilice sólo aspiradoras HEPA.
- Limpie las herramientas en el final del día.
- Lávese las manos cada vez que salga el área de trabajo, particularmente antes de irse a casa.
- Elimine diariamente todas las prendas protectoras desechables.

Cuando se termine el trabajo, limpie el área de trabajo (obligatorio).

- Retire cuidadosamente la lámina de plástico del piso, dóblela (el lado con suciedad hacia dentro), selle los bordes con cinta o colóquela en una bolsa plástica de alta resistencia y elimínela. Mantenga láminas plásticas en las puertas y aperturas que separen el área de trabajo hasta que se considere que está limpia.
- Asegúrese de que las cáscaras de pintura, el polvo, la basura y los escombros (como componentes de la construcción) se saquen del área que se va a limpiar y se eliminen adecuadamente.
- Limpie la superficie de todas las paredes con una aspiradora HEPA o con un paño húmedo. Limpie las otras superficies del área de trabajo con una aspiradora HEPA. Utilice como accesorio una barra sacudidora para las alfombras.
- Limpie con un paño húmedo las demás superficies del área de trabajo y limpie con un trapeador húmedo los pisos sin alfombrar hasta eliminar el polvo y los escombros.
- Inspeccione visualmente su trabajo. Revise el área de trabajo, dos pies más allá y los caminos por los que se transportaron los escombros. No debiera ver polvo, cáscaras de pintura o escombros.
- Vuelva a limpiar el área minuciosamente en caso de que encuentre polvo o escombros.

Diapositiva 8-13: Paso 6: Controle los desechos

- Repase la diapositiva y las notas de los alumnos junto con los demás.

Paso 6: Controle los desechos

- Comente el procedimiento de recogida de desechos en bolsas.
- Demuestre el proceso de doblar una pequeña sección de plástico con el lado sucio hacia dentro.
- Comente el almacenamiento temporal de desechos.
- Comente cómo manejar apropiadamente las aguas residuales.
- Comente las reglas de eliminación de aguas que son aplicables para el trabajo específico.



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8-13

Deposite sus desechos en una bolsa o envuélvalos en la obra y dentro del área de trabajo.

Recoja y controle todos sus desechos. Algunos ejemplos de desechos son el polvo, los escombros, las cáscaras de pintura, las láminas protectoras, los filtros HEPA, agua sucia, cabezas de trapeador usados, paños, ropa protectora, mascarillas de respiración, guantes, componentes arquitectónicos y otros desechos. Utilice láminas o bolsas de plástico de alta resistencia para depositar los desechos. Aplique un sello cuello de cisne a la bolsa con cinta para conductos. Considere utilizar bolsas dobles para depositar sus desechos y evitar que se rasguen. Los componentes de gran tamaño deben envolverse en láminas protectoras y sellarse con cinta. Deposite los desechos en una bolsa y séllela antes de sacarla del área de trabajo. Limpie el exterior de las bolsas y los paquetes de desechos con una aspiradora HEPA antes de sacarlas del área de trabajo. Acumule todos los desechos en un recipiente o contenedor de escombros seguro, hasta su eliminación. Limite el tiempo de almacenamiento en la obra. Evite transportar desperdicios en un camión abierto o en un vehículo personal.

Elimine las aguas residuales apropiadamente.

El agua utilizada en el área de trabajo para quitar pintura o limpiar superficies se debe pasar por un filtro de 0,5 micras. No vierta nunca estas aguas en un sumidero, tina, desagüe de aguas pluviales ni en el suelo. Pueden verse en un inodoro, si así lo permiten las reglas locales. Si no está permitido por los reglamentos locales, es posible que deba contener y probar el agua, además de comunicarse con la empresa de tratamiento de desechos para que le ayuden con esta eliminación. **Para mayor información, consulte con su autoridad local de tratamiento de aguas y en los reglamentos federales y estatales.**

Infórmese de las reglas de eliminación de aguas.

EPA considera la mayoría de las renovaciones, reparaciones y pinturas residenciales como "mantenimiento residencial de rutina". Los desechos que se generen durante estas actividades están clasificados como desechos sólidos no peligrosos y se pueden eliminar en un vertedero ordinario. Algunos estados y localidades tienen requisitos de eliminación de desechos más estrictos que se deben seguir.

Diapositiva 8-14: Paso 7: Verificación o pruebas de aprobación de limpieza

- Repase la diapositiva y las notas de los alumnos junto con los demás.

Paso 7: Verificación o pruebas de aprobación de limpieza

- **Un renovador certificado realizará la verificación de limpieza después de la mayoría de las renovaciones.**
- **El dueño puede solicitar un examen de aprobación en lugar de una verificación de limpieza, y en algunos casos es un requisito.**
- **Comente lo que ocurre cuando se obtienen malos resultados en una verificación de limpieza o en un examen de aprobación.**

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8-14

Cuando se complete la limpieza y antes de volver a ocupar el espacio, se debe realizar un procedimiento de verificación de limpieza o un examen de aprobación para garantizar que no quede polvo con plomo en el lugar. En caso de que sea aplicable la regla del Departamento de Vivienda y Urbanismo, se necesitará un examen de aprobación en lugar del procedimiento de verificación de limpieza. El primer paso, tanto para la verificación de limpieza como para un examen de aprobación, es una inspección visual del área de trabajo para determinar si se dejó polvo o escombros en el lugar. Si se detecta la presencia de polvo o escombros en el área de trabajo, se deben repetir la limpieza y la inspección visual hasta que el área de trabajo no tenga polvo ni escombros. Después de que se complete la inspección del renovador certificado, se puede realizar el procedimiento de verificación de limpieza o el examen de aprobación.

Diapositiva 8-15: Documentación de capacitación

- Repase la diapositiva y las notas de los alumnos junto con los demás.

Documentación de capacitación

- **El renovador certificado que está asignado al trabajo debe mantener en la obra los siguientes registros para la capacitación en terreno:**
 - Certificación escrita de la capacitación del trabajador:
 - Debe detallar qué trabajadores están cursando qué capacitación;
 - Debe detallar todos los temas de capacitación que cada trabajador abarcará; y
 - Debe estar firmada por el renovador certificado que realizó la capacitación.
 - Toda la documentación de la capacitación se debe conservar durante 3 años después de la finalización de la renovación.



Feb 09

8-15

Cuando imparta esta "capacitación informativa", el uso de una guía de capacitación, como *Pasos para la renovación, reparación y pintura SEGURAS CON EL PLOMO* hará que la documentación sea más sencilla. Debe mantener una copia de la guía de capacitación que se use durante la "capacitación informativa" que realiza en la obra. Haga una lista de cada destreza práctica segura con el plomo que se impartió a cada trabajador no certificado. Una lista de las destrezas prácticas que se enseñaron a cada trabajador no certificado con el material que se abordó en las reuniones informativas, proporcionará la documentación adecuada para cumplir con los requisitos de la regla RRP.

Diapositiva 8-16: Ahora ya saben...

- Lea la información de la diapositiva y termine el curso.

Ahora ya saben...

- Que los renovadores certificados son responsables de la capacitación de los renovadores no certificados.
- Los roles de los renovadores certificados y de los trabajadores capacitados pero no certificados durante una renovación.
- Cómo utilizar la guía *Pasos para la renovación, reparación y pintura SEGURAS CON EL PLOMO* para capacitar renovadores no certificados.

Apéndice 1:

Regla final de la EPA para el Programa de
Renovación, Reparación y Pintura (Código
de Regulación Federal 40, Parte 745)
de la EPA



Federal Register

**Tuesday,
April 22, 2008**

Part II

Environmental Protection Agency

40 CFR Part 745

**Lead; Renovation, Repair, and Painting
Program; Lead Hazard Information
Pamphlet; Notice of Availability; Final
Rule**

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 745

[EPA-HQ-OPPT-2005-0049; FRL-8355-7]

RIN 2070-AC83

Lead; Renovation, Repair, and Painting Program

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is issuing a final rule under the authority of section 402(c)(3) of the Toxic Substances Control Act (TSCA) to address lead-based paint hazards created by renovation, repair, and painting activities that disturb lead-based paint in target housing and child-occupied facilities. "Target housing" is defined in TSCA section 401 as any housing constructed before 1978, except housing for the elderly or persons with disabilities (unless any child under age 6 resides or is expected to reside in such housing) or any 0-bedroom dwelling. Under this rule, a child-occupied facility is a building, or a portion of a building, constructed prior to 1978, visited regularly by the same child, under 6 years of age, on at least two different days within any week (Sunday through Saturday period), provided that each day's visit lasts at least 3 hours and the combined weekly visits last at least 6 hours, and the combined annual visits last at least 60 hours. Child-occupied facilities may be located in public or commercial buildings or in target housing. This rule establishes requirements for training renovators, other renovation workers, and dust sampling technicians; for certifying renovators, dust sampling technicians, and renovation firms; for accrediting providers of renovation and dust sampling technician training; for renovation work practices; and for recordkeeping. Interested States, Territories, and Indian Tribes may apply for and receive authorization to administer and enforce all of the elements of these new renovation requirements.

DATES: This final rule is effective June 23, 2008.

ADDRESSES: EPA has established a docket for this action under docket identification (ID) number EPA-HQ-OPPT-2005-0049. All documents in the docket are listed in the docket index available in regulations.gov. To access the electronic docket, go to <http://www.regulations.gov>, select "Advanced Search," then "Docket Search." Insert the docket ID number where indicated

and select the "Submit" button. Follow the instructions on the regulations.gov website to view the docket index or access available documents. Although listed in the index, some information is not publicly available, e.g., Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available electronically at <http://www.regulations.gov>, or, if only available in hard copy, at the OPPT Docket. The OPPT Docket is located in the EPA Docket Center (EPA/DC) at Rm. 3334, EPA West Bldg., 1301 Constitution Ave., NW., Washington, DC. The EPA/DC Public Reading Room hours of operation are 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding Federal holidays. The telephone number of the EPA/DC Public Reading Room is (202) 566-1744, and the telephone number for the OPPT Docket is (202) 566-0280. Docket visitors are required to show photographic identification, pass through a metal detector, and sign the EPA visitor log. All visitor bags are processed through an X-ray machine and subject to search. Visitors will be provided an EPA/DC badge that must be visible at all times in the building and returned upon departure.

FOR FURTHER INFORMATION CONTACT: *For general information contact:* Colby Lintner, Regulatory Coordinator, Environmental Assistance Division (7408M), Office of Pollution Prevention and Toxics, Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460-0001; telephone number: (202) 554-1404; e-mail address: TSCA-Hotline@epa.gov.

For technical information contact: Mike Wilson, National Program Chemicals Division (7404T), Office of Pollution Prevention and Toxics, Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460-0001; telephone number: (202) 566-0521; e-mail address: wilson.mike@epa.gov.

SUPPLEMENTARY INFORMATION:

I. Does this Action Apply to Me?

You may be potentially affected by this action if you perform renovations of target housing or child-occupied facilities for compensation or dust sampling. "Target housing" is defined in section 401 of TSCA as any housing constructed prior to 1978, except housing for the elderly or persons with disabilities (unless any child under age 6 resides or is expected to reside in such housing) or any 0-bedroom dwelling.

Under this rule, a child-occupied facility is a building, or a portion of a building, constructed prior to 1978, visited regularly by the same child, under 6 years of age, on at least 2 different days within any week (Sunday through Saturday period), provided that each day's visit lasts at least 3 hours and the combined weekly visits last at least 6 hours, and the combined annual visits last at least 60 hours. Child-occupied facilities may be located in public or commercial buildings or in target housing. Potentially affected entities may include, but are not limited to:

- Building construction (NAICS code 236), e.g., single family housing construction, multi-family housing construction, residential remodelers.
- Specialty trade contractors (NAICS code 238), e.g., plumbing, heating, and air-conditioning contractors, painting and wall covering contractors, electrical contractors, finish carpentry contractors, drywall and insulation contractors, siding contractors, tile and terrazzo contractors, glass and glazing contractors.
- Real estate (NAICS code 531), e.g., lessors of residential buildings and dwellings, residential property managers.
- Child day care services (NAICS code 624410).
- Elementary and secondary schools (NAICS code 611110), e.g., elementary schools with kindergarten classrooms.
- Other technical and trade schools (NAICS code 611519), e.g., training providers.
- Engineering services (NAICS code 541330) and building inspection services (NAICS code 541350), e.g., dust sampling technicians.

This listing is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this action. Other types of entities not listed in this unit could also be affected. The North American Industrial Classification System (NAICS) codes have been provided to assist you and others in determining whether this action might apply to certain entities. To determine whether you or your business may be affected by this action, you should carefully examine the applicability provisions in Unit III. If you have any questions regarding the applicability of this action to a particular entity, consult the technical person listed under **FOR FURTHER INFORMATION CONTACT**.

II. Background

A. What Action is the Agency Taking?

EPA is issuing a final rule under the authority of section 402(c)(3) of the

Toxic Substances Control Act (TSCA) to address lead-based paint hazards created by renovation, repair, and painting activities (hereinafter also referred to as renovation activities or renovation projects) that disturb lead-based paint in target housing and child-occupied facilities. "Target housing" is defined in TSCA section 401 as any housing constructed before 1978, except housing for the elderly or persons with disabilities (unless any child under age 6 resides or is expected to reside in such housing) or any 0-bedroom dwelling. Under this rule, a child-occupied facility is a building, or a portion of a building, constructed prior to 1978, visited regularly by the same child, under 6 years of age, on at least two different days within any week (Sunday through Saturday period), provided that each day's visit lasts at least 3 hours and the combined weekly visits last at least 6 hours, and the combined annual visits last at least 60 hours. Child-occupied facilities may be located in public or commercial buildings or in target housing. This rule establishes requirements for training renovators, other renovation workers, and dust sampling technicians; for certifying renovators, dust sampling technicians, and renovation firms; for accrediting providers of renovation and dust sampling technician training; for renovation work practices; and for recordkeeping. Interested States, Territories, and Indian Tribes may apply for and receive authorization to administer and enforce all of the elements of these new renovation requirements.

1. *Information on lead and its health effects.* Lead is a soft, bluish metallic chemical element mined from rock and found in its natural state all over the world. Lead is virtually indestructible, is persistent, and has been known since antiquity for its adaptability in making various useful items. In modern times, it has been used to manufacture many different products, including paint, batteries, pipes, solder, pottery, and gasoline. Through the 1940's, paint manufacturers frequently used lead as a primary ingredient in many oil-based interior and exterior house paints. Usage gradually decreased through the 1950's and 1960's as titanium dioxide replaced lead and as latex paints became more widely available.

Lead has been demonstrated to exert "a broad array of deleterious effects on multiple organ systems via widely diverse mechanisms of action." This array of health effects, the evidence for which is comprehensively described in EPA's Air Quality Criteria for Lead document (Ref. 1), includes heme

biosynthesis and related functions; neurological development and function; reproduction and physical development; kidney function; cardiovascular function; and immune function. There is also some evidence of lead carcinogenicity, primarily from animal studies, together with limited human evidence of suggestive associations.

Of particular interest for present purposes is the delineation of lowest observed effect levels for those lead-induced effects that are most clearly associated with blood lead less than 10 µg/dL in children and/or adults and are, therefore, of greatest public health concern (Ref. 1, at 8-60). As evident from the Criteria Document, neurotoxic effects in children and cardiovascular effects in adults are among those best substantiated as occurring at blood-lead concentrations as low as 5 to 10 µg/dL (or possibly lower); and these categories of effects are currently clearly of greatest public health concern. Other newly demonstrated immune and renal system effects among general population groups are also emerging as low-level lead-exposure effects of potential public health concern. (Ref. 1, at 8-60)

The overall weight of the available evidence provides clear substantiation of neurocognitive decrements being associated in young children with blood lead concentrations in the range of 5–10 micrograms per deciliter (µg/dL), and possibly somewhat lower. Some newly available analyses appear to show lead effects on the intellectual attainment of preschool and school age children at population mean concurrent blood-lead levels ranging down to as low as 2 to 8 µg/dL. A decline of 6.2 points in full scale IQ for an increase in concurrent blood lead levels from 1 to 10 µg/dL has been estimated, based on a pooled analysis of results derived from seven well-conducted prospective epidemiologic studies (Ref. 1, at E-9).

Epidemiologic studies have consistently demonstrated associations between lead exposure and enhanced risk of deleterious cardiovascular outcomes, including increased blood pressure and incidence of hypertension. A meta-analysis of numerous studies estimates that a doubling of blood lead level (e.g., from 5 to 10 µg/dL) is associated with ~1.0 mm Hg increase in systolic blood pressure and ~0.6 mm Hg increase in diastolic pressure. (Ref. 1, at E-10).

Both epidemiologic and toxicologic studies have shown that environmentally relevant levels of lead affect many different organ systems (Ref. 1, at E-8). Please see Ref. 1 for further information.

The nervous system has long been recognized as a target of lead toxicity, with the developing nervous system affected at lower exposures than the mature system. While blood lead levels in U.S. children ages 1 to 5 years have decreased notably since the late 1970's, newer studies have investigated and reported associations of effects on the neurodevelopment of children at population mean concurrent blood lead levels ranging down to as low as 2 to 8 µg/dL (Ref. 1, at E-9). Functional manifestations of lead neurotoxicity during childhood include sensory, motor, cognitive and behavioral impacts. Investigating associations between lead exposure and behavior, mood, and social conduct of children has been an emerging area of research (see Ref. 1, at 6.2.6). Early studies indicated linkages between lower-level lead toxicity and behavioral problems (e.g., aggression, attentional problems, and hyperactivity) in children.

Effects of lead on neurobehavior have been reported with remarkable consistency across numerous studies of various designs, populations studied, and developmental assessment protocols. The negative impact of lead on IQ and other neurobehavioral outcomes persist in most recent studies following adjustment for numerous confounding factors including social class, quality of caregiving, and parental intelligence. Moreover, these effects appear to persist into adolescence and young adulthood. Cognitive effects associated with lead exposures that have been observed in some studies include decrements in intelligence test results, such as the widely used IQ score, and in academic achievement as assessed by various standardized tests as well as by class ranking and graduation rates. Associations between lead exposure and academic achievement observed in the above-noted studies were significant even after adjusting for IQ, suggesting that lead-sensitive neuropsychological processing and learning factors not reflected by global intelligence indices might contribute to reduced performance on academic tasks (Ref. 1, at 8–29).

Other cognitive effects observed in studies of children have included effects on attention, executive functions, language, memory, learning and visuospatial processing with attention and executive function effects observed. The evidence for the role of lead in this suite of effects includes experimental animal findings. These animal toxicology findings provide strong biological plausibility in support of the concept that lead may impact one or more of these specific cognitive

functions in humans (Ref. 1, at 8–30). Further, lead-induced deficits observed in animal and epidemiological studies, for the most part, have been found to be persistent in the absence of markedly reduced environmental exposures. It is additionally important to note that there may be long-term consequences of such deficits over a lifetime. Studies examining aspects of academic achievement related to lead exposure indicate the association of deficits in academic skills and performance, which in turn lead to enduring and important effects on objective parameters of success in real life (Ref. 1, at 6–76).

Lead bioaccumulates, and is only slowly removed, with bone lead serving as a blood lead source for years after exposure and may serve as a significant source of exposure. Bone accounts for more than 90% of the total body burden of lead in adults and 70% in children (Ref. 1, at 4–42). In comparison to adults, bone mineral turns over much more quickly in children as a result of growth. Changes in blood lead concentration in children are thought to parallel more closely to changes in total body burden. Therefore, blood lead concentration is often used in epidemiologic and toxicological studies as an index of exposure and body burden for children.

Paint that contains lead can pose a health threat through various routes of exposure. House dust is the most common exposure pathway through which children are exposed to lead-based paint hazards. Dust created during normal lead-based paint wear (especially around windows and doors) can create an invisible film over surfaces in a house. Children, particularly younger children, are at risk for high exposures of lead-based paint dust via hand-to-mouth exposure, and may also ingest lead-based paint chips from flaking paint on walls, windows, and doors. Lead from exterior house paint can flake off or leach into the soil around the outside of a home, contaminating children's play areas. Cleaning and renovation activities may actually increase the threat of lead-based paint exposure by dispersing lead dust particles in the air and over accessible household surfaces. In turn, both adults and children can receive hazardous exposures by inhaling the dust or by ingesting lead-based paint dust during hand-to-mouth activities.

2. Statutory and regulatory background. In 1992, Congress found that low-level lead poisoning was widespread among American children, affecting, at that time, as many as 3,000,000 children under age 6; that the ingestion of household dust containing

lead from deteriorating or abraded lead-based paint was the most common cause of lead poisoning in children; and that the health and development of children living in as many as 3,800,000 American homes was endangered by chipping or peeling lead paint, or excessive amounts of lead-contaminated dust in their homes. Congress further determined that the prior Federal response to this threat was insufficient and enacted Title X of the Housing and Community Development Act of 1992, Public Law 102–550 (also known as the Residential Lead-Based Paint Hazard Reduction Act of 1992) (“the Act” or “Title X”). Title X established a national goal of eliminating lead-based paint hazards in housing as expeditiously as possible and provided a leadership role for the Federal government in building the infrastructure necessary to achieve this goal.

Subsequently, President Clinton created the President's Task Force on Environmental Health Risks and Safety Risks to Children. Co-chaired by the Secretary of the Department of Health and Human Services (HHS) and the Administrator of EPA, the Task Force consisted of representatives from 16 Federal departments and agencies. The Task Force set a Federal goal of eliminating childhood lead poisoning by the year 2010 (Ref. 2). In October 2001, President Bush extended the work of the Task Force for an additional 18 months beyond its original charter. Reducing lead poisoning in children was the Task Force's top priority. Although more work remains to be done, significant progress has been made towards reducing lead poisoning in children. The estimated percentage of children with blood lead levels above the CDC level of concern declined from 4.4% between 1991 and 1994 to 1.6% between 2003 and 2004. More information on Federal efforts to address lead poisoning, including the responsibilities of EPA and other Federal Agencies under Title X, can be found in Units III.A. and III.B. of the preamble to the 2006 Lead; Renovation, Repair, and Painting Program Proposed Rule (“2006 Proposal”) (Ref. 3).

The Act added a new title to TSCA entitled “Title IV—Lead Exposure Reduction.” Most of EPA's responsibilities for addressing lead-based paint hazards can be found in this title, with section 402 of TSCA being one source of the rulemaking authority to carry out these responsibilities. TSCA section 402(a) directs EPA to promulgate regulations covering lead-based paint activities to ensure persons performing these activities are properly trained, that training programs are

accredited, and that contractors performing these activities are certified. These regulations must contain standards for performing lead-based paint activities, taking into account reliability, effectiveness, and safety. On August 29, 1996, EPA promulgated final regulations under TSCA section 402(a) that govern lead-based paint inspections, lead hazard screens, risk assessments, and abatements in target housing and child-occupied facilities (also referred to as the Lead-based Paint Activities Regulations). These regulations, codified at 40 CFR part 745, subpart L, contain an accreditation program for training providers and training and certification requirements for lead-based paint inspectors, risk assessors, project designers, abatement supervisors, and abatement workers. Work practice standards for lead-based paint activities are included. Pursuant to TSCA section 404, provision was made for interested States, Territories, and Indian Tribes to apply for and receive authorization to administer their own lead-based paint activities programs.

On June 9, 1999, the Lead-based Paint Activities Regulations were amended to include a fee schedule for training programs seeking EPA accreditation and for individuals and firms seeking EPA certification (Ref. 5). These fees were established as directed by TSCA section 402(a)(3), which requires EPA to recover the cost of administering and enforcing the lead-based paint activities requirements in unauthorized States. The most recent amendment to the Lead-based Paint Activities Regulations occurred on April 8, 2004, when notification requirements were added to help EPA monitor compliance with the training and certification provisions and the abatement work practice standards (Ref. 5).

Another of EPA's responsibilities under Title X is to require that purchasers and tenants of target housing and occupants of target housing undergoing renovation are provided information on lead-based paint and lead-based paint hazards. As directed by TSCA section 406(a), the Consumer Products Safety Commission (CPSC), the Department of Housing and Urban Development (HUD), and EPA, in consultation with the Centers for Disease Control and Prevention (CDC), jointly developed a lead hazard information pamphlet entitled *Protect Your Family From Lead in Your Home* (“PYF”) (Ref. 7). This pamphlet was designed to be distributed as part of the disclosure requirements of section 1018 of Title X and TSCA section 406(b), to provide home purchasers, renters,

owners, and occupants with the information necessary to allow them to make informed choices when selecting housing to buy or rent, or deciding on home renovation projects. The pamphlet contains information on the health effects of lead, how exposure can occur, and steps that can be taken to reduce or eliminate the risk of exposure during various activities in the home.

TSCA section 406(b) directs EPA to promulgate regulations requiring persons who perform renovations for compensation in target housing to provide a lead hazard information pamphlet to owners and occupants of the home being renovated. These regulations, promulgated on June 1, 1998, are codified at 40 CFR part 745, subpart E (Ref. 8). The term "renovation" is not defined in the statute, but the regulation, at 40 CFR 745.83, defines a "renovation" as the modification of any existing structure, or portion of a structure, that results in the disturbance of painted surfaces. The regulations specifically exclude lead-based paint abatement projects as well as small projects that disturb 2 square feet or less of painted surface per component, emergency projects, and renovations affecting components that have been found to be free of lead-based paint, as that term is defined in the regulations, by a certified inspector or risk assessor. These regulations require the renovation firm to document compliance with the requirement to provide the owner and the occupant with the PYF pamphlet. TSCA section 404 also allows States to apply for, and receive authorization to administer, the TSCA section 406(b) requirements.

TSCA section 403 directs EPA to promulgate regulations that identify, for the purposes of Title X and Title IV of TSCA, dangerous levels of lead in paint, dust, and soil. These regulations were promulgated on January 5, 2001, and codified at 40 CFR part 745, subpart D (Ref. 9). These hazard standards define lead-based paint hazards in target housing and child-occupied facilities as paint-lead, dust-lead, and soil-lead hazards. A paint-lead hazard is defined as any damaged or deteriorated lead-based paint, any chewable lead-based painted surface with evidence of teeth marks, or any lead-based paint on a friction surface if lead dust levels underneath the friction surface exceed the dust-lead hazard standards. A dust-lead hazard is surface dust that contains a mass-per-area concentration of lead equal to or exceeding 40 micrograms per square foot ($\mu\text{g}/\text{ft}^2$) on floors or 250 $\mu\text{g}/\text{ft}^2$ on interior windowsills based on wipe samples. A soil-lead hazard is bare soil that contains total lead equal to or

exceeding 400 parts per million (ppm) in a play area or average of 1,200 ppm of bare soil in the rest of the yard based on soil samples.

TSCA section 402(c) addresses renovation and remodeling. For the stated purpose of reducing the risk of exposure to lead in connection with renovation and remodeling activities, section 402(c)(1) of TSCA requires EPA to promulgate and disseminate guidelines for the conduct of such activities that may create a risk of exposure to dangerous levels of lead. In response to this statutory directive, EPA developed the guidance document entitled *Reducing Lead Hazards when Remodeling Your Home* in consultation with industry and trade groups (Ref. 10). This document has been widely disseminated to renovation and remodeling stakeholders through the National Lead Information Center, EPA Regions, and EPA's State and Tribal partners and is available at <http://www.epa.gov/lead/pubs/rrpamph.pdf>.

TSCA section 402(c)(2) directs EPA to study the extent to which persons engaged in various types of renovation and remodeling activities are exposed to lead during such activities or create a lead-based paint hazard regularly or occasionally. EPA conducted this study in four phases. Phase I, the Environmental Field Sampling Study (Ref. 11), evaluated the amount of leaded dust released by the following activities:

- Paint removal by abrasive sanding.
- Removal of large structures, including demolition of interior plaster walls.
- Window replacement.
- Carpet removal.
- HVAC repair or replacement, including duct work.
- Repairs resulting in isolated small surface disruptions, including drilling and sawing into wood and plaster.

Phase II, the Worker Characterization and Blood Lead Study (Ref. 12), involved collecting data on blood lead and renovation and remodeling activities from workers. Phase III, the Wisconsin Childhood Blood-Lead Study (Ref. 13.), was a retrospective study focused on assessing the relationship between renovation and remodeling activities and children's blood-lead levels. Phase IV, the Worker Characterization and Blood-Lead Study of R&R Workers Who Specialize in Renovations of Old or Historic Homes (Ref. 14), was similar to Phase II, but focused on individuals who worked primarily in old historic buildings. More information on the results of these peer-reviewed studies can be found in Unit

III.C.1. of the preamble to the 2006 Proposal.

3. *Summary of 2006 Proposal.* TSCA section 402(c)(3) directs EPA to revise the Lead-based Paint Activities Regulations to apply to renovation or remodeling activities that create lead-based paint hazards. In the 2006 Proposal, EPA proposed to conclude that any renovation activity that disturbs lead-based paint can create significant amounts of leaded dust, that most activities created lead-based paint hazards, and that some activities can be reasonably anticipated to create lead-based paint hazards. Accordingly, on January 10, 2006, EPA issued a Notice of Proposed Rulemaking covering renovation performed for compensation in target housing (Ref. 3). The 2006 Proposal contained requirements designed to address lead-based paint hazards created by renovation, repair, and painting activities that disturb lead-based paint. The 2006 Proposal included requirements for training renovators, other renovation workers, and dust sampling technicians; for certifying renovators, dust sampling technicians, and renovation firms; for accrediting providers of renovation and dust sampling technician training; for renovation work practices; and for recordkeeping. The 2006 Proposal would have made the rule effective in two stages. Initially, the rule would have applied to all renovations for compensation performed in target housing where a child with an increased blood lead level resided and rental target housing built before 1960. The rule would also have applied to owner-occupied target housing built before 1960, unless the person performing the renovation obtained a statement signed by the owner-occupant that the renovation would occur in the owner's residence and that no child under age 6 resided there. As proposed, the rule would take effect 1 year later in all rental target housing built between 1960 and 1978 and owner-occupied target housing built between 1960 and 1978. EPA also proposed to allow interested States, Territories, and Indian Tribes the opportunity to apply for and receive authorization to administer and enforce all of the elements of the new renovation provisions.

4. *Summary of 2007 Supplemental Proposal.* EPA received approximately 250 comments on its 2006 Proposal. These comments came from a wide variety of commenters, including State and local governments, industry groups, advocacy groups, renovation contractors, training providers, and individuals. A significant number of these commenters observed that the

proposal did not cover buildings where children under age 6 spend a great deal of time, such as day care centers and schools. Commenters noted that the risk posed to children from lead-based paint hazards in schools and day care centers is likely to be equal to, if not greater than, the risk posed from these hazards at home. These commenters suggested that EPA expand its proposal to include such places, and several suggested that EPA use the existing definition of "child-occupied facility" in 40 CFR 745.223 to define the expanded scope of coverage. EPA felt that these comments had merit, and, because adding child-occupied facilities was beyond the scope of the 2006 Proposal, an expansion of the 2006 Proposal was necessary to give this issue full and fair consideration. Accordingly, on June 5, 2007, EPA issued a Supplemental Notice of Proposed Rulemaking (2007 Supplemental Proposal) to add child-occupied facilities to the universe of buildings covered by the 2006 Proposal (Ref. 15).

EPA proposed to use the definition of "child-occupied facility" from 40 CFR 745.223 with some modifications to make it consistent with the statutory focus on children under age 6 and to better describe the applicability of the term in target housing and in public or commercial buildings. The 2007 Supplemental Proposal would apply all of the accreditation, training, certification, work practice, and recordkeeping requirements to renovations in child-occupied facilities in the same way that the requirements would apply to renovations in target housing. In addition, EPA proposed to extend the lead hazard information distribution requirements of the Pre-Renovation Education Rule, 40 CFR part 745, subpart E, to renovations in child-occupied facilities. Specifically, EPA proposed that persons performing renovations in child-occupied facilities in public or commercial buildings would have to provide a lead hazard information pamphlet to the owner of the building and to the proprietor of the child-occupied facility. In addition, general information about the renovation would have to be provided to parents and guardians of children under age 6 using the child-occupied facility. The 2007 Supplemental Proposal further provided that a lead hazard information pamphlet would have to be provided to parents and guardians or made available upon request. EPA received 12 comments on its 2007 Supplemental Proposal.

5. *2007 Notice of Data Availability.* After the 2006 proposal, two new studies assessing hazards associated

with renovation activities were completed. On March 16, 2007, EPA announced the availability of these new studies in the docket for this rulemaking (Ref. 16). EPA requested comment on how these studies might inform provisions of the final rule. EPA received nearly 100 comments in response to its notice. Comments specifically on the studies are discussed below. Comments on how the studies might affect the final rule are discussed along with the provisions of the final rule in Unit III.E. of this preamble.

a. *Characterization of Dust Lead Levels after Renovation, Repair, and Painting Activities.* EPA conducted a field study (Characterization of Dust Lead Levels after Renovation, Repair, and Painting Activities) (the "Dust Study") to characterize dust lead levels resulting from various renovation, repair, and painting activities (Ref. 17). This study, completed in January 2007, was designed to compare environmental lead levels at appropriate stages after various types of renovation, repair, and painting preparation activities were performed on the interiors and exteriors of target housing units and child-occupied facilities. All of the jobs disturbed more than 2 square feet of lead-based paint, so they would not have been eligible for the minor maintenance exception from the 2006 Proposal. The renovation activities were conducted by local professional renovation firms, using personnel who received lead safe work practices training using the curriculum developed by EPA and HUD, "Lead Safety for Remodeling, Repair, and Painting" (Ref. 18). The activities conducted represented a range of activities that would be permitted under the 2006 Proposal, including work practices that are restricted or prohibited for abatements under 40 CFR 745.227(e)(6). Of particular interest was the impact of using specific work practices that renovation firms would be required to use under the proposed rule, such as the use of plastic to contain the work area and a multi-step cleaning protocol, as opposed to more typical work practices.

The design of the Dust Study was peer-reviewed by experts in fields related to the study. They reviewed the design and quality assurance plan independently and provided written comments to EPA. The results of this peer-review are summarized in Unit 2 of the Dust Study report (Ref. 17). In addition, the record of this peer-review, which includes the comments from the reviewers and EPA's responses, has been placed into the public docket for this action.

In the Dust Study, 12 different interior and 12 different exterior renovation activities were performed at 7 vacant target housing units in Columbus, Ohio, and 8 vacant target housing units (including four apartments) in Pittsburgh, Pennsylvania. Three different interior and three different exterior renovation activities were conducted at a building representing a child-occupied facility, a vacant school in Columbus. The presence of lead-based paint was confirmed by laboratory analysis before a building was assigned a particular renovation activity or set of activities. Before interior renovation activities were performed, the floors and windowsills in the work area and adjacent rooms were cleaned. In most cases, pre-work cleaning resulted in dust lead levels on floors of less than 10 $\mu\text{g}/\text{ft}^2$; nearly all floors were less than 40 $\mu\text{g}/\text{ft}^2$ before work started. Most windowsills that would be used for later sampling were cleaned to dust lead levels less than 250 $\mu\text{g}/\text{ft}^2$. In the few cases where that level was not achieved on a windowsill needed for sampling, dust collection trays were used. Interior renovation activities included the following jobs:

- Making cut-outs in the walls.
- Replacing a window from the inside.
- Removing paint with a high temperature (greater than 1100 degrees Fahrenheit) heat gun.
- Removing paint with a low temperature (less than 1100 degrees Fahrenheit) heat gun.
- Removing paint by dry scraping.
- Removing kitchen cabinets.
- Removing paint with a power planer.

To illustrate the impact of the containment plastic and the specialized cleaning and cleaning verification protocol that would be required by the 2006 Proposal, each activity was performed a minimum of four times:

- With the plastic containment described in the 2006 Proposal followed by the cleaning protocol described in the proposal.
- With the plastic containment described in the 2006 Proposal followed by dry sweeping and vacuuming with a shop vacuum.
- With no plastic containment followed by the cleaning protocol described in the 2006 Proposal.
- With no plastic containment followed by dry sweeping and vacuuming with a shop vacuum.

Dust samples were collected after the renovation work was completed, after cleaning, and after cleaning verification. If a building was being used again for the same job under different work

practices, or for a completely different job, the unit was re-cleaned and retested prior to starting the next job. All buildings were cleaned and tested after the last job.

Geometric mean post-work, pre-cleaning floor dust lead levels in the work room were as follows (in $\mu\text{g}/\text{ft}^2$):

- Cut-outs--422.
- Kitchen cabinet removal--958.
- Low temperature heat gun--2,080.
- Dry scraping--2,686.
- Window replacement--3,993.
- High temperature heat gun--7,737.
- Power planing--32,644.

Power planing is an activity very similar to power sanding in which a machine that operates at high speed generating large quantities of dust is used.

Where baseline practices, i.e., no containment, dry sweeping, and vacuuming with a shop vacuum, were used, the geometric mean post-job floor dust lead levels in the work room were as follows (in $\mu\text{g}/\text{ft}^2$):

- Cut-outs--22.
- Kitchen cabinet removal--58.
- Low temperature heat gun--41.
- Dry scraping--66.
- Window replacement--135.
- High temperature heat gun--445.
- Power planing--450.

The package of proposed rule requirements, i.e., containment, specialized cleaning, and cleaning verification, resulted in the lowest geometric mean dust lead levels in the work room at the end of a job. These results were as follows (in $\mu\text{g}/\text{ft}^2$):

- Cut-outs--5.
- Kitchen cabinet removal--12.
- Low temperature heat gun--24.
- Dry scraping--30.
- Window replacement--33.
- High temperature heat gun--36.
- Power planing--148.

Windowsill sample results were similar; the geometric mean dust lead levels after renovation activities performed in accordance with the proposed rule exceeded $250 \mu\text{g}/\text{ft}^2$ only where power planing or a high temperature heat gun were used. When baseline practices were used, the geometric mean dust lead levels on the windowsills exceeded $250 \mu\text{g}/\text{ft}^2$ for kitchen cabinet removal, window replacement, high temperature heat gun use, and power planing.

Exterior renovation activities performed as part of the study included the following:

- Replacing a door and doorway.
- Replacing fascia boards, soffits, and other trim.
- Removing paint with a high temperature (greater than 1100 degrees Fahrenheit) heat gun.

- Removing paint with a low temperature (less than 1100 degrees Fahrenheit) heat gun.

- Removing paint by dry scraping.
- Removing paint with a needle gun.
- Removing paint with power sanding or grinding.
- Removing paint with a torch or open flame.

For the exterior jobs, plastic sheeting was placed on the ground to catch the debris and dust from the job, in accordance with the requirements of the proposed rule. Additional plastic sheeting was laid out beneath and beyond the "proposed rule" plastic. Trays to collect dust and debris were placed on top of and underneath the "proposed rule" plastic. Trays were also placed just outside of the "proposed rule" plastic to assess how far the dust was spreading. A vertical containment, as high as the work zone, was erected at the end of the additional plastic.

The use of the "proposed rule" plastic as a ground covering captured large amounts of leaded dust. For all job types except removing paint with a torch, there was a substantial difference between the amount of lead captured by the "proposed rule" plastic and the amount under the "proposed rule" plastic. Including both bulk debris and dust, geometric mean lead levels in exterior samples from the collection trays on top of the "proposed rule" plastic ranged from a low of $60,662 \mu\text{g}/\text{ft}^2$ for the door replacement activity to a high of $7,216,358 \mu\text{g}/\text{ft}^2$ for removing paint with a high temperature heat gun. Geometric mean lead levels from the collection trays under the "proposed rule" plastic ranged from a low of $32 \mu\text{g}/\text{ft}^2$ for door replacement to $8,565 \mu\text{g}/\text{ft}^2$ for removing paint with a torch.

This regulatory action was supported by the Dust Study discussed above. Therefore, EPA conducted a peer review in accordance with OMB's Final Information Quality Bulletin for Peer Review. EPA requested this review from the Clean Air Scientific Advisory Committee (CASAC) Lead Review Panel. The CASAC, which is comprised of seven members appointed by the EPA Administrator, was established under the Clean Air Act as an independent scientific advisory committee. The CASAC's comments on the Dust Study, along with EPA's responses, have been placed into the public docket for this action. More information on the CASAC consultation process, along with background documents, is available on EPA's website at <http://www.epa.gov/lead/pubs/casac.htm>.

According to the peer review report, the CASAC Panel found

...that the [Dust Study] was reasonably well-designed, considering the complexity of the problem, and that the report provided information not available from any other source. The study indicated that the rule cleaning procedures reduced the residual lead (Pb) remaining after a renovation more than did the baseline cleaning procedures. Another positive aspect of the Dust Study was that it described deviations from the protocol when they occurred.

The CASAC Panel also contended that the limited data from residential housing units and child-occupied facilities included in the Dust Study, most likely do not represent a statistically valid sample of housing at the national level. They noted that there are aspects of the study that would underestimate the levels of lead-loadings while other aspects of the study would overestimate the loadings. EPA agrees that the Dust Study is not nationally representative of all housing. EPA notes that there are several reasons why this is the case, including the fact that all of the housing studied was built during 1925 or earlier, and a large number of the floors were in poor condition. A major purpose of the Dust Study was to assess the proposed work practices. A statistically valid sample of housing at the national level is not needed to assess the work practices. If anything, the Dust Study is conservative with respect to the age of housing because it studied older houses and therefore is appropriate for assessing the effectiveness of the work practices.

In addition to the Dust Study which directly supported this regulatory action, several other studies are discussed throughout the preamble which may or may not have been peer reviewed.

b. Lead-Safe Work Practices Survey Project. The National Association of Home Builders (NAHB) conducted a survey that assessed renovation and remodeling activities to measure levels of lead dust generated by home improvement contractors (Ref. 19). The stated objective of this survey, completed in November 2006, was to measure the amount of lead dust generated during typical renovation and remodeling activities and assess whether routine renovation and remodeling activities increased lead dust levels in the work area and on the property.

The activities evaluated during the survey were selected in consultation with remodeling contractors. NAHB believes that these activities represent the most common jobs performed by renovation and remodeling firms. The renovations were performed by professional renovation and remodeling

contractors from each of the communities where the properties were located. All of the workers who participated in this project had previously attended and successfully completed the EPA/HUD curriculum for *Lead Safety for Remodeling, Repair, & Painting*.

According to the NAHB survey, an EPA-certified lead-based paint inspector confirmed the presence of lead-based paint in all of the properties considered for this survey. Previous inspection reports were consulted if the inspections conformed to the HUD Guidelines for lead-based paint inspections. Properties used in this survey included a single family home in Illinois, two single-family homes and a duplex in Connecticut, and an apartment above a storefront in Wisconsin.

The NAHB survey evaluated the following activities:

- Wall and ceiling removal (demolition).
- Wall and ceiling modification.
- Window and door removal and/or replacement (no sanding).
- Window and door alteration (no sanding).
- Sanding on windows and doors.
- Kitchen or bath cabinet removal.
- Baseboard and stair removal.
- Surface preparation (sanding).
- Sawing into wood and plaster.

Activities were performed in one of three ways: Using the work practices presented in the EPA/HUD curriculum, using modified work practices (one or more of the dust control or cleanup methods discussed in the EPA/HUD curriculum), or routine renovation practices.

Area air samples were collected before, during and after the work activity. Personal breathing zone air samples were collected during the work activity. Dust wipe samples were collected before work started and after final clean-up. Dust wipe samples were routinely collected from floors near the work activity and in some cases collected from a windowsill and/or window well.

In comparing the mean dust lead levels before the activities with the mean dust lead levels after the activities, the NAHB concluded that the renovation activities surveyed did not create new lead dust hazards overall. However, even after clean-up was conducted, over half of the 60 individual renovation activities studied resulted in an increase in dust lead levels on at least one surface. In most cases, the increase was considerably greater than the regulatory dust-lead hazard standard for that surface.

6. *Statutory finding and regulatory approach—TSCA section 402(c)(3) determination.* TSCA section 402(c)(3) directs EPA to revise the regulations issued under TSCA section 402(a), the Lead-based Paint Activities Regulations, to apply to renovation or remodeling activities that create lead-based paint hazards. EPA finds that renovation, repair, and painting activities that disturb lead-based paint create lead-based paint hazards. This finding is based upon EPA's Environmental Field Sampling Study and corroborated by the Dust Study and the NAHB survey (Refs. 11, 17, and 19).

In the 2006 Proposal, EPA proposed to conclude that any renovation activity that disturbs lead-based paint can create significant amounts of leaded dust, that most activities created lead-based paint hazards, and that some activities can be reasonably anticipated to create lead-based paint hazards. EPA's proposed conclusions were based upon the results of the Environmental Field Sampling Study, which examined, on a variety of components using a variety of tools and methods, activities that EPA had determined were representative of the paint-disturbing activities that typically occur during renovations. The activities were:

- Paint removal by abrasive sanding.
- Window replacement.
- HVAC duct work.
- Demolition of interior plaster walls.
- Drilling into wood.
- Drilling into plaster.
- Sawing into wood.
- Sawing into plaster.

Specifically, EPA proposed to conclude that all of the activities studied in the Environmental Field Sampling Study, with the exception of drilling into plaster, can create lead-based paint hazards. With respect to drilling into plaster, where lead-based paint is present, EPA proposed to conclude that this activity can reasonably be anticipated to create lead-based paint hazards. The Environmental Field Sampling Study found that, with the exception of drilling into plaster, all renovation and remodeling activities, when conducted where lead-based paint is present, generated lead loadings on floors at a distance of 5 to 6 feet from the activity that exceeded EPA's dust-lead hazard standard of 40 µg/ft². However, upon further review, it is apparent that the study also found that drilling into plaster created dust lead levels in the immediate vicinity of the activity that exceeded the dust-lead hazard standard. Thus, all the activities studied did in fact create lead-based paint hazards.

The 2006 Proposal cited the other phases of the TSCA section 402(c)(2) renovation and remodeling study to support EPA's proposed determination that any renovation, remodeling, or painting activity that disturbs lead-based paint can be reasonably anticipated to create lead-based paint hazards. Phase III, the Wisconsin Childhood Blood-Lead Study, found that children who live in homes where renovation and remodeling activities were performed within the past year are 30% more likely to have a blood lead level that equals or exceeds 10 µg/dL, the level of concern established by CDC, than children living in homes where no such activity has taken place recently. Phases II and IV of the study, which evaluated worker exposures from renovation and remodeling activities, provide additional documentation of the significant and direct relationship between blood-lead levels and the conduct of certain renovation and remodeling activities. Phase II found a statistically significant association between increased blood lead levels and the number of days spent performing general renovation and remodeling activities, paint removal, and cleanup in pre-1950 buildings in the past month. Phase IV of the study found that persons performing renovation and remodeling activities in old historic buildings are more likely to have elevated blood lead levels than persons in the general population of renovation and remodeling workers.

In light of EPA's proposed determination, the 2006 Proposal included revisions to the existing Lead-based Paint Activities Regulations to extend them to renovation, remodeling, and painting activities in target housing, with certain exceptions. In proposing to extend these regulations to renovation, remodeling, and painting activities in child-occupied facilities, the 2007 Supplemental Proposal incorporated the proposed TSCA section 402(c)(3) determination.

Since the 2006 Proposal, EPA conducted the Dust Study and NAHB submitted the results of their survey. The results of the Dust Study confirm that renovation and remodeling activities that disturb lead-based paint create lead-based paint hazards. The Dust Study evaluated a number of common renovation activities, including replacing windows, removing kitchen cabinets, cutting into walls, and removing paint by high and low temperature heat guns, power tools, and dry scraping. The geometric mean post-work dust lead levels on work room floors ranged from a low of 422 µg/ft², or 10 times the dust-lead hazard

standard for floors, for cut-outs, to a high of 32,644 $\mu\text{g}/\text{ft}^2$ for power planing. Thus, all of the activities evaluated in the Dust Study created floor dust lead levels that exceeded 40 $\mu\text{g}/\text{ft}^2$, one of the measures that, in 40 CFR 745.65, defines a lead-based paint hazard. It is more difficult to evaluate the effect of disturbing lead-based paint in the NAHB Survey, since the survey did not involve collecting samples after work had been performed but before the post-renovation cleaning had begun. Nevertheless, even after post-renovation cleaning using a variety of methods, in more than half of the 60 experiments performed in this survey, the post-cleaning dust wipe sample results for at least one surface showed an increase greater than the TSCA section 403 hazard standard over pre-work levels. These experiments showing increased dust lead levels cover the range of activities evaluated in the NAHB Survey.

Therefore, in this action, EPA is issuing its determination that renovation, repair, and painting activities that disturb lead-based paint create lead-based paint hazards. Because the evidence shows that all such activities in the presence of lead-based paint create lead-based paint hazards, EPA is modifying its proposed finding, which distinguished between activities that create lead-based paint hazards and those that can reasonably be anticipated to create lead-based paint hazards, and instead concludes that renovation activities that disturb lead-based paint create lead-based paint hazards. Indeed, no commenter submitted data indicating that any renovation, repair, or painting activity should be exempt from regulation because it does not create lead-based paint hazards.

EPA received a large number of comments on this proposed finding. Many expressed support for EPA's determination that any renovation, repair, or painting activity that disturbs lead-based paint creates lead-based paint hazards. Some commenters, while expressing their support for this determination, also opined that the regulatory dust-lead hazard standards for floors and windowsills are too high. These commenters argued that recent scientific evidence shows that children experience adverse health effects at lower blood lead levels than previously thought, and since EPA's regulatory dust-lead hazard standards were set with reference to a blood lead level of 10 $\mu\text{g}/\text{dL}$, the CDC level of concern, the dust-lead hazard standards must be lowered. EPA agrees that recent studies demonstrate that neurocognitive effects occur at blood lead levels below the

current CDC level of concern. In fact, EPA's most recent Air Quality Criteria for Lead document, issued in October, 2006, describes several epidemiologic studies published in the last 5 years that observed significant lead-induced IQ decrements in children with some effects observed at blood lead levels of 5 $\mu\text{g}/\text{dL}$ and lower (Ref. 1). The document also notes that other recent studies observed significant associations at low blood-lead levels for other neurotoxicity endpoints in addition to IQ, such as arithmetic and reading scores, attentional behavior, and neuromotor function. However, EPA is not addressing the appropriateness of the existing dust-lead hazard standards in this rulemaking. The original hazard standards were set through a separate rulemaking process under TSCA section 403 that allowed for input from all of the parties that would be affected by the standards. Furthermore, EPA is concerned that a full review of the available evidence and other considerations affecting the hazard standards as part of this rulemaking would result in a significant delay in promulgating training, certification, and work practice standards for renovation activities. EPA did not propose to modify the TSCA section 403 hazard standard levels in this rulemaking and has not undertaken the significant analyses that would need to be performed in order to establish different standards. Accordingly, EPA is not able, in this final rule, to modify the regulatory hazard standard. In any event, since EPA finds that renovation activities that disturb lead-based paint create lead-paint hazards, lowering the hazard standard would not affect EPA's finding.

Some commenters objected to EPA's proposed determination that renovation, repair, or painting activities that disturb lead-based paint create lead-based paint hazards. Some commenters interpreted EPA's statutory authority to regulate renovation and remodeling under TSCA section 402(c)(3) as being limited to those renovation and remodeling activities for which EPA can prove a link between the activity and the blood lead action level established by CDC for public health intervention. These commenters contend that the failure to prove such a link means that renovation and remodeling activities do not create lead-based paint hazards. This interpretation is not supported by the plain language of the statute. TSCA section 402(c)(3) requires EPA to regulate renovation and remodeling activities that create lead-based paint hazards. The term "lead-based paint

hazard" is defined in TSCA section 401 as "any condition that causes exposure to lead from lead-contaminated dust . . . that would result in adverse human health effects as established by the Administrator under this subchapter." TSCA section 403 directs EPA to promulgate regulations which "identify, for purposes of this subchapter and the Residential Lead-Based Paint Hazard Reduction Act of 1992, lead-based paint hazards, lead-contaminated dust, and lead-contaminated soil." The TSCA section 403 regulations define dust-lead hazards as levels that equal or exceed 40 $\mu\text{g}/\text{ft}^2$ of lead on floors or 250 $\mu\text{g}/\text{ft}^2$ of lead on interior windowsills. Therefore, EPA interprets TSCA as directing it to regulate renovation and remodeling activities if such activities create dust lead levels that exceed the standards for dust-lead hazards established under TSCA section 403. Again, the Environmental Field Sampling Study, the Dust Study, and the NAHB survey all demonstrate that renovation and remodeling activities that disturb lead-based paint create dust lead levels that exceed the hazard standards in 40 CFR 745.65.

EPA also interprets the scientific evidence for a link between renovations and the CDC blood lead action level differently than do these commenters. EPA's Wisconsin Childhood Blood-Lead Study, described more fully in Unit III.C.1.c. of the preamble to the 2006 Proposal, provides ample evidence of a link between renovation activities and elevated blood lead levels in resident children (Ref. 13). This peer-reviewed study concluded that general residential renovation and remodeling is associated with an increased risk of elevated blood lead levels in children and that specific renovation and remodeling activities are also associated with an increase in the risk of elevated blood lead levels in children. In particular, removing paint (using open flame torches, using heat guns, using chemical paint removers, and wet scraping/sanding) and preparing surfaces by sanding or scraping significantly increased the risk of elevated blood lead levels. Some of the commenters on this rule focused on Table 3-13 in the study report and cited that as evidence that work performed by paid professional renovators does not create a statistically significant risk of an elevated blood-lead level in a resident child. EPA agrees that this table, which presents the results of analyses using one of the sets of models used to interpret study data, indicates that, with respect to the persons performing the work, the only statistically significant result associated with increased risk of

elevated blood lead levels was work performed by a relative or friend not in the household. Work performed by professional renovators was associated with an increased risk of an elevated blood lead level, but the association was not statistically significant. As explained more fully in a memorandum summarizing additional analyses of the data from this study (Ref. 20), this table does not indicate that professional contractors were not responsible for creating lead exposure hazards. Rather, it indicates that renovation activities performed by professional contractors are no more or less hazardous than renovation activities performed by most of the other categories of persons identified in the survey responses collected as part of the study. It is also important to note that, while these commenters focus on a blood-lead level of 10 µg/dL as a threshold, this level is not and has not been considered by CDC or EPA as a threshold for adverse effects.

One commenter also dismissed the two studies from New York that EPA cited as supporting the findings of the Wisconsin Childhood Blood-Lead Study. In 1995, the New York State Department of Health assessed lead exposure among children resulting from home renovation and remodeling in 1993–1994. A review of the health department records of children with blood lead levels equal to or greater than 20 µg/dL identified 320, or 6.9%, with elevated blood lead levels that were attributable to renovation and remodeling (Ref. 21). The commenter noted that this study suffered from a number of limitations, including the fact that it was not a case-control study; i.e., the group of children with elevated blood lead levels attributed to renovation and remodeling was not compared with a similar group of households that had not undergone renovation during the period. EPA agrees that this is an important limitation of this study. However, with respect to the other limitations noted by this commenter, the authors of the report felt that most of these limitations would likely result in an underestimation of the burden of lead exposure associated with renovation and remodeling.

The other study cited by EPA as supporting the Wisconsin Childhood Blood-Lead Study conclusions was a case-control study that assessed the association between elevated blood lead levels in children younger than 5 years and renovation or repair activities in homes in New York City (Ref. 22). EPA notes that the authors show that when dust and debris was reported (by

respondents via telephone interviews) to be “everywhere” following a renovation, the blood lead levels were significantly higher than children at homes that did not report remodeling work. On the other hand, when the respondent reported either “no visible dust and debris” or that “dust and debris was limited to the work area,” there was no statistically significant effect on blood lead levels relative to homes that did not report remodeling work. Although the study found only a weak and nonsignificant link between a report of any renovation activity and the likelihood that a resident child had an elevated blood-lead level, the link to the likelihood of an elevated blood-lead level was statistically significant for surface preparation by sanding and for renovation work that spreads dust and debris beyond the work area. The researchers noted the consistency of their results with EPA’s Wisconsin Childhood Blood-Lead Study (Ref. 13, at 509). EPA notes that this confirms that keeping visible dust and debris contained to the work area is important for limiting children exposures to lead dust, rather than providing substantial arguments for the effectiveness of visual inspection.

In sum, EPA’s finding that renovation and remodeling activities create lead-based paint hazards is not dependent upon establishing a correlation between such activities and elevated blood lead levels. Rather, it rests on the fact that, as demonstrated by EPA’s Environmental Field Sampling Study, EPA’s Dust Study, and by the NAHB Survey, such activities create lead-based paint hazards as defined by EPA regulations. Moreover, EPA disagrees that there is no scientific support for establishing a relationship between elevated blood lead levels in children and renovation activities. While EPA interprets these studies as supporting such a relationship and believes these studies further support its finding, it is not a determinative factor.

b. *EPA’s approach to this final rule.* Given EPA’s determination that renovation, repair, and painting activities that disturb lead-based paint create lead-based paint hazards, TSCA section 402(c)(3) directs EPA to revise the Lead-based Paint Activities Regulations to apply to these activities. EPA does not interpret its statutory mandate to require EPA to apply the existing TSCA section 402(a) regulations to renovations without change. By using the word “revise,” and creating a separate subsection of the statute for renovation, EPA believes that Congress intended that EPA make revisions to those existing regulations to adapt them

to a very different regulated community. As discussed below, there are significant differences between renovations and abatements. Accordingly, this final rule does not merely expand the scope of the current abatement requirements to cover renovation and remodeling activities. Rather, EPA has carefully considered the elements of the existing abatement regulations and revised them as necessary to craft a rule that is practical for renovation, remodeling and painting businesses and their customers, taking into account reliability, effectiveness, and safety as directed by TSCA section 402(a). Specifically, the Agency concludes that the training, containment, cleaning, and cleaning verification requirements in this final rule achieve the goal of minimizing exposure to lead-based paint hazards created during renovation, remodeling and painting activities, taking into account reliability, effectiveness, and safety.

In taking safety into account, EPA looked to the statutory directive to regulate renovation activities that create lead-based paint hazards. Although there is no known level of lead exposure that is safe, EPA does not believe the intent of Congress was to require elimination of all possible risk arising from a renovation. Nor does TSCA explicitly require EPA to eliminate all possible risk from lead, nor would it be feasible to do so since lead is a component of the earth. Rather, it directs EPA to regulate renovation and remodeling activities that create lead-based paint hazards. Given that the trigger for regulating renovation and remodeling activities is the creation of lead-based paint hazards—which EPA has identified in a separate rulemaking pursuant to TSCA section 403—EPA believes taking safety into account in this context is best interpreted with reference to those promulgated hazard standards. If taking safety into account required a more stringent standard, as suggested by some commenters, the potential would be created for a scheme under which any renovation activities found not to create hazards are not regulated at all, whereas renovation activities found to create hazards trigger requirements designed to leave the renovation site cleaner than the unregulated renovations. EPA’s interpretation is supported by the broad Congressional intent that the section 403 hazard standards apply for purposes of subchapter IV of TSCA. It is also consistent with EPA’s approach in its abatement regulations, which require post-abatement cleaning to dust-lead

clearance levels that are numerically equal to the TSCA section 403 hazard standards levels. It would be anomalous to impose a more stringent safety standard in the renovation context than in the abatement context, where the express purpose of the regulated activities is to abate lead-based paint hazards. Therefore, in taking into account safety, this final rule regulates renovation and remodeling activities relative to the TSCA section 403 hazard standard, with the purpose of minimizing exposure to such hazards created during renovation and remodeling activities.

Additionally, EPA has interpreted practicality in implementation to be an element of the statutory directive to take into account effectiveness and reliability. In particular, EPA believes that given the highly variable nature of the regulated community, the work practices required by this rule should be simple to understand and easy to use. EPA is very aware that this regulation will apply to a whole range of individuals from day laborers to property maintenance staff to master craftsmen performing a whole range of activities from simple drywall repair to window replacement to complete kitchen and bath renovations to building additions and everything in between. Work practices that are easy and practical to use are more likely to be followed by all of the persons who perform renovations, and, therefore, more likely to be reliable and effective in minimizing exposure to lead-based paint hazards created by renovation activities.

One of the biggest challenges facing EPA in revising the TSCA section 402(a) Lead-based Paint Activities Regulations is how to effectively bridge the differences between abatement and renovation and remodeling while acknowledging that many of the dust generating activities are the same. Abatement is generally performed in three circumstances. First, an abatement may be performed in the residence of a child who has been found to have an elevated blood lead level. Second, abatements are performed in housing receiving HUD financial assistance when required by HUD's Lead-Safe Housing Rule. Third, state and local laws and regulations may require abatements in certain situations associated with rental housing. Typically, when an abatement is performed, the housing is either unoccupied or the occupants are temporarily relocated to lead-safe housing until the abatement has been demonstrated to have been properly completed through dust clearance

testing. Carpet in the housing is usually removed as part of the abatement because it is difficult to demonstrate that it is free of lead-based paint hazards. Uncarpeted floors that have not been replaced during the abatement may need to be refinished or sealed in order to achieve clearance. Abatements have only one purpose--to permanently eliminate lead-based paint and lead-based paint hazards.

On the other hand, renovations are performed for a myriad of reasons, most having nothing to do with lead-based paint. Renovations involve activities designed to update, maintain, or modify all or part of a building. Renovations may be performed while the property is occupied or unoccupied. If the renovation is performed while the property is occupied, the occupants do not typically relocate pending the completion of the project.

Further, performing abatement is a highly specialized skill that workers and supervisors must learn in training courses accredited by EPA or authorized States, Territories, and Tribes. In contrast, EPA is not interested in teaching persons how to be painters, plumbers, or carpenters. Rather, EPA's objective is to ensure that persons who already know how to perform renovations perform their typical work in a lead-safe manner.

Nevertheless, as pointed out by some commenters, abatement and renovation have some things in common. For example, as noted by one commenter, window replacement may be performed as part of an abatement to remove the lead-based paint and lead-based paint hazards on the existing window, or it may be performed as part of a renovation designed to improve the energy efficiency of the building. In many cases, the window replacement as abatement and the window replacement as renovation will generate the same amount of leaded dust.

Another consideration is that while renovation activities undoubtedly create lead-based paint hazards, without results from dust wipe samples collected immediately before the renovation commences, there is no way to tell what portion of the lead dust remaining on the surface was contributed by the renovation. In addition, as a practical matter, once dust-lead hazards commingle with pre-existing hazards, there is no functional way to distinguish between those created by the renovation activity and any pre-existing dust-lead hazards. However, the Dust Study shows that the combination of training, containment, cleaning and cleaning verification required by this rule is effective at

reducing dust lead levels below the dust-lead hazard standard. While the requirements of this rule will, in some cases, have the ancillary benefit of removing some pre-existing dust-lead hazards, these requirements are designed to effectively clean-up the lead-based paint hazards created during renovation activities without changing the scope of the renovation activity itself. The intent of this final rule is not to require cleanup of pre-existing contamination.

For example, the rule does not require cleaning of dust or any other possible lead sources in portions of target housing or child-occupied facilities beyond the location in and around the work area. Nor does this rule require the replacement of carpets in the area of the renovation or the refinishing or sealing of uncarpeted floors. The approach in this final rule is designed to address the lead-based paint hazards created during the renovation while not requiring renovators to remediate or eliminate hazards that are beyond the scope of the work they were hired to do.

In addition, EPA has made a concerted effort to keep the costs and burdens associated with this rule as low as possible, while still providing adequate protection against lead-based paint hazards created by renovation activities. Indeed, as part of this rulemaking EPA has, as directed by TSCA section 2(c), considered the environmental, economic, and social impact of this rule. Nonetheless, many commenters expressed concerns over the potential unintended consequences of this rulemaking. These commenters argued that too-burdensome rule will result in more renovations by noncompliant renovators, and more do-it-yourself renovations, both of which are likely to be more hazardous than renovations by certified professional renovation firms using certified renovators who follow the work practice requirements of the rule. These commenters were also concerned about deferred property maintenance which can be hazardous for many reasons, including lead-based paint issues. For example, one commenter pointed out that a renovation project that replaces old lead-based paint covered windows with new ones that have no lead-based paint may, as a by-product, reduce lead hazards, and the rule should not work to discourage this activity.

On the other hand, one commenter argued that increased do-it-yourself activity is an unlikely byproduct of this rule because consumers are not only opting to hire or not hire contractors based on factors such as cost, convenience, and perceived quality, but,

even more importantly, their own proclivity towards performing renovation work. According to the commenter, the fact that the work practices required by this rule may result in slight cost increases is unlikely to motivate homeowners to perform their own renovations. This commenter also felt that the sooner that protective approaches become the accepted standard of care for renovation work by contractors receiving compensation, the sooner do-it-yourselfers and the do-it-yourself literature and training supports will adopt the same protective approaches.

It is difficult to determine with any amount of certainty whether this final rule will have unintended consequences. However, EPA agrees that it is important to minimize disincentives for using certified renovation firms who follow the work practices required by this rule. EPA also agrees that practicality is an important consideration. Given the relatively low estimated overall average per-job cost of this final rule, which is \$35, and the relatively easy-to-use work practices required by this final rule, EPA does not expect the incremental costs associated with this rule to be a determinative factor for consumers. However, that relatively low cost has resulted in part from EPA's efforts to contain the costs of this rule in order to avoid creating disincentives to using certified renovation firms, and EPA has viewed the comments received with those considerations in mind.

With respect to the comment regarding the standard of care for do-it-yourselfers, EPA also plans to conduct an outreach and education campaign aimed at encouraging homeowners and other building owners to follow work practices while performing renovations or hire a certified renovation firm to do so.

7. Summary of the final rule. This section summarizes the final rule in general terms. For more information, consult Unit III. below, which describes each provision in detail, discusses any changes from the proposal, and reviews the comments received.

a. Definitions and scope. This final rule applies to renovations for compensation in target housing and child-occupied facilities. TSCA section 401 defines "target housing" as any housing constructed prior to 1978, except housing for the elderly or persons with disabilities (unless any child who is less than 6 years of age resides or is expected to reside in such housing for the elderly or persons with disabilities) or any 0-bedroom dwelling.

This rule contains the following definition of "child-occupied facility":

Child-occupied facility" means a building, or portion of a building, constructed prior to 1978, visited regularly by the same child, under 6 years of age, on at least two different days within any week (Sunday through Saturday period), provided that each day's visit lasts at least 3 hours and the combined weekly visits last at least 6 hours, and the combined annual visits last at least 60 hours. Child-occupied facilities may include, but are not limited to, day care centers, preschools and kindergarten classrooms. Child-occupied facilities may be located in target housing or in public or commercial buildings. With respect to common areas in public or commercial buildings that contain child-occupied facilities, the child-occupied facility encompasses only those common areas that are routinely used by children under age 6, such as restrooms and cafeterias. Common areas that children under age 6 only pass through, such as hallways, stairways, and garages are not included. In addition, with respect to exteriors of public or commercial buildings that contain child-occupied facilities, the child-occupied facility encompasses only the exterior sides of the building that are immediately adjacent to the child-occupied facility or the common areas routinely used by children under age 6.

TSCA does not define the terms "renovation" or "remodeling," but this final rule builds upon the definition of "renovation" already established by the regulations promulgated under TSCA section 406(b). This rule defines "renovation" as follows:

"Renovation" means the modification of any existing structure, or portion thereof, that results in the disturbance of painted surfaces, unless that activity is performed as part of an abatement as defined by this part (40 CFR 745.223). The term renovation includes (but is not limited to): The removal, modification or repair of painted surfaces or painted components (e.g., modification of painted doors, surface restoration, window repair, surface preparation activity (such as sanding, scraping, or other such activities that may generate paint dust)); the removal of building components (e.g., walls, ceilings, plumbing, windows); weatherization projects (e.g., cutting holes in painted surfaces to install blown-in insulation or to gain access to attics, planing thresholds to install weather-stripping), and interim controls that disturb painted surfaces. A renovation performed for the purpose of converting a building, or part of a building, into target housing or a child-occupied facility is a renovation under this subpart. The term renovation does not include minor repair and maintenance activities.

This final rule excludes some of the same projects that are excluded by the

TSCA section 406(b) regulations, such as lead-based paint abatement projects and renovations affecting components that have been found to be free of lead-based paint. To be eligible for the latter exception, the components must be determined to be free of lead-based paint by a certified inspector or risk assessor, or by a certified renovator using an EPA-approved test kit. Emergency projects would continue to be exempt from the lead hazard information distribution requirements, but the clean-up after the project must meet the requirements of this regulation, and compliance with the training, certification, warning sign, and containment requirements of this regulation is required to the extent practicable. Minor maintenance projects that disturb no more than 6 square feet of painted surface per room for interiors or no more than 20 square feet of painted surface for exteriors are also exempt, so long as no work practices prohibited or restricted by this final rule are used, the renovation does not involve window replacement and there is no demolition of painted areas. Finally, this regulation contains an exception for renovations in owner-occupied target housing where no child under age 6 or pregnant woman resides, so long as the housing does not meet the definition of "child-occupied facility." To claim this exception, the renovation firm must obtain, before beginning the renovation, a signed statement from the owner of the housing that states that the person signing is the owner of the housing to be renovated, that he or she resides there, that no child under age 6 or pregnant woman resides there, that the housing is not a child-occupied facility, and that the owner understands that the renovation firm will not be required to use the work practices contained in this rule.

b. Pre-Renovation Education Rule. As described in greater detail in a separate notice published elsewhere in today's **Federal Register**, EPA has developed a new renovation-specific lead hazard information pamphlet intended for use in fulfilling the requirements of the Pre-Renovation Education Rule, 40 CFR part 745, subpart E. This final rule requires firms performing renovations for compensation in target housing and child-occupied facilities to distribute this new pamphlet before beginning renovations to the owners and occupants of target housing, owners of public or commercial buildings that contain a child-occupied facility, and the proprietor of the child-occupied facility, if different, and to provide general information on the renovation

and the pamphlet to, or make it available to, parents or guardians of children under age 6 using the child-occupied facility. This can be accomplished by mailing or hand-delivering the general information on the renovation and the pamphlet to the parents and guardians or by posting informational signs containing general information on the renovation in areas where the signs can be seen by the parents or guardians of the children frequenting the child-occupied facility. The signs must be accompanied by a posted copy of the pamphlet or information on how interested parents or guardians can review a copy of the pamphlet or obtain a copy from the renovation firm at no cost to the parents or guardians. For renovations in the common areas of multi-unit target housing, similar notification options are available to firms. They must provide tenants with general information regarding the nature of the renovation by mail, by hand-delivery, or by posting signs, and must also make this new pamphlet available upon request. Firms must maintain documentation of compliance with these requirements.

c. Training, accreditation, and certification. This final rule contains training requirements leading to certification for “renovators”—individuals who perform and direct renovation activities—and “dust sampling technicians”—individuals who perform dust sampling not in connection with an abatement. Requirements for each of these courses of study are described in detail, and a hands-on component is required. Training providers who wish to provide training to renovators and dust sampling technicians for Federal certification purposes must apply for and receive accreditation from EPA following the same procedures that training providers who offer lead-based paint activities training now use to become accredited by EPA. Providers of renovation training must follow the same requirements for program operation as training providers who offer lead-based paint activities training. For example, renovation training programs must have adequate facilities and equipment for delivering the training, a training manager with experience or education in a construction or environmental field, and a principal instructor with experience or education in a related field and education or experience in teaching adults. To become accredited to provide training for renovators and dust sampling technicians, a provider must submit an application for accreditation

to EPA. The application must include the following items:

- The course materials and syllabus, or a statement that EPA model materials or materials approved by an authorized State or Tribe will be used.
- A description of the facilities and equipment that will be used.
- A copy of the test blueprint for each course.
- A description of the activities and procedures that will be used during the hands-on skills portion of each course.
- A copy of the quality control plan.
- The correct amount of fees.

Training programs that submit a complete application and meet the requirements for faculty, facilities, equipment, and course and test content will be accredited for 4 years. To maintain accreditation, the training program must submit an application and the correct amount of fees every 4 years. EPA is not establishing the required fees in this rulemaking. EPA intends to publish a proposed fee schedule for public comment shortly. Accredited renovation training programs must also comply with the existing notification and recordkeeping requirements for lead-based paint activities training programs at 40 CFR 745.225(c)(13) and 40 CFR 745.225(i), respectively, by notifying EPA before and after providing renovation training and by maintaining records of course materials, course test blueprints, information on how hands-on training is delivered, and the results of the students' skills assessments and course tests.

Each renovation project covered by this final rule must be performed and/or directed by an individual who has become a certified renovator by successfully completing renovator training from an accredited training provider. The certified renovator is responsible for ensuring compliance with the work practice standards of this final regulation. The certified renovator must perform or direct certain critical tasks during the renovation, such as posting warning signs, establishing containment of the work area, and cleaning the work area after the renovation. These and other renovation activities may be performed by workers who have been provided on-the-job training in these activities by a certified renovator. However, the certified renovator must be physically present at the work site while signs are being posted, containment is being established, and the work area is being cleaned after the renovation to ensure that these tasks are performed correctly. Although the certified renovator is not required to be on-site at all times, while

the renovation project is ongoing, a certified renovator must nonetheless regularly direct the work being performed by other workers to ensure that the work practices are being followed. When a certified renovator is not physically present at the work site, the workers must be able to contact the renovator immediately by telephone or other mechanism. In addition, the certified renovator must perform the post-renovation cleaning verification. This task may not be delegated to workers with on-the-job training. To maintain certification, a renovator must successfully complete an accredited renovator refresher training course every 5 years.

Renovations must be performed by certified firms. The certification requirements for renovation firms are identical to the certification requirements for firms that perform lead-based paint activities, except that renovation firm certification lasts for 5 years instead of 3 years. A firm that wishes to become certified to perform renovations must submit an application, along with the correct amount of fees, attesting that it will assign a certified renovator to each renovation that it performs, that it will use only certified or properly trained individuals to perform renovations, and that it will follow the work practice standards and recordkeeping requirements in this regulation. EPA will certify any firm that meets these requirements unless EPA determines that the environmental compliance history of the firm, its principals, or its key employees demonstrates an unwillingness or inability to maintain compliance with environmental statutes or regulations. To maintain certification, the firm must submit an application and the correct amount of fees every 5 years. As noted above, EPA will establish the required fees in a subsequent rulemaking.

d. Work practice standards. This final rule contains a number of work practice requirements that must be followed for every covered renovation in target housing and child-occupied facilities. These requirements pertain to warning signs and work area containment, the restriction or prohibition of certain practices (e.g., high heat gun, torch, power sanding, power planing), waste handling, cleaning, and post-renovation cleaning verification. The firm must ensure compliance with these work practices. Although the certified renovator is not required to be on-site at all times, while the renovation project is ongoing, a certified renovator must nonetheless regularly direct the work being performed by other workers to ensure that the work practices are being

followed. When a certified renovator is not physically present at the work site, the workers must be able to contact the renovator immediately by telephone or other mechanism.

i. *Warning signs and work area containment.* Before beginning a covered renovation, the certified renovator or a worker under the direction of the certified renovator must post signs outside the area to be renovated warning occupants and others not involved in the renovation to remain clear of the area. In addition, the certified renovator or a worker under the direction of the certified renovator must also contain the work area so that dust or debris does not leave the area while the work is being performed. At a minimum, containment for interior projects must include:

- Removing or covering all objects in the work area with plastic or other impermeable material.
- Closing and covering all forced air HVAC ducts in the work area with plastic or other impermeable material.
- Closing all windows in the work area.

- Closing and sealing all doors in the work area with plastic or other impermeable material.

- Covering the floor surface, including installed carpet, with taped-down plastic sheeting or other impermeable material in the work area 6 feet beyond the perimeter of surfaces undergoing renovation or a sufficient distance to contain the dust, whichever is greater.

Doors within the work area that will be used while the job is being performed must be covered with plastic sheeting or other impermeable material in a manner that allows workers to pass through while confining dust and debris to the work area. In addition, all personnel, tools, and other items, including the exterior of containers of waste, must be free of dust and debris when leaving the work area. There are several ways of accomplishing this. For example, tacky mats may be put down immediately adjacent to the plastic sheeting covering the work area floor to remove dust and debris from the bottom of the workers' shoes as they leave the work area, workers may remove their shoe covers (booties) as they leave the work area, and clothing and materials may be wet-wiped and/or HEPA-vacuumed before they are removed from the work area.

At a minimum, containment for exterior projects must include:

- Covering the ground with plastic sheeting or other disposable impermeable material extending 10 feet beyond the perimeter of surfaces undergoing renovation or a sufficient

distance to collect falling paint debris, whichever is greater, unless the property line prevents 10 feet of such ground covering.

- Closing all doors and windows within 20 feet of the outside of the work area on the same floor as the renovation and closing all doors and windows on the floors below that area.

In certain situations, such as where other buildings are in close proximity to the work area, when conditions are windy, or where the work area abuts a property line, the certified renovator or a worker under the direction of the certified renovator performing the renovation may have to take extra precautions to prevent dust and debris from leaving the work area as required by the regulation. This may include erecting a system of vertical containment designed to prevent dust and debris from migrating to adjacent property or contaminating the ground, other buildings, or any object beyond the work area. In addition, doors within the work area that will be used while the job is being performed must be covered with plastic sheeting or other impermeable material in a manner that allows workers to pass through while confining dust and debris to the work area.

ii. *Waste management.* The certified renovator or a worker trained and directed by a certified renovator must, at the conclusion of each work day, store any collected lead-based paint waste from renovation activities under containment, in an enclosure, or behind a barrier that prevents release of dust and debris and prevents access to the waste. In addition, the certified renovator or a worker under the direction of the certified renovator transporting lead-based paint waste from a work site must contain the waste to prevent identifiable releases. With regard to the lead-based paint waste generated by renovations in housing units, Unit IV.D.2. of the preamble to the 2006 Proposal describes how a clarification of the hazardous waste exclusion in 40 CFR 261.4(b)(1) means that residential lead-based paint waste may be disposed of in municipal solid waste landfill units, as long as the waste is generated during abatement or renovation and remodeling activities in households. Also discussed in the preamble to the 2006 Proposal is a subsequent amendment to the waste regulations promulgated under the Resource Conservation and Recovery Act (RCRA) that allows construction and demolition (C&D) landfills to accept residential lead-based paint waste.

iii. *Cleaning.* This final rule contains a number of specific cleaning steps that

the certified renovator or a worker under the direction of the certified renovator must follow after performing a covered renovation. Upon completion of renovation activities, all paint chips and debris must be picked up. Protective sheeting must be misted and folded dirty side inward. Sheeting used to isolate the work area from other areas must remain in place until after the cleaning and removal of other sheeting; this sheeting must be misted and removed last. Removed sheeting must either be folded and taped shut to seal or sealed in heavy-duty bags and disposed of as waste.

After the sheeting has been removed from the work area, the entire area must be cleaned, including the adjacent surfaces that are within 2 feet of the work area. The walls, starting from the ceiling and working down to the floor, must be vacuumed with a HEPA vacuum or wiped with a damp cloth. This final rule requires that all remaining surfaces and objects in the work area, including floors, furniture and fixtures, be thoroughly vacuumed with a HEPA-equipped vacuum. When cleaning carpets, the HEPA vacuum must be equipped with a beater bar to aid in dislodging and collecting deep dust and lead from carpets. Where feasible, floor surfaces underneath area rugs must also be thoroughly vacuumed with a HEPA vacuum.

After vacuuming, all surfaces and objects in the work area, except for walls and carpeted or upholstered surfaces, must be wiped with a damp cloth. Uncarpeted floors must be thoroughly mopped using a 2-bucket mopping method that keeps the wash water separate from the rinse water, or using a wet mopping system with disposable absorbent cleaning pads and a built-in mechanism for distributing or spraying cleaning solution from a reservoir onto a floor.

For cleaning following an exterior renovation, this final rule requires all paint chips and debris to be picked up. Protective sheeting must be misted and folded dirty side inward. Removed sheeting must be either folded and taped shut to seal or sealed in heavy-duty bags and disposed of as waste.

iv. *Post-renovation cleaning verification.* This final rule requires a certified renovator to perform a visual inspection of the work area after the cleaning steps outlined in the previous subsection. This visual inspection is for the purpose of determining whether dust, debris, or other residue is present in the work area. If dust, debris, or other residue remains in the work area, the dust, debris, or other residue must be

removed by re-cleaning and another visual inspection must be performed.

When an exterior work area passes the visual inspection, the renovation has been properly completed and the warning signs may be removed. When an interior work area passes the visual inspection, an additional cleaning verification step is required. A certified renovator assigned to the renovation project must use disposable cleaning cloths to wipe the windowsills, countertops, and uncarpeted floors in the work area. These cloths must then be compared to a cleaning verification card. For each cloth that matches or is lighter than the cleaning verification card, the corresponding windowsill, countertop, or floor area is considered to have passed the post-renovation cleaning verification. In contrast to the 2006 Proposal, this final rule limits this requirement to two wet cloths and one dry cloth. After the first dry cloth, that surface will be considered to have passed post-renovation cleaning verification. When all windowsills, countertops, and floor areas in the work area have passed post-renovation cleaning verification, the warning signs may be removed. More information on the post-renovation cleaning verification procedure and the underlying studies can be found in Unit IV.E. of the preamble to the 2006 Proposal and in Unit III.E.7. of this preamble.

In contrast to the 2006 Proposal, this final rule does not allow dust clearance sampling in lieu of post-renovation cleaning verification, except in cases where the contract between the renovation firm and the property owner or another Federal, State, Territorial, Tribal, or local regulation requires dust clearance sampling by a certified sampling professional and requires the renovation firm to clean the work area until it passes clearance.

e. State, Territorial, and Tribal programs. This final rule also contains provisions for interested States, Territories, and Tribes to apply for and receive authorization to administer their own renovation, repair and painting programs in lieu of the proposed regulation. States, Territories and Tribes may choose to administer and enforce just the existing requirements of subpart E, the pre-renovation education elements, the training, certification, accreditation, work practice, and recordkeeping requirements of this final rule, or both. EPA will use the same process used for lead-based paint activities programs, along with proposed specific renovation program elements, to authorize State, Territorial, and Tribal programs.

States, Territories, and Tribes seeking authority to administer and enforce renovation programs must obtain public input and then submit an application to EPA. Applications must contain a number of items, including a description of the State, Territorial, or Tribal program, copies of all applicable statutes, regulations, and standards, and a certification by the State Attorney General, Tribal Counsel, or an equivalent official, that the applicable legislation and regulations provide adequate legal authority to administer and enforce the program. The program description must demonstrate that the State, Territorial, or Tribal program is at least as protective as the Federal program and that it provides for adequate enforcement.

To be eligible for authorization to administer and enforce renovation programs, State, Territorial, and Tribal renovation programs must contain certain minimum elements that are very similar to the minimum elements required for lead-based paint activities programs. In order to be authorized, State, Territorial, or Tribal programs must have procedures and requirements for the accreditation of training programs, the training of renovators, and the certification of renovators or renovation firms. At a minimum, the program requirements must include accredited training for renovators and procedures and requirements for re-certification. State, Territorial, and Tribal programs applying for authorization are also required to include work practice standards for renovations that ensure that renovations are conducted only by certified renovators or renovation firms and that renovations are conducted using work practices at least as protective as those of the Federal program.

B. What is the Agency's Authority for Taking this Action?

These training, certification and accreditation requirements; State, Territorial, and Tribal authorization provisions; and work practice standards are being promulgated under the authority of TSCA sections 402(c)(3), 404, 406, and 407, 15 U.S.C. 2682(c)(3), 2684, 2686, and 2687, and in a manner that is consistent with TSCA section 2(c), 15 U.S.C. 2601(c).

III. Provisions of this Final Rule

This unit describes the specific provisions of the final regulation and discusses the major comments received.

A. Scope of the Final Rule

EPA is amending the existing regulations at 40 CFR part 745, subpart

E (the "Pre-Renovation Education Rule"), that implement TSCA section 406(b) to add training and certification requirements, as well as work practice standards, for certain renovation, repair, and painting projects performed for compensation in target housing and in child-occupied facilities.

*1. Buildings covered—*a. *Target housing.* The requirements of this final rule apply to renovations performed for compensation within and on the exteriors of target housing units, including renovations performed for compensation in common areas, such as hallways, stairways, and laundry and recreational rooms, in multi-unit target housing. The term "target housing" is defined in TSCA section 401 as any housing constructed before 1978, except housing for the elderly or persons with disabilities (unless any child under age 6 resides or is expected to reside in such housing) or any 0-bedroom dwelling.

Several commenters were concerned about the exclusion of 0-bedroom dwellings from the definition of "target housing." These commenters noted that this effectively excludes a significant subset of housing where children live, particularly studio or efficiency apartments and certain low-income housing such as single-room occupancy hotels. One commenter stated that, in his city, at least 400 families with more than 700 children live in single-room occupancy hotels, and these hotels constitute some of oldest housing in their city. Other commenters were concerned about the exclusion of housing for the elderly (or persons with disabilities) unless any child under age 6 resides or is expected to reside in such housing. These commenters suggested that EPA not exempt such housing because children may be present for a substantial amount of time. One commenter noted that, because some children spend 40 or more hours per week at their grandparents' home, eliminating housing for the elderly from the rule would place an inordinate number of young children at risk. Another commenter observed that unless the building is reserved for elderly residents only, the likelihood of children living in a multi-unit building and being exposed to lead hazards in common areas is high.

EPA understands and shares the concerns of these commenters. However, these exclusions were established by Congress in Title X. The exclusions and limitations in the exclusions appear consistent with a focus on housing where children under age 6 reside. Nonetheless, EPA does wish to point out that this regulation and other existing TSCA regulations

cover activities in common areas that are accessible to residents of target housing units. Thus, renovations in common areas in a building built before 1978 that contains both housing units reserved for the elderly and regular housing units would be covered by this rule. In addition, as described more fully in Unit III.G. of this preamble, States, Territories and Tribes may choose to develop and implement their own lead renovation, repair, and painting programs. Such programs may be more stringent than this Federal regulation and could, therefore, cover 0-bedroom dwellings or housing for the elderly.

Finally, one commenter questioned the existing definition of "multi-family housing" in 40 CFR 745.83, which defines the term as a "housing property consisting of more than four dwelling units." The commenter referred to the definition of "multi-family dwelling" in 40 CFR 745.223 which does not limit the term to a specific number of units, and questioned why smaller multi-family housing such as duplexes should not be included in the definition in 40 CFR 745.83. This commenter and others contended that it is important to cover common areas, including building exteriors, in all multi-unit target housing. In response to these commenters, EPA is deleting the definition of "multi-family housing" from 40 CFR 745.83 because the term is not used in this final rule. This final rule covers renovations in common areas, including building exteriors, of multi-unit buildings regardless of the number of units contained in the building. In addition, the deletion of this definition will also make it clear that the existing Pre-Renovation Education Rule provisions also apply to the same renovations covered by this final rule.

b. *Child-occupied facilities.* The certification, training, recordkeeping, and work practice standards of this final rule also apply to renovations for compensation in child-occupied facilities. As discussed in the preamble to the 2007 Supplemental Proposal, numerous commenters on the 2006 Proposal requested that EPA cover child-occupied facilities under this regulation and suggested that EPA use the existing definition of "child-occupied facility" in 40 CFR 745.223. In response, the 2007 Supplemental Proposal included a definition of "child-occupied facility" that was based upon the existing definition, with modifications to make it consistent with the provisions of the 2006 Proposal. EPA also proposed to modify the definition to clarify, for child-occupied

facilities located in public or commercial buildings, which portions of the building would be considered part of the child-occupied facility for purposes of this rulemaking. EPA received several comments suggesting modifications to the proposed definition, but (with the exception of one small clarification) EPA is retaining the proposed definition for the reasons discussed below. The final rule's definition of "child-occupied facility" is as follows:

"Child-occupied facility" means a building, or portion of a building, constructed prior to 1978, visited regularly by the same child, under 6 years of age, on at least 2 different days within any week (Sunday through Saturday period), provided that each day's visit lasts at least 3 hours and the combined weekly visits last at least 6 hours, and the combined annual visits last at least 60 hours. Child-occupied facilities may include, but are not limited to, day care centers, preschools and kindergarten classrooms. Child-occupied facilities may be located in target housing or in public or commercial buildings. With respect to common areas in public or commercial buildings that contain child-occupied facilities, the child-occupied facility encompasses only those common areas that are routinely used by children under age 6, such as restrooms and cafeterias. Common areas that children under age 6 only pass through, such as hallways, stairways, and garages are not included. In addition, with respect to exteriors of public or commercial buildings that contain child-occupied facilities, the child-occupied facility encompasses only the exterior sides of the building that are immediately adjacent to the child-occupied facility or the common areas routinely used by children under age 6.

EPA added the introductory clauses "with respect to common areas" and "with respect to exteriors of" to the sentences describing the applicability of the rule to common areas and exteriors of public or commercial buildings because EPA was concerned that people would be confused about the area defined by the term "child-occupied facility" in those situations.

Most of the commenters on the 2007 Supplemental Proposal expressed support for including child-occupied facilities within the universe of buildings covered by this rulemaking. Several commenters requested that EPA provide a more clear definition of public buildings that contain child-occupied facilities or additional examples of such facilities. However, EPA is not aware of additional examples that could be

included in the definition to make the applicability of this rule clearer. One commenter believed that a definition based upon the amount of time a child spends at a facility would be unworkable.

EPA disagrees with the comment that a time-based definition of child-occupied facility is unworkable. A time-based definition has been a part of the Lead-based Paint Activities Program under TSCA section 402(a) for more than 10 years and EPA is not aware of any significant implementation difficulties. As initially proposed in 1994, the Lead-based Paint Activities Regulations under TSCA section 402(a) would have contained one set of requirements for the training and certification of contractors and the accreditation of training programs, as well as specific work practice standards that would have applied to lead-based paint activities conducted in target housing and public buildings (Ref. 23). A different set of requirements would have applied to lead-based paint activities conducted in commercial buildings and on bridges and other structures. The 1994 proposal would have defined public buildings to include all buildings generally open to the public or occupied or visited by children, such as stores, museums, airports, offices, restaurants, hospitals, and government buildings, as well as schools and day care centers. During the comment period, a significant majority of commenters expressed the concern that applying these regulations to activities in all of the buildings that EPA would consider public would result in significant costs without a comparable reduction in lead-based paint exposures for children under age 6, the population most vulnerable to lead exposures. Many of these commenters recommended that EPA focus its attention on buildings that are frequented by children, rather than on buildings that may be briefly visited by children.

In response to these comments, EPA established, in the final rule, a subset of the buildings EPA had intended to define as public. This subset, called "child-occupied facilities," was delineated in terms of the frequency and duration of visits by children (Ref. 4). These primarily consist of public buildings where young children receive care or instruction on a regular basis, such as child care centers and kindergarten classrooms. The Agency's decision to define child-occupied facilities as a sub-category of public buildings was based on one of the key objectives of the Lead-based Paint Activities Regulations, which was to

prevent lead exposures among young children. The Agency reasoned that children face an equal, if not greater, risk from lead-based paint hazards in schools and day care centers as they do at home. Indeed, EPA was concerned that children could spend more time in a particular classroom or day care room in a given day or week than they might spend in a single room in their homes. With respect to the type of building covered, this regulation will operate in much the same way as the Lead-based Paint Activities Regulations. In most cases, office buildings without child care facilities, museums, stores, airports, and restaurants will not be covered by this rule. Although there may be large numbers of children present at any given time in these kinds of buildings, individual children are not likely to be there often enough and long enough to qualify the building as a child-occupied facility.

Some commenters appeared to be confused about whether the definition of "child-occupied facility" covers housing where informal or unpaid care is provided, such as the homes of relatives and neighbors. Whether or not a building is a child-occupied facility does not depend upon whether the owner or operator of the child-occupied facility is somehow compensated for the child's presence. Indeed, the first sentence of the definition makes this clear in stating that a child-occupied facility is a "building, or portion of a building, constructed prior to 1978, visited regularly by the same child . . ." The word "visited" is very broad, it includes visits to a relative's house or a neighbor's house as well as visits to a child-care facility or school.

Except in owner-occupied target housing, as discussed below, the firm performing the renovation is responsible for determining whether a building is a child-occupied facility. This can be accomplished in any number of ways. A stand-alone child care center is likely to have a name that suggests that it provides child care, and the center's status as a child-occupied facility should be obvious upon entering the center. Child care centers in office buildings are likely to have informational signs posted and the centers are likely to be identified in the building directory. Elementary schools are likely to have kindergarten classrooms. The renovation firm should inquire about the presence of a child-occupied facility when contracting to perform renovation services in a public or commercial building. However, a statement by the building owner or manager that there is no child-occupied facility in the building may not be relied

upon in the face of evidence to the contrary.

Several commenters felt that EPA had inappropriately limited the space encompassed by a child-occupied facility in a public or commercial building. These commenters thought that EPA should follow the approach used for common areas in multi-family housing. Under this approach, the rule would cover renovations for compensation in all areas normally accessible to the children using the child-occupied facility. However, children under age 6 are likely to spend less time in the hallways and stairways of public or commercial buildings than they do in common areas in the buildings where they live. It is also likely that children under age 6 walking to and from a child care center in an office building, or to and from a classroom in a school building, will be closely supervised and will not be permitted to walk through active renovation work sites. Although some exposure is possible in these areas, they are more akin to general public and commercial buildings that children may enter but where they are not expected to spend significant amounts of time than to the exposures associated with child-occupied facilities, and EPA's hazard standards are applicable to residents and residential-type settings. In addition, EPA is concerned that application of this final rule to all common areas of public or commercial buildings that may house a child-occupied facility in a small portion of the building would likely result in minimal benefit to the children at a potentially large cost.

c. Other public or commercial buildings. A number of commenters noted that TSCA section 402(c)(3) directs EPA to address renovation or remodeling activities that create lead-based paint hazards not only in target housing, but also in public buildings constructed before 1978, and commercial buildings. Most of these commenters, commenting on the 2006 Proposal, expressed the greatest concern over EPA's failure to address buildings where young children spend significant amounts of time, or child-occupied facilities. However, a handful of commenters argued that EPA also needed to address other public and commercial buildings under the renovation, repair, and painting program.

TSCA section 402(c)(3) provides authority for EPA to regulate renovation or remodeling activities that create lead-based paint hazards. EPA has, by regulation under TSCA section 403, identified lead-based paint hazards for

purposes of Title IV. These hazard standards were developed by evaluating exposure patterns and hazard information for young children and taking into account costs and benefits. They are only applicable in target housing and child-occupied facilities, places where young children are likely to be present for significant periods of time. Although EPA realizes that lead exposure for older children and adults can result in adverse health effects, effects which are discussed in chapter 5 of the Final Economic Analysis for the Lead Renovation, Repair, and Painting Program ("Final Economic Analysis") (Ref. 24), EPA has not evaluated the exposure and hazard information for these groups in the same way that it has for young children. EPA has not evaluated the potential adverse health effects and associated them with a specific level of surface dust that will result in a blood lead level in an older child or an adult that is likely to cause a particular adverse effect. Nor has EPA evaluated the potential health effects to young children from the less frequent exposures that might arise in public and commercial buildings that are not child-occupied facilities. At this time, EPA does not have sufficient information with which to conclude that renovation and remodeling activities in buildings not frequented by young children, e.g., public or commercial buildings that are not child-occupied facilities, create lead-based paint hazards because EPA's TSCA section 403 hazard standards only apply to target housing and child-occupied facilities. EPA has no hazard standards to apply in other situations. Thus, this rule, like the Lead-based Paint Activities Regulations, only applies in target housing and child-occupied facilities.

*2. Activities covered—*a. *Renovations for compensation.* This rule, like the Pre-Renovation Education Rule, only applies to persons who perform renovations for compensation. As discussed in the preamble to the 2007 Supplemental Proposal, for the purposes of this regulation, compensation includes pay for work performed, such as that paid to contractors and subcontractors; wages, such as those paid to employees of contractors, building owners, property management companies, child-occupied facility operators, State and local government agencies, and non-profits; and rent for target housing or public or commercial building space.

Although the owner of rental property may not be compensated for maintenance and repair work at the time that the work is performed, tenants generally pay rent for the right to

occupy rental space as well as for maintenance services in that space. Thus, renovations performed by renovation contractors and their employees in target housing or child-occupied facilities are covered, as are renovations by owners of rental target housing or child-occupied facilities, if the child-occupied facility leases space.

Renovations in target housing or in child-occupied facilities are covered if they are performed by employees of the renovation contractor, the building owner, the building manager, a State or local government agency, a non-profit organization, or the child-occupied facility operator, and the employees receive wages or other compensation for the work performed. Child care payments, in and of themselves, are not considered compensation for renovations. An agreement to provide child care in exchange for a payment is not a contract for building maintenance services in the same way that a lease or other agreement between a landlord and a tenant generally is.

One commenter requested that EPA consider payments for child care to be compensation for renovations. A number of other commenters expressed a general concern over the fact that EPA was not proposing to cover do-it-yourself renovations in owner-occupied target housing. Some of these commenters cited research or observations suggesting that improperly performed renovations by homeowners, relatives, or friends are equally likely, if not more likely, to cause elevated blood lead levels as renovations performed by professional contractors. The most commonly cited study for this proposition was the Wisconsin Childhood Blood-Lead Study, commissioned by EPA as Phase III of the Renovation and Remodeling Study performed pursuant to TSCA section 402(c)(2). As described more fully in the preamble to the 2006 Proposal, in homes where renovation and remodeling activities had been performed, the analysis of the results of the Wisconsin Study indicated the following ordering of the five possible responses to the question of who performed the renovation and remodeling, in order of highest to lowest risk of increased odds of an elevated blood lead level:

- Relative or friend not in household.
- Paid professional.
- Owner or building superintendent.
- Head of household or spouse.
- Other person in household.

As discussed in the preamble to the 2007 Supplemental Proposal, EPA does not believe that child-care payments

represent compensation for renovations in the same way that rent is.

Furthermore, as discussed in the Final Economic Analysis, the overwhelming majority of child-occupied facilities covered by this final rule are located in target housing. Some of that housing is rental target housing, and renovations in rental target housing are covered by this final rule regardless of whether a child-occupied facility is present. With respect to child-occupied facilities located in owner-occupied target housing and do-it-yourself renovations in owner-occupied target housing in general, EPA believes that it would be inconsistent with Congressional intent to cover these renovations.

EPA has previously determined that Congress was most concerned with the certification and training of contractors, not homeowners. In the preamble to the proposed Lead-based Paint Activities Regulations, EPA reviewed section 1021 of the Residential Lead-Based Paint Hazard Reduction Act of 1992, the section that added Title IV to TSCA, and determined that the emphasis under section 402 of TSCA ought to be the certification and training of contractors, not homeowners (Ref. 23). In its review, EPA declared that TSCA section 402(c)(3), the section under which this final rule is being issued, shows that Congressional “focus was on the need to regulate contractors doing renovation and remodeling activities, and not homeowners doing renovation and remodeling of their own homes” (Ref. 23). Specifically, TSCA section 402(c)(3) directs EPA to revise the TSCA section 402(a) Lead-based Paint Activities Regulations to apply to renovation and remodeling activities. In so doing, EPA is to determine “which *contractors* are engaged in such activities.” TSCA section 402(c)(3) (emphasis added). EPA thus interprets the statutory directive to regulate remodeling and renovation activities found in TSCA section 402(c)(3) as applying to contractors and not a broader category of persons, such as homeowners.

With respect to do-it-yourself renovations in child-occupied facilities in target housing, as stated above, although payment is received in exchange for childcare, EPA does not consider this to be a contract for building maintenance. As discussed in the previous paragraph, Congress intended to cover renovation contractors, not homeowners who perform renovations on their own homes.

However, as previously discussed, EPA intends to conduct an outreach and education campaign designed to encourage homeowners and other

building owners to follow lead-safe work practices while performing renovations or hire a certified renovation firm to do so.

b. *Definition of “renovation.”* The universe of renovation activities covered by this rule is virtually identical to the renovation activities already regulated under the Pre-Renovation Education Rule—essentially, activities that modify an existing structure and that result in the disturbance of painted surfaces. All types of repair, remodeling, modernization, and weatherization projects are covered, including projects performed as part of another Federal, State, or local program, if the projects meet the definition of “renovation” already codified in 40 CFR 745.83.

As discussed in Unit IV.B.3. of the preamble to the 2006 Proposal, EPA considered a number of options for defining the term “renovation” for the Pre-Renovation Education Rule, and chose a definition that focuses on the activities of greatest concern to EPA, activities that disturb lead-based paint. This definition also covers virtually all of the types of activities in the Environmental Field Sampling Study that created lead-based paint hazards. In this rulemaking, EPA received several comments requesting clarification on the definition; some of these commenters were particularly interested in the types of jobs that would be covered by this definition. One commenter requested that, if EPA intended to cover maintenance and repair projects and interim control projects, the definition of “renovation” be modified to specifically include those projects. Another commenter requested that EPA specifically mention weatherization projects as an example of the types of projects covered by the rule. Several commenters suggested that the definition should clearly delineate the boundaries between renovation and abatement.

EPA also received several responses to its requests for comment on whether to exclude any category of specialty contractor and whether certain renovation activities, such as HVAC duct work, which may result in the disturbance of limited amounts of lead-based paint, should be specifically included or excluded. A state agency contended that exterior siding projects, HVAC duct work, and wallpaper removal should not be excluded, noting that wallpaper removal was implicated in a lead poisoning case the agency investigated. Another commenter argued that many interior and exterior painting projects involve washing, scuff-sanding, and scraping to remove loose materials, and that such “common” and

“relatively benign” industry practices should not be regulated. Other commenters argued that there should be no categorical exemption for any type of specialty contractor. Most commenters on this issue contended that the amount of lead-based paint disturbed, rather than the type of project or contractor involved, should control the applicability of the rule.

EPA specifically disagrees that scuff-sanding and scraping are “benign,” especially in light of the dust lead levels generated by dry scraping in the Dust Study. The geometric mean post-work, pre-cleaning dust lead levels resulting from dry scraping were 2,686 $\mu\text{g}/\text{ft}^2$. After baseline cleaning procedures, the geometric mean was still 66 $\mu\text{g}/\text{ft}^2$. When the work practices required by the final rule were used, the geometric mean was 30 $\mu\text{g}/\text{ft}^2$. As stated above, all of the renovation activities in the Dust Study and the other studies in the record for this final rule created lead-based paint hazards. Therefore, this regulation will not exempt any category of specialty contractor or any specific type of renovation. EPA notes, however, that it has not prohibited the use of dry scraping or dry hand sanding. More information on prohibited renovation practices can be found in Unit III.E.4. of this preamble. EPA also notes that some small jobs will be exempt from the requirements of this final rule under the minor repair and maintenance exception.

EPA has also determined that, based on the comments, some changes to the proposed definition of the term “renovation” are necessary to ensure that everyone understands that all types of building renovation, repair, and painting projects are covered, so long as painted surfaces are disturbed. The following definition of “renovation” will be incorporated into 40 CFR 745.83.

Renovation means the modification of any existing structure, or portion thereof, that results in the disturbance of painted surfaces, unless that activity is performed as part of an abatement as defined by this part (40 CFR 745.223). The term renovation includes (but is not limited to): The removal, modification or repair of painted surfaces or painted components (e.g., modification of painted doors, surface restoration, window repair, surface preparation activity (such as sanding, scraping, or other such activities that may generate paint dust)); the removal of building components (e.g., walls, ceilings, plumbing, windows); weatherization projects (e.g., cutting holes in painted surfaces to install blown-in insulation or to gain access to attics, planing thresholds to install weather-stripping),

and interim controls. A renovation performed for the purpose of converting a building, or part of a building, into target housing or a child-occupied facility is a renovation under this subpart. The term renovation does not include minor repair and maintenance activities.

EPA added “repair,” “surface restoration,” “window repair,” “weatherization,” and “interim controls” to the definition to make it clear that all of these activities are covered by this definition if they disturb painted surfaces. EPA also separated the removal and the modification of building components to provide clarity. In addition, EPA provided examples of weatherization activities and building component removal. Finally, EPA added a sentence to ensure that it is clear that renovations performed to turn a building into target housing or a child-occupied facility are covered.

Thus, interim control projects and weatherization projects that disturb painted surfaces are renovations. In addition, under this definition, the line between renovation and abatement is clear. Any renovation, repair, maintenance, or painting project is a renovation potentially covered by this rule unless the purpose of the project is to permanently eliminate lead-based paint or lead-based paint hazards. In that case, the project is an abatement. Covered renovations must be performed in accordance with 40 CFR part 745, subpart E, while covered abatements must be performed in accordance with 40 CFR part 745, subpart L.

3. *Exceptions—a. Owner-occupied target housing that is neither the residence of a child under age 6 or a pregnant woman, nor a child-occupied facility.* The 2006 Proposal proposed to establish an exception that would allow owner-occupants of target housing to opt-out of having renovation firms use the work practices that would be required by the rule. The proposed exception provided that if the owner-occupant signed a statement that no child under 6 resided there, the renovation would be exempt from the training, certification, and work practice requirements of the regulation. The 2007 Supplemental Proposal narrowed this exception. Under the 2007 Supplemental Proposal, owner-occupied target housing where no child under age 6 resides would not be eligible for this exception if the housing meets the definition of “child-occupied facility.” This final rule retains this exception, but further narrows it to exclude housing where pregnant women reside. In addition, to make it clear to the property owner what the effect of

the signed statement is, EPA has modified the requirements to include an acknowledgment by the owner that the renovation firm will not be required to use the lead-safe work practices contained in EPA’s renovation, repair, and painting rule. Thus, unless the target housing meets the definition of a child-occupied facility, if an owner-occupant signed a statement that no child under 6 and no pregnant woman reside there and an acknowledgment that the renovation firm will not be required to use the lead-safe work practices contained in EPA’s renovation, repair, and painting rule, the renovation activity is exempt from the training, certification, and work practice requirements of the rule. Conversely, if the owner-occupant does not sign the certification and acknowledgement (even if no children under 6 or no pregnant women reside there), or if the owner-occupant chooses not to take advantage of the exception for other reasons, the exception does not apply and the renovation is subject to the requirements of this final rule.

EPA asked for and received numerous comments on this aspect of the 2006 Proposal. Several commenters supported EPA’s focus on housing where children under age 6 reside, citing the need to target society’s resources towards the housing that presents the greatest risk. One commenter also noted that this provision would help keep renovation costs down for low-income homeowners without children. Most commenters, however, did not agree with EPA’s proposal to allow homeowners with no children under age 6 who occupy their own homes to opt out of the rule’s requirements. These commenters cited a number of reasons for their position, including the fact that children visit homes where they do not reside, and newly renovated housing may be sold to a family with young children regardless of whether children were in residence when the renovation occurred. Commenters also expressed concern about pregnant women, given that the transplacental transfer of lead in humans is well documented, and infants are generally born with a lead body burden reflecting that of the mother. This led some commenters to suggest that women of child-bearing age and girls between the ages of 6 and 14 also deserve special protection, because any lead body burden that they acquire through uncontrolled renovations will be passed on to any children they may eventually have.

EPA has carefully considered the issues and concerns raised with respect to exceptions to the rule. On the one

hand, EPA agrees with the commenters that believed it was important to focus this regulation on the housing that presents the greatest risk to young children. EPA is mindful of the impacts this regulation may have on the affordability of renovations, particularly for low-income homeowners. EPA believes that primarily focusing society's resources on the housing that presents the greatest risk to children is consistent with Congressional intent. In the Senate report on Title X, Congress noted the need "for a flexible, targeted approach for protecting children from exposure to lead hazards while maintaining housing affordability" (Ref. 25). The report also noted that "exposure to lead is primarily caused by ingesting paint dust or chips," which is the route of exposure of concern primarily for young children, ages 18–27 months. Indeed, in the Congressional findings for Title X, Congress focused on the lead poisoning of children and the need to address this as a national priority. [Sec. 1002, Public Law 102–550]. The focus on children can also be inferred from the very definition of "target housing" which on the one hand excludes housing for the elderly and disabled "unless a child under six resides or is expected to reside" there. Similarly, this final rule focuses on the population most at risk and does not provide any exceptions if a child under age 6 resides in the target housing to be renovated.

On the other hand, EPA understands and shares some of the concerns expressed by those commenters who did not support an exception for owner-occupied target housing where no child under 6 resides. In balancing these countervailing considerations, EPA has further limited this exception to owner-occupied target housing that does not meet the definition of a child-occupied facility because no child under 6 is present on a regular basis and in which no pregnant women reside. This has the effect of focusing this regulation primarily on renovations performed in buildings where children under age 6 reside or spend a great deal of time or in which a pregnant woman resides.

With regard to older children and adults, it is important to remember that the hazards presented by a particular floor or windowsill dust lead level are markedly different for a toddler than for an older child or an adult. As discussed in EPA's most recent Air Quality Criteria for Lead document, hand-to-mouth behavior is an important means of exposure for children. The period of peak exposure, reflected in peak blood lead levels, is around 18–27 months when hand-to-mouth activity is at its

maximum. This leads to a high rate of ingestion of dust at a time when children are believed to be particularly vulnerable to the neurological effects of lead exposure. While lead exposure continues to affect older children and adults, these individuals do not ingest dust at the same high rate that a toddler does. Therefore, the same floor dust level will present a much greater hazard for the young child than it will for the older child or adult. The lead-based paint hazard standards in 40 CFR part 745, subpart D, were established with reference to impacts on childhood blood lead levels based principally on hand-to-mouth activity, and EPA has not assessed the effect of dust lead levels or other potential sources of lead-based paint hazards on older children or adults.

However, EPA is particularly concerned about exposure to pregnant women because while the exposure patterns for small children and older children and adults are different, once exposed a pregnant woman can transfer lead to the developing fetus. Epidemiologic evidence indicates that lead freely crosses the placenta resulting in continued fetal exposure throughout pregnancy. Of particular concern is transfer to the developing brain of the fetus across the poorly developed blood brain barrier. Further, a significant proportion of lead transferred from the mother is incorporated into the developing skeletal system of the offspring, where it can serve as a continuing source of toxic exposure (Ref. 1). Thus, EPA agrees with the commenters who believed it is important to ensure that the work practices required in this final rule are followed in homes where a pregnant woman resides.

EPA also acknowledges the concern expressed by a number of commenters that newly renovated housing will be sold to a family with young children. If the renovation was not performed in accordance with the work practices prescribed by this rule, a dust-lead hazard may be present in the home. However, EPA does not believe it is an effective use of society's resources to impose this final rule requirements on all renovations in order to account for the portion of homes without young children that will be sold to families with young children following renovations. Moreover, the Disclosure Rule, 40 CFR part 745, subpart F, requires sellers of target housing to disclose known lead-based paint or lead-based paint hazard information to purchasers and provide them with a copy of the lead hazard information pamphlet entitled *Protect Your Family*

From Lead in Your Home (Ref. 7). In the situation described by the commenters, the receipt of this information should prompt the family to inquire about potential lead-based paint hazards in the home, particularly if one of the selling points is that areas of the home have been recently renovated. In addition, EPA continues to recommend that purchasers take advantage of their statutory opportunity to have a lead-based paint inspection or risk assessment done while in the process of purchasing target housing.

In response to comments expressing concern about this exception from this final rule, EPA has further considered the proposed owner-occupant acknowledgement statement and concluded that it is important that homeowners understand the effect of the acknowledgement. Accordingly, EPA has clarified and expanded the acknowledgement language to ensure that it is clear and consistent. In addition, EPA would like to make it clear that even if the housing to be renovated qualifies for this exception, the homeowner may always choose to have the renovation firm follow the work practices required by this rule. For example, the homeowner may be concerned about potential exposures for visiting children who do not visit often enough to make the housing a child-occupied facility. The homeowner may also be concerned that she may be pregnant, even though she is not yet certain. EPA has added a statement to the sample acknowledgment form that would allow the homeowner to state that the housing does qualify for the exception, but the homeowner wishes the renovation firm to follow the requirements of this rule anyway.

EPA would like to reiterate that this exception applies only to target housing that is occupied by its owner. For a number of reasons, this exception is not available in rental target housing, whether young children are present or not. First, tenants are likely to have much less control over renovations in their housing than owners. Next, as pointed out by some commenters, there is more turnover in rental housing than in owner-occupied housing. In many cases, renovations are done between tenants and it may not be known who will be occupying the unit next. Finally, as noted by at least two commenters, exempting renovations in rental housing that is not occupied by a child under age 6 could cause discrimination in the rental housing market against families with young children. Nearly all of the commenters on this issue agreed with this approach.

Several commenters expressed reservations about the ability of renovation firms to determine whether housing to be renovated is eligible for this exception. As discussed in both proposals, EPA believes that it could be difficult for a renovation firm to determine whether a child under age 6 resides in a particular unit of target housing or whether the housing is a child-occupied facility or whether a woman is pregnant. EPA will therefore allow renovation firms to rely on a signed statement from the owner of the housing that he or she is the owner of the housing to be renovated, that he or she resides in the housing to be renovated, that no child under 6 or pregnant woman resides there, that the housing does not meet the definition of a child-occupied facility, and that the owner acknowledges that the renovation firm will not be required to use the lead-safe work practices contained in this final rule. In the absence of such a signed statement, the renovation firm must comply with all of the regulation's requirements. If the renovation firm obtains such a statement, the renovation firm is not subject to the work practice and other requirements of this final rule. EPA will not hold the renovation firm responsible for misrepresentations on the part of the owner of the housing. Renovations in common areas of owner-occupied multi-unit target housing, such as condominiums, must be performed in accordance with the requirements of this rule unless the renovation firm obtains a signed statement from each occupant with access to the common area that the occupant is the owner of the housing unit, that he or she resides there, that no child under age 6 or pregnant woman resides there, that the housing does not meet the definition of child-occupied facility, and that the owner understands that the renovation firm will not be required to use the work practices contained in this final rule.

Finally, some commenters argued that TSCA section 402(c)(3) requires EPA to cover all renovations in target housing regardless of whether the housing is the residence of a child under age 6 or a child-occupied facility. This regulation covers all target housing. In order to perfect a claim for the exception for owner-occupied target housing that is not the residence of a child under age 6 or a pregnant woman or a child-occupied facility, the renovation firm must obtain the owner's signature on a form indicating that the housing qualifies for the exception and the owner is opting out of the training, certification, and work practice

requirements of this rule. In addition, the form and regulation provide the option for a homeowner to request that the work conform to the requirements of this final rule even in homes without young children or pregnant women. EPA believes homeowners without young children or who reside in homes without pregnant women should be able to choose whether or not work done in their own homes conforms to the requirements of this final rule. EPA has determined that allowing these owner-occupants to opt out of the training, certification, and work practice requirements of the rule does not significantly compromise the safety and effectiveness of this rule because the limitations on the applicability of the exception with respect to children under 6 and pregnant women serve to minimize the possibility that a young child or a pregnant woman will be exposed to a lead-based paint hazard resulting from a renovation in target housing.

b. *Renovations affecting only components free of regulated lead-based paint*—i. *Determination by certified inspector or risk assessor.* In keeping with the 2006 Proposal and the 2007 Supplemental Proposal, this final rule exempts renovations that affect only components that a certified inspector or risk assessor has determined are free of paint or other surface coatings that contain lead equal to or in excess of 1.0 mg/cm² or 0.5% by weight. These standards are from the definition of lead-based paint in Title X and in EPA's implementing regulations. Nearly all of the commenters that expressed an opinion on this topic favored this exception. The determination that any particular component is free of lead-based paint may be made as part of a lead-based paint inspection of an entire housing unit or building, or on a component-by-component basis.

Some commenters expressed confusion over the mechanics of this exception. The certified inspector or risk assessor determines whether components contain lead-based paint, while the renovation firm is responsible for determining which components will be affected by the renovation. A renovation firm may rely on the report of a past inspection or risk assessment that addresses the components that will be disturbed by the renovation.

ii. *Determination by certified renovator using EPA-recognized test kits.* Also in accordance with both of the proposals, this final rule exempts renovations that affect only components that a certified renovator, using a test kit recognized by EPA, determines are free of lead-based paint. EPA has deleted the

regulatory thresholds for lead-based paint from this definition because they unnecessarily complicate the exception. As discussed in Unit III.C.1. of this preamble, a certified renovator is a person who has taken an accredited course in work practices. This training will include how to properly use the EPA-approved test kits. This final rule also establishes the process EPA will use to recognize test kits.

As discussed in the preamble to the 2006 Proposal, research on the use of currently available kits for testing lead in paint has been published by the National Institute of Standards and Technology (NIST) (Ref. 26). The research indicates that there are test kits on the market that, when used by a trained professional, can reliably determine that regulated lead-based paint is not present by virtue of a negative result. Based on this research, EPA proposed to initially recognize test kits that have, for paint containing lead at or above the regulated level, 1.0 mg/cm² or 0.5% by weight, a demonstrated probability (with 95% confidence) of a negative response less than or equal to 5% of the time.

Some commenters, representing a variety of interests, supported an exception for renovations affecting components that have been found to be free of regulated lead-based paint by use of a test kit. One commenter cited the need for faster and cheaper methods of accurately checking for lead and expressed the opinion that this approach will expand access to lead screening in homes. Several comments were generally supportive, with some reservations about kit reliability.

However, most commenters did not favor the use of test kits. The most commonly cited reason for not supporting this approach was the potential conflict-of-interest present in having the certified renovator be the one to determine whether or not he or she must use the work practices required by the rule. EPA addressed potential conflicts-of-interest in its lead-based paint program in the preamble to the final Lead-based Paint Activities Regulations. That discussion outlined two reasons for not requiring that inspections or risk assessments, abatements, and post-abatement clearance testing all be performed by different entities. The first was the cost savings and convenience of being able to hire just one firm to perform all necessary lead-based paint activities. The second was the potential regional scarcity of firms to perform the work. These considerations may also be applicable to the renovation sector, given the premium on maintaining a

rule that is simple and streamlined and does not unduly prolong the timeframes for completing renovations. Moreover, it is not unusual in regulatory programs to allow regulated entities to make determinations affecting regulatory applicability and compliance. See, e.g., 40 CFR 262.11 (hazardous waste determinations by waste generators under RCRA). EPA has decided to take an approach that is consistent with the approach taken in the 402(a) lead-based Paint Activities regulation and not require third party testing.

Another commonly cited reason for not supporting the use of test kits by certified renovators was the lack of any sampling protocol in the regulation. A related concern was that the training in sampling techniques and protocols in the lead-based paint inspector course could not be shortened to fit within the 8-hour renovator course and still retain all of the necessary information. EPA wishes to make it clear that the 8-hour renovator course will not train renovators in how to select components for sampling because the certified renovator must use a test kit on each component affected by the renovation. The only exception to this is when the components make up an integrated whole, such as the individual stair treads and risers in a staircase. In this situation, the renovator need test only one such individual component, e.g., a single stair tread, unless it is obvious to the renovator that the individual components have been repainted or refinished separately. As such, a complicated sampling protocol is not necessary. EPA plans to modify the EPA/HUD Lead Safe Work Practices course to include training on how to use a test kit. To ensure that the applicability of the exception is clear, EPA has also modified 40 CFR 745.82(a)(2) to specifically state that the certified renovator must test each of the components that will be affected by the renovation.

iii. *Phased implementation and improved test kits.* Under the proposals, the regulatory requirements would have taken effect in two major stages, based on the age of the building being renovated. The first stage would have applied to renovations in target housing and child-occupied facilities built before 1960. Requirements for renovations in target housing and child-occupied facilities built between 1960 and 1978 would have taken effect 1 year later. The primary reason for this phased implementation was to allow time for the development of improved test kits.

According to the National Survey of Lead and Allergens in Housing, 24% of

the housing constructed between 1960 and 1978 contains lead-based paint (Ref. 27). In contrast, 69% of the housing constructed between 1940 and 1959, and 87% of the housing constructed before 1940 contains lead-based paint. The results of this survey indicate that there is a much greater likelihood of disturbing lead-based paint during a renovation that occurs in a home built before 1960 than in a home built after that date. The NIST research on existing test kits shows that existing test kits cannot reliably determine that lead is present in paint only above the statutory levels because the kits are sensitive to lead at levels below the Federal standards that define lead-based paint, and therefore are prone to a large number of false positive results (i.e., a positive result when regulated lead-based paint is, in fact, not present). The NIST research found that such false positive rates range from 42% to 78%. This means that the currently available kits are not an effective means of identifying the 76% of homes built between 1960 and 1978 that do not contain regulated lead-based paint.

Research conducted by EPA subsequent to the publication of the 2006 Proposal confirms that the sensitivity of test kits could be adjusted for paint testing so that the results from the kits reliably correspond to one of the two Federal standards for lead-based paint, 1.0 mg/cm² and 0.5% by weight. EPA's research and initial contacts with potential kit manufacturers also indicate that this can be accomplished in the near future. As stated in the preamble to the 2006 Proposal, EPA's goal is to foster the development of a kit that can reliably be used by a person with minimal training, is inexpensive, provides results within an hour, and is demonstrated to have a false positive rate of no more than 10% and a false negative rate at 1.0 mg/cm² or 0.5% by weight of less than 5%. EPA is confident that improved test kits meeting EPA's benchmarks will be commercially available by September 2010.

With this in mind, EPA felt that a staged approach would initially address the renovations that present the greatest risks to children under age 6, i.e., the renovations that are most likely to disturb lead-based paint, while allowing additional time to ensure that the improved test kits are commercially available before phasing in the applicability of the rule to newer target housing and child-occupied facilities. However, EPA was concerned about delaying implementation for post-1960 target housing and child-occupied facilities that are occupied or used by

children under age 6 with increased blood lead levels. In order to reduce the possibility that an unregulated renovation activity would contribute to continuing exposures for these children, the 2006 Proposal would have required renovation firms, during the first year that the training, certification, work practice and recordkeeping requirements are in effect, to provide owners and occupants of target housing built between 1960 and 1978 and child-occupied facilities built between 1960 and 1978 the opportunity to inform the firm that the building to be renovated is the residence of, or is a child-occupied facility frequented by, a child under age 6 with a blood lead level that equals or exceeds the CDC level of concern, or a lower State or local government level of concern. If the owner or occupant informs the renovation firm that a child under age 6 with an increased blood lead level lives in or frequents the building to be renovated, the renovation firm must comply with all of the training, certification, work practice, and recordkeeping requirements of this regulation.

Some commenters agreed that a staged approach was probably necessary, given the number of renovations that would be covered by the rule, and that a focus on buildings built before 1960 was appropriate. However, most commenters objected to the phased implementation. Some were concerned about the potential exposures to children in buildings built between 1960 and 1978 during the first stage of the rule. Another major concern expressed by commenters was that the phased implementation would unnecessarily complicate the rule, especially with the provision relating to children under age 6 with increased blood lead levels. These commenters felt that, because there already are accurate methods for determining whether a building contains lead-based paint, and because renovation firms ought to get into the habit of working in a lead-safe manner whenever they are working on a building built before 1978, the utility of the delay does not outweigh the likely confusion in the regulated community. Commenters also expressed reservations about providing sensitive medical information to contractors, in the case of children under age 6 with increased blood lead levels.

After reviewing the comments and weighing all of the factors, including EPA's expectation that the improved test kits will be commercially available by September 2010, EPA has decided not to include a phased implementation in this rulemaking. Therefore, this

regulation will take effect at the same time for target housing and child-occupied facilities regardless of whether they were built before or after 1960. Nonetheless, if the improved test kits are not commercially available by September 2010, EPA will initiate a rulemaking to extend the effective date of this final rule for 1 year with respect to owner-occupied target housing built after 1960.

iv. *Test kit recognition process.* In the 2006 Proposal, EPA described proposed criteria for test kit recognition. Specifically, for paint containing lead at or above the regulated level, 1.0 mg/cm² or 0.5% by weight, EPA stated its intention to only recognize kits that have a demonstrated probability (with 95% confidence) of a negative response less than or equal to 5% of the time. In addition, as soon as the improved test kits are generally available, EPA proposed to recognize only those test kits that have a demonstrated probability (with 95% confidence) of a false positive response of no more than 10% to lead in paint at levels below the regulated level. EPA stated its belief that limiting recognition to kits that demonstrate relatively low rates of false positives would benefit the consumer by reducing the number of times that the training and work practice requirements of this regulation are followed in the absence of regulated lead-based paint. EPA also proposed to require that these performance parameters be validated by a laboratory independent of the kit manufacturer, using ASTM International's E1828, Standard Practice for Evaluating the Performance Characteristics of Qualitative Chemical Spot Test Kits for Lead in Paint (Ref. 28) or an equivalent validation method. In addition, the instructions for use of any particular kit would have to conform to the results of the validation, and the certified renovator would have to follow the manufacturer's instructions when using the kit. EPA requested comment on whether these standards are reasonably achievable and sufficiently protective. EPA also solicited input on how to conduct the kit recognition process.

Some commenters expressed reservations about the proposed performance criteria, contending that a false negative rate of 5% is too high to be protective. However, a 5% false negative rate (with 95% confidence) is similar to the performance requirements for other lead-based paint testing methods, such as laboratory analysis used for lead-based paint inspections, and is considered to be the statistical equivalent of zero. Therefore, this final rule retains the proposed false-negative

criteria for test kit recognition, i.e., for paint containing lead at or above the regulated level, 1.0 mg/cm² or 0.5% by weight, kits will be only recognized if they have a demonstrated probability (with 95% confidence) of a negative response less than or equal to 5% of the time. Because no comments were received on the proposed false-positive criteria of 10% for the improved test kits, this final rule also retains the proposed false-positive criteria for the improved kits, i.e., after the improved kits are available, the only test kits that will be recognized are those that have a demonstrated probability (with 95% confidence) of a false positive response of no more than 10% to lead in paint at levels below the regulated level.

EPA did not receive any comments or suggestions on the test kit recognition process itself. With respect to existing test kits, EPA has determined that the NIST research (Ref. 26) is the equivalent of an independent laboratory validation of test kit performance. The NIST research found that three kits met the false-negative criteria established in this final rule. For the purposes of this regulation, EPA will therefore recognize these test kits, provided that they still use the same formulation that was evaluated by NIST. These test kits will be recognized by EPA until EPA publicizes its recognition of the first improved test kit.

With respect to the improved test kits, EPA has determined that Environmental Technology Verification Program (ETV) is a suitable vehicle for obtaining independent laboratory validation of test kit performance. EPA intends to use ETV or an equivalent testing program approved by EPA for the test kit recognition process. The goal of the ETV Program is to provide independent, objective, and credible performance data for commercial-ready environmental technologies. The ETV process promotes these technologies implementation for the benefit of purchasers, permittees, vendors and the public. If ETV is used, EPA would utilize the Environmental and Sustainable Technology Evaluations (ESTE) element of the ETV program because the development of the test kits is in support of this final rule, and the ESTE element was created in 2005 to address Agency priorities such as rule making. More information on this program is available on EPA's website at <http://www.epa.gov/etv/index.html>.

In the 2006 Proposal, EPA noted that it would look to ASTM International's E1828, Standard Practice for Evaluating the Performance Characteristics of Qualitative Chemical Spot Test Kits for Lead in Paint (Ref. 28) or equivalent for a validation method for test kits. With

the input of stakeholders, EPA is adapting this ASTM Standard for use in the laboratory validation program. The testing protocol will consist of an evaluation of the performance of the test kits, using the manufacturer's instructions, on various substrates, such as wood, steel, drywall, and plaster, with various lead compounds, such as lead carbonate and lead chromate, at various lead concentrations above and below regulatory threshold for lead-based paint. To be consistent with the performance criteria of the National Lead Laboratory Accreditation Program, the testing protocol will not involve testing the performance of the kits on paint that contains between 0.8 milligrams of lead per square centimeter and 1.2 milligrams of lead per square centimeter. After a test kit has gone through the ETV or other EPA approved testing process, EPA will review the test report to determine whether the kit has been demonstrated to achieve the criteria set forth in the rule. EPA anticipates that evaluation of the improved test kits under the recognition program will begin by August 2009.

In addition, EPA intends to allow other existing test kit manufacturers the opportunity to demonstrate that their kits meet the false negative criteria described in 40 CFR 745.88(c)(1) by going through the ETV process. Any recognition granted to test kits based only on the false negative criteria will expire when EPA publicizes its recognition of the first improved test kit that meets both the false negative and false positive criteria of 40 CFR 745.88(c).

Beginning on September 1, 2008, EPA's ETV program will accept applications for testing from test kit manufacturers. Applications must be submitted, along with a sufficient number of kits and the instructions for using the kits, to EPA. The test kit manufacturer should first visit the following website for information on where to apply: <http://www.epa.gov/etv/howtoapply.html>.

c. *Minor repair and maintenance.* EPA proposed to incorporate into this regulation the minor maintenance exception for the Pre-Renovation Education Rule. The proposed minor maintenance exception would have applied to projects that disturb 2 ft² or less of painted surface per component. The preamble to the 2006 Proposal discusses the history of this exception and requested comment on potential changes. In particular, EPA noted that HUD's Lead Safe Housing Rule, at 20 CFR 35.1350(d), includes a *de minimis* exception for projects that disturb 2 ft² or less of painted surface per room for

interior projects, 20 ft² or less of painted exterior surfaces, and 10% or less of the total surface area on an interior or exterior type of component with a small surface area. If less than this amount of painted surface is disturbed, HUD's lead-safe work practice requirements do not apply. EPA's lead-based Paint Activities Regulation incorporates this as an exception for small projects at 40 CFR 745.65(d). EPA requested comment on whether the minor maintenance exception in this regulation should be consistent with other EPA regulations and the HUD Lead Safe Housing Rule. This provision describes the applicability of the Pre-Renovation Education Rule as well as this final rule.

Most commenters expressed support for consistency in the various lead-based paint regulations administered by EPA and HUD. They noted that a consistent exception for small projects or minor maintenance would be easier for the regulated community to apply. Many of these commenters recommended 2 ft² for interior projects and 20 ft² on exterior surfaces. While some commenters supported a "per component" exception, several commenters specifically noted that the "per component" aspect of the existing Pre-Renovation Education Rule exception was problematic in that it could result in the disturbance of large areas of painted surfaces in a single room. Other commenters recommended that the threshold area for the exception be made smaller or the exception abolished. These commenters noted that even very small projects have the potential to create lead-based paint hazards and that, rather than worrying about the applicability of the exception, renovation firms should just get into the habit of performing every project in a lead-safe manner. Other commenters suggested that EPA consider a larger threshold area for the exception, or an exception based on other factors, such as time spent performing an activity. EPA recognizes that, depending upon the methods used to disturb lead-based paint, very small disturbances can release a great deal of lead. EPA also understands the practicality of a minor maintenance exception.

In weighing these competing considerations, EPA has decided to incorporate in this final rule a minor maintenance exception for projects that disturb 6 ft² or less of painted surface per room for interiors and 20 ft² or less of painted surface on exteriors. This addresses the concerns of those commenters who supported a "per component" exception while still limiting the overall amount of paint that can be disturbed in a single room during

a single project. As in the 2006 Proposal, this exception is not available for window replacement projects. In contrast to the Proposal, this exception is only available for projects that do not use any of the work practices prohibited or restricted by 40 CFR 745.85(a)(3) and that do not involve demolition of painted surface areas.

EPA remains convinced that the distinction between renovation and minor maintenance activities is an important part of implementing this program. Congress directed EPA to address renovation and remodeling. In ordinary usage, minor maintenance activities that might disturb lead-based paint (e.g., removing a face plate for an electric switch to repair a loose connection, adding a new cable TV outlet, or removing a return air grill to service the HVAC system) are not normally considered home renovations. EPA believes that minor repair and maintenance activities that cover 6 ft² or less per room and 20 ft² or less for exteriors and that do not involve prohibited practices, demolition or window replacement would not ordinarily be considered renovation or remodeling but would better be described as minor work on the home or COF. EPA also believes that a typical minor repair and maintenance activity would not normally involve the use of high dust generating machinery such as those prohibited or restricted by this rule. To make the distinction between renovations and minor repair and maintenance activities clear, EPA has added a definition of "minor repair and maintenance activities" to 40 CFR 745.83. This term is defined as follows:

Minor repair and maintenance activities" are activities, including minor heating, ventilation or air conditioning work, electrical work, and plumbing, that disrupt 6 square feet or less of painted surface per room for interior activities or 20 square feet or less of painted surface for exterior activities where none of the work practices prohibited or restricted by § 745.85(a)(3) are used and where the work does not involve window replacement or demolition of painted surface areas. When removing painted components, or portions of painted components, the entire surface area removed is the amount of painted surface disturbed. Jobs, other than emergency renovations, performed in the same room within the same 30 days must be considered the same job for the purpose of determining whether the job is a minor repair and maintenance activity.

To accommodate this new definition of "minor repair and maintenance activities," the definition of "renovation" in § 745.83 has also been changed to include the following sentence: "The term renovation does not include minor repair and maintenance

activities." As a result of these two definitional changes, the reference to minor maintenance in 40 CFR 745.82(a)(1) is no longer necessary. Therefore, when engaged in minor repair and maintenance activities as defined in 40 CFR 745.83, renovation firms and renovators are not covered by this rule. EPA believes this approach--eliminating the per-component limitation in favor of an overall size cap, and prohibiting practices that EPA believes are inconsistent with minor maintenance work and that generate very high lead dust loadings--is a reasonable balance of the considerations identified by commenters and considered by EPA.

Several commenters expressed concerns about how the exception would be applied, and whether various activities would be covered by the rule or exempt under the minor maintenance exception. Window replacement was of interest to several commenters, who referred to EPA's previous guidance on window replacement under the Pre-Renovation Education Rule (Ref. 29). That guidance states that window replacement, for various reasons, cannot qualify for the minor maintenance exception. EPA knows of no reason why this interpretation should be changed. In fact, contrary to the assertions of some commenters, the Dust Study found that window replacement was one of the more hazardous jobs. The geometric mean of the lead content of floor dust samples taken in the work area after the window replacement projects was 3,003 µg/ft² (Ref. 17, at 6–11). In addition, EPA does not believe that window replacement is within the common understanding of the meaning of either minor repair or maintenance. EPA has specifically included language in the definition of "minor repair and maintenance activities" to make it clear that window replacements cannot qualify.

Two commenters contended that, when determining whether wall or ceiling cut-outs exceed the minor maintenance exception, the painted surface disturbed should be measured by multiplying the length of the cut by its width, as opposed to the total size of the cut-out. EPA disagrees with these commenters. For cut-outs, the calculation is made for the entire area of surface being disturbed, e.g., the area of the cut-out, for the following reasons:

- The removed portion can flex or be broken during the removal process and the paint can flake off;
- The removed portion can fall on the floor and be trampled upon; or
- The removed portion may not be removed as a single piece.

Calculating the amount of painted surface disturbed in the manner that the commenters suggested would also complicate the rule and be more difficult to convey during the renovator training course. In response to these comments, EPA has inserted clarifying language on this into the text of the definition of "minor repair and maintenance activities" at 40 CFR 745.83.

One commenter recommended that EPA prohibit splitting work, i.e., conducting a single project as several minor maintenance activities in the same room in a short time (like a month) in order to avoid the regulatory requirements. EPA agrees with this commenter. It has always been EPA's interpretation of the Pre-Renovation Education Rule that renovators could not artificially split up projects in order to avoid having to provide the pamphlet. In response to this comment, EPA has inserted clarifying language on this into the definition of "minor repair and maintenance activities" at 40 CFR 745.83. This definition states that jobs, other than emergency renovations, performed in the same room within the same 30 days must be considered the same job for the purpose of determining whether the job is a minor repair and maintenance activity.

d. *Emergency projects.* Both the 2006 Proposal and the 2007 Supplemental Proposal proposed to retain the emergency project exception in the Pre-Renovation Education Rule with one modification. EPA proposed to clarify that interim control projects performed on an expedited basis in response to an elevated blood lead level finding in a resident child qualify for the emergency project exception from the Pre-Renovation Education Rule requirements. As discussed in the 2006 Proposal, EPA was concerned that local public health organizations may be delayed in responding to a lead-poisoned child if the owner of the building where the child resides is not available to acknowledge receipt of the lead hazard information pamphlet before an interim control project begins. In addition, EPA recognized that some emergencies could make it difficult to comply with all of the training, certification, work practice, and recordkeeping requirements. For example, a broken water pipe may make it impossible to contain the work area before beginning to disturb painted surfaces to get to the pipe. The proposed emergency project exception would have required firms to comply with the work practice, training, certification, and recordkeeping requirements to the extent practicable.

EPA received a number of comments on this aspect of the 2006 Proposal. Several recognized the need for such an exception, but most of the commenters were concerned that the language of the proposal would make it possible for renovation firms to circumvent the training, certification, and work practice controls when performing interim controls in response to a child with an elevated blood lead level. A number of these commenters, as well as several others, urged EPA to be more specific about which requirements could be bypassed in particular situations. EPA agrees with these commenters. It never was EPA's intention to allow firms performing interim controls in response to a poisoned child to use untrained workers or work in a manner not consistent with the work practices required by this rule.

EPA has therefore revised the exception to specifically state that interim controls performed in response to a child with an elevated blood lead level are only exempt from the information distribution requirements, which is consistent with the current Pre-Renovation Education Rule. EPA has also modified the exception to state that emergency renovations are only exempt to the extent necessary to respond to the emergency from the training, certification, sign posting, and containment requirements of this regulation. For example, most property management companies who do their own maintenance are likely to have at least one trained and certified renovator on staff to perform renovations, so these companies should be able to comply with the training and certification requirements on all renovations. Likewise, firms performing emergency renovations should be able to follow the required cleaning procedures after emergency repairs have been made. As such, under the final rule, in all cases the cleaning specified by the regulation must be performed and it must be performed or directed by certified renovators. In addition, in all cases, the cleaning verification requirements of this regulation must be performed and they must be performed by a certified renovator. In response to one commenter who requested that EPA require firms to document their inability to comply with all of the regulatory provisions in emergencies, EPA has included such a requirement in 40 CFR 745.86(b)(7). Finally, EPA has removed the word "operations" from the exception, in response to one commenter who suggested that the word is unnecessary and confusing. EPA agrees that the word "operations" is

unnecessary in its description of emergency renovations. EPA intends to continue interpreting the term "emergency renovations" in the same way that it always has done, except that EPA has clarified that interim controls performed in response to a child with an elevated blood-lead level can be an emergency renovation.

B. Pre-Renovation Education

The Pre-Renovation Education Rule, promulgated pursuant to TSCA section 406(b) and codified at 40 CFR part 745, subpart E, requires renovators to provide owners and occupants of target housing with a lead hazard information pamphlet before beginning a renovation in the housing (Ref. 8). The pamphlet currently used for this purpose, "Protect Your Family From Lead in Your Home," was developed in accordance with TSCA section 406(a) and includes useful information on lead-based paint and lead-based paint hazards in general. This pamphlet is also used to provide lead hazard information to purchasers and renters of target housing under the Requirements for Disclosure of Information Concerning lead-Based Paint in Housing "Lead Disclosure Rule" (Ref. 30).

1. *New renovation-specific pamphlet.* EPA has developed a new lead hazard information pamphlet that addresses renovation-specific lead exposure concerns. The development of this pamphlet, including the public comments received on the format and content, is discussed in greater detail in a separate notice published elsewhere in today's **Federal Register**. This new renovation-specific pamphlet, entitled *Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools* will better inform families about the risks of exposure to lead-based paint hazards created during renovations and promote the use of work practices and other health and safety measures during renovation activities (Ref. 31). This new pamphlet gives information on lead-based paint hazards, lead testing, how to select a contractor, what precautions to take during the renovation, and proper cleanup activities, while still incorporating the information already included in the original "Protect Your Family From Lead in Your Home" and mandated by section 406(a) of TSCA.

In the 2006 Proposal, EPA proposed to require renovation firms to distribute the new renovation-specific pamphlet (then titled *Protect Your Family From Lead During Renovation, Repair & Painting*) instead of the pamphlet currently used for this purpose (*Protect Your Family From Lead in Your Home*).

In general, most commenters were supportive of a requirement to distribute a new renovation-specific pamphlet for the purposes of TSCA section 406(b). One commenter stated a belief that the existing *Protect Your Family From Lead in Your Home* pamphlet had served its purpose well and the development of a new pamphlet should not be a priority. EPA agrees with the commenters who recognized the merit of providing renovation-specific information to owners and tenants before renovations commence. Therefore, this final rule will require renovation firms to distribute the new *Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools* pamphlet before beginning renovations. This requirement to use the new pamphlet will become effective as discussed in Unit III.H. of this preamble.

2. *Information distribution requirements.* Other than the use of the new renovation-specific pamphlet, EPA did not specifically propose any changes to the existing information distribution requirements for target housing that does not meet the proposed definition of "child-occupied facility." One commenter contended that the existing information distribution requirements for multi-family target housing were extremely burdensome and resulted in tenants being given multiple notifications and copies of the lead hazard information pamphlet over the course of a year's time. This commenter requested that EPA modify the regulations to allow an annual distribution of renovation-related lead hazard information to tenants. However, as noted in interpretive guidance previously issued on the Pre-renovation Education Rule, EPA, in developing the final Pre-renovation Education Rule, carefully weighed whether a one-time pamphlet distribution would be adequate to meet the objectives of section 406(b) of the lead statute, and concluded that many, if not most, tenants would benefit from receiving the information in the lead pamphlet closer to the time that a renovation is to begin. Although some tenants may read lead information delivered on a "for-your-information" basis, many others are not likely to focus on potential lead hazards until a renovation affecting their unit is imminent, and would welcome receiving information on protecting their families from lead in a more timely fashion. Therefore, EPA has determined that an annual distribution of renovation-specific lead hazard information would not be an effective means of providing timely information to tenants.

However, with respect to renovations in common areas, EPA has determined that there are other effective ways of delivering lead hazard information to tenants in a timely manner. Specifically, the posting of informational signs during the renovation in places where the tenants of the affected units are likely to see them will provide these tenants with the information they need at the time that they need it. Depending upon the circumstances, renovation firms may find the posting of such signs to be less burdensome than mailing or hand-delivering this information to affected tenants. Indeed sign posting may be more effective than mail since it provides an immediate reminder. Therefore, EPA will allow renovation firms performing renovations in common areas of multi-unit target housing the option of mailing or hand-delivering general information about the renovation and making a copy of the pamphlet available to the tenants of affected units upon request prior to the start of the renovation, or posting informational signs while the renovation is ongoing. These signs must be posted where they are likely to be seen by all of the tenants of the affected units and they must contain a description of the general nature and locations of the renovation and the anticipated completion date. The signs must be accompanied by a posted copy of the pamphlet or information on how interested tenants can review or obtain a copy of the pamphlet at no cost to the tenants.

One commenter expressed concern about tenants either not seeing the "postings" because they use different entrances or distinguishing the renovation-specific lead hazard information "postings" from other "postings" in the general area. To take advantage of this option, this final rule requires renovation firms to use actual signs, not notices on tenant bulletin boards. In addition, these signs must be posted where the tenants of all of the affected units can see them. If the tenants of the affected units use several different entrances, a sign posted by one of the entrances would not be sufficient.

With respect to renovations in individual housing units, whether single family or multi-family, firms performing renovations for compensation in target housing must continue to distribute a lead hazard information pamphlet to the owners and tenants of the housing no more than 60 days before beginning renovations. This requirement, along with the associated requirements to obtain acknowledgments or document delivery, has not changed. For

renovations in the common areas of multi-unit target housing, firms must provide tenants with general information regarding the nature of the renovation and make the pamphlet available upon request, by mailing, hand-delivery, or posting informational signs. Firms must also maintain documentation of compliance with these requirements. The 2007 Supplemental Proposal contained additional proposed information distribution requirements for child-occupied facilities in target housing and in public and commercial buildings. This final rule incorporates those additional requirements.

Also, as proposed in the 2006 Proposal, this final rule deletes the existing 40 CFR 745.84 because it is duplicative. The section provided some details on submitting CBI and how EPA will handle that information. However, comprehensive regulations governing sensitive business information, including CBI under TSCA, are codified in 40 CFR part 2. The regulations in 40 CFR part 2 set forth the procedures for making a claim of confidentiality and describe the rules governing EPA's release of information. EPA received no comments on the proposed deletion of 40 CFR 745.84. Therefore, EPA is deleting this section and redesignating existing 40 CFR 745.85 as 40 CFR 745.84.

EPA is also taking this opportunity to reiterate who is responsible for complying with the information distribution responsibilities of 40 CFR 745.84. This provision of this final rule includes the existing Pre-Renovation Education Rule information distribution requirements as amended to include requirements applicable to child-occupied facilities. In interpretive guidance issued for the Pre-Renovation Education Rule, EPA shed additional light on the issue of who is responsible for complying with the information distribution requirements, particularly for renovation projects where multiple contractors are involved (Ref. 32). EPA stated that if the renovation is overseen by a general contractor, the general contractor is considered to be the "renovator" under the rule and is therefore responsible for ensuring that the information distribution requirements are met. EPA further stated that it would not consider a subcontractor to be a "renovator" for purposes of the Pre-Renovation Education Rule so long as the subcontractor has no direct contractual relationship with the property owner or manager relating to the particular renovation. EPA's reasoning is that the information distribution requirements

should be fulfilled by the person or entity with which the customer enters into the contract and compensates for the work—even if that work is subsequently contracted out.

This final rule changes the existing definition of “renovator” to refer specifically to the individual trained in work practices as distinct from the renovation firm. The final rule also specifies in 40 CFR 745.84 that the renovation firm is responsible for carrying out the information distribution requirements. Renovation firms may find it more efficient to have someone other than the certified renovator distribute the pamphlet and obtain the acknowledgement forms. In changing the definition of “renovator,” EPA is not changing its policies as to which entity, between a contractor and subcontractor, is responsible for carrying out the information distribution requirements. On the contrary, as to this issue, EPA intends to continue interpreting the regulatory responsibility for the information distribution requirements as it has in the past.

a. *Owners and occupants of public or commercial buildings containing a child-occupied facility.* The Pre-Renovation Education Rule covers only renovations in target housing. Thus, the information distribution requirements summarized in the preceding paragraph have not historically applied to firms performing renovations for compensation in public or commercial buildings. In the 2007 Supplemental Proposal, EPA proposed to require firms performing renovations for compensation in child-occupied facilities in public or commercial buildings to provide a lead hazard information pamphlet to the owner of the building as well as to an adult representative of the child-occupied facility, if the owner of the building and the child-occupied facility are different entities. This requirement was modeled on the Pre-Renovation Education Rule’s requirements for pamphlet distribution in rental target housing. As described in the 2007 Supplemental Proposal, EPA has determined, in accordance with TSCA section 407, that the distribution of lead hazard information, before renovation projects begin, to an adult representative of the child-occupied facility as well as to the owners of public or commercial buildings that contain child-occupied facilities is necessary to ensure effective implementation of this regulation. EPA believes that information on lead-based paint hazards, and lead-safe work practices that minimize the creation of hazards, will stimulate interest on the

part of child-occupied facilities and public or commercial building owners in these work practices and increase the demand for their use.

EPA received no comments on this aspect of the 2007 Supplemental Proposal. Therefore, the final rule includes this requirement as proposed. Renovation firms performing renovations for compensation in a child-occupied facility in a public or commercial building must provide the lead hazard information pamphlet entitled *Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools* to the owner of the building. The renovation firm must either obtain written acknowledgment from the owner that the pamphlet was delivered or obtain a certificate of mailing for the pamphlet at least 7 days prior to the start of the renovation. In addition, the renovation firm must provide the pamphlet to an adult representative of the child-occupied facility if the facility and the building are owned by different entities. To document compliance with this requirement, the renovation firm must do one of the following:

- Obtain a written acknowledgment of pamphlet delivery from the adult representative of the child-occupied facility.
- Obtain a certificate of mailing for the pamphlet at least 7 days prior to the start of the renovation.
- Certify in writing that the pamphlet has been delivered to the child-occupied facility and the firm has been unsuccessful in attempting to obtain the signature of an adult representative of the child-occupied facility. This certification must contain the reason for the failure to obtain the signature.

b. *Parents and guardians of children under age 6 using a child-occupied facility.* The 2007 Supplemental Proposal would also have required a renovation firm performing a renovation for compensation in a child-occupied facility to provide information about the renovation to the parents and guardians of children under age 6 using the facility. This proposed requirement was designed to be comparable to the Pre-Renovation Education Rule provisions for informing adult occupants (who are not owners). EPA is finalizing this requirement as proposed. The renovation firm must either mail each parent or guardian the lead hazard information pamphlet and a general description of the renovation or post informational signs where parents and guardians would be likely to see them. The signs must be accompanied by a posted copy of the pamphlet or

information on how to obtain the pamphlet at no charge to interested parents or guardians. This requirement applies to renovations in child-occupied facilities in target housing as well as to renovations in child-occupied facilities in public or commercial buildings.

EPA received three comments on this aspect of the 2007 Supplemental Proposal. One commenter expressed support for this proposed requirement. The other two provided a number of reasons why the final rule should not include such a requirement. These commenters noted that renovation firms have no contractual connection with or contractual responsibility to the parents or guardians of children using a child-occupied facility. They believe that the child-occupied facility owner bears primary responsibility for maintaining a safe environment for children. They were also concerned that renovation firms might be called upon to spend a significant amount of additional time at a child-occupied facility to answer parents’ questions about lead poisoning. EPA is not persuaded by these comments. Although the firms may have no contractual connection with the parents or guardians of the children, that is often the case with occupants who are not owners. Although child-occupied facility owners bear responsibility for maintaining a safe environment for children, renovation firms are responsible for providing the pamphlet to owners and occupants. Once the renovation firm has distributed the pamphlet, it has no further obligation to educate the owners or occupants about lead poisoning. The pamphlet contains this information and refers to additional resources. EPA acknowledges that it may be difficult to provide copies of the pamphlet to each parent, which is why this final rule allows renovation firms to comply by posting informational signs where parents or guardians would be likely to see them.

c. *Other commenter suggestions regarding information distribution to owners and occupants.* EPA received a number of comments that recommended that additional information be provided to the owner and the occupant before and after a renovation occurs. These commenters believe that one of the purposes of this rule ought to be to provide enough information to owners and occupants so that they can understand the work practices and can adequately monitor the work being performed by renovation firms. EPA agrees that consumers will play a critical role in ensuring that the requirements of this regulation are being followed. EPA believes that some of the

suggested items of additional information, such as an explanation of the cleaning verification process, use of test kits, lead-based paint and dust testing recommendations, and how to find a qualified person to do testing, are best addressed through revisions to the new lead hazard informational pamphlet for renovations, *Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools*. Those changes are described and discussed in a notice published elsewhere in today's **Federal Register**.

Other information distribution elements recommended by these commenters are likely to be provided by renovation firms already. For example, several commenters suggested that EPA require the renovation firm to provide emergency contact information to owners and occupants. EPA believes that, during the normal course of business, persons that hire renovation firms to perform renovations typically already have contact information. A person who contracts for a renovation is likely to be the owner of the property being renovated, and this person is also likely to be able to stop the work at any time so that he or she can confer with the certified renovator or supervisor. Occupants who are not the owners of the property being renovated often will not be the party contracting for the renovation and may not always have emergency contact information for the specific firm performing a renovation in their housing unit or building. However, these occupants will most likely have contact information for their landlord, and the landlord as the person most likely contracting with the renovation firm and therefore to have authority to direct the renovation work. In addition, renovations that occur in occupied rental housing are likely to be maintenance or repair projects that are performed by the landlord, the landlord's employees, or a maintenance company under contract to perform all maintenance for a particular landlord or rental complex.

Some commenters suggested that EPA require renovation firms provide a description of the work area and identify the designated entrance and exit from the work area. EPA is not requiring the renovation firm to designate a specific entrance and exit from the work area. This final rule requires the work area itself to be delineated by warning signs and plastic containment. EPA does not believe there is any utility in requiring the contractor to also provide the owner and occupant with a written description of the work area before the work begins.

Other commenters noted the existence of the Lead Disclosure Rule (Ref. 30), promulgated under section 1018 of the Residential Lead-Based Paint Hazard Reduction Act of 1992, and codified at 40 CFR part 745, subpart F and 24 CFR part 35. These commenters stated that information about the use of spot test kits and the results of those tests, and well as any sort of dust testing information, are information pertaining to lead-based paint or lead-based paint hazards and would therefore have to be disclosed to subsequent purchasers or tenants of the renovated property under the Lead Disclosure Rule. These commenters further opined that a requirement for the renovation firm to provide this information to the owner of the property is necessary to ensure the information is available to be disclosed. With respect to the use of test kits to determine whether components to be affected by a renovation contain lead-based paint, EPA agrees with these commenters in their Lead Disclosure Rule analysis. Therefore, this final rule includes a requirement for the renovation firm to provide, within 30 days, information identifying the manufacturer and model of test kits used, a description of the components tested, including locations, and the results of the test kits to the person who contracted for the renovation. EPA also agrees that dust clearance sampling information is information pertaining to lead-based paint hazards and must be disclosed under the Disclosure Rule. If dust clearance sampling is performed instead of cleaning verification as permitted in 40 CFR 745.85(c), this final rule requires the renovation firm to provide, within 30 days, a copy of the dust clearance report to the person contracting for the renovation.

However, EPA does not believe that information related to cleaning verification is a record or report "pertaining to lead-based paint or lead-based paint hazards" for purposes of section 1018. As discussed in more detail in Unit III.E.7. of this preamble, cleaning verification is not the equivalent of clearance. The purpose of cleaning verification is to determine whether the dust that was created by the renovation, whether or not it contains lead, has been adequately removed. Although the disposable cleaning-cloth study, discussed in Unit III.E.7., and the Dust Study show that information is correlated with the hazard standard, the purpose of cleaning verification is not to detect lead-based paint hazards *per se*. In addition, under this final rule, cleaning verification must be completed for every renovation (i.e., it must

achieve "white glove" or the prescribed combination of wet and dry wipes must have been used), so the results of verification will always show that "white glove" or the equivalent has been achieved. As explained below, the cleaning verification is part of a package of work practices that, together, minimize exposure to hazards created by renovation. Also, as explained below, completing the cleaning verification process does not necessarily indicate that the surface does not have lead-based paint hazards unrelated to the renovation. Therefore, EPA will not require the results of cleaning verification activities to be disclosed under the Lead Disclosure Rule.

C. Training and Certification

Under the current Lead-based Paint Activities Regulations at 40 CFR part 745, subpart L, both individuals and firms that perform lead-based paint inspections, lead hazard screens, risk assessments, and abatements must be certified by EPA. EPA proposed a similar, but not identical, regulatory scheme for individuals and firms that perform renovations.

This final rule requires all renovations subject to this rule to be performed by a firm certified to perform renovations. In addition, the rule requires that all persons performing renovation work either be certified renovators or receive on-the-job training from and perform key tasks under the direction of a certified renovator. In order to become a certified renovator, a person must successfully complete an accredited renovator course. EPA renovator certification allows the certified individual to perform renovations in any State, Territory, or Indian Tribal area that does not have a renovation program authorized under 40 CFR part 745, subpart Q. These requirements are discussed in greater detail in the following sections.

EPA is also creating, with this final rule, a dust sampling technician discipline. Although, as discussed in Unit III.E.7. of this preamble, this final rule does not allow dust clearance testing in lieu of post-renovation cleaning verification, except in limited circumstances, EPA still believes that there will be a market for the services of persons with dust sampling technician credentials. EPA recommends that any property owners who choose to have dust clearance testing performed after a renovation use a certified inspector, risk assessor, or dust sampling technician.

Finally, in response to one commenter who suggested that EPA's use of the term "person" and the term

“individual” was confusing, EPA has modified the regulatory text in the sections added or significantly revised by this final rule to use the term “person” when referring to both natural persons and judicial persons, such as renovation firms, property management companies, or units of government, and the term “individual” when referring only to natural persons.

1. *Individuals.* Under this final rule, EPA is establishing new individual certification disciplines for renovators and dust sampling technicians. All renovation activities covered by this final rule must be performed by certified renovators, or by renovation workers who receive on-the-job training in the work practices from a certified renovator.

a. *Certified renovators and renovation workers—i. Responsibilities of certified renovators.* The certified renovator assigned to a renovation is responsible for ensuring that the renovation is performed in compliance with the work practice requirements set out in 40 CFR 745.85. These requirements pertain to warning signs and work area containment, the restriction or prohibition of certain practices (e.g., high heat gun, torch, power sanding), waste handling, cleaning, and post-renovation cleaning verification. The certified renovator can perform these work practices herself or himself. Alternatively, the certified renovator can direct other workers to perform most of these work practices. However, the post-renovation cleaning verification requirements must be performed by a certified renovator. These requirements cannot be delegated to a worker. If the certified renovator directs the other workers to perform the work practices, the certified renovator must be at the work site during the critical phases of the renovation activity. The critical phases are posting warning signs, containing the work area, and cleaning the work site.

Although the certified renovator is not required to be on-site at all times, while the renovation project is ongoing, a certified renovator must nonetheless regularly direct the work being performed by other workers to ensure that the work practices are being followed. When a certified renovator is not physically present at the work site, the workers must be able to contact the renovator immediately by telephone or other mechanism. A certified renovator must:

- Perform the post-renovation cleaning verification described in 40 CFR 745.85(b).

- Perform or direct workers who perform all of the work practices described in 40 CFR 745.85(a).
- Provide training to workers on the work practices they will be using in performing their assigned tasks.
- Be physically present at the work site when the signs required by 40 CFR 745.85(a)(1) are posted, while the work area containment required by 40 CFR 745.85(a)(2) is being established, and while the work area cleaning required by 40 CFR 745.85(a)(5) is performed.
- Regularly direct the work being performed by other workers to ensure that the work practices are being followed, including maintaining the integrity of the containment barriers and ensuring that dust or debris does not spread beyond the work area.
- Be available, either on-site or by telephone, at all times that renovations are being conducted.
- When requested by the party contracting for renovation services, use an acceptable test kit to determine whether components to be affected by the renovation contain lead-based paint.
- Have with them at the work site copies of their initial course completion certificate and their most recent refresher course completion certificate.
- Prepare the records required to demonstrate that renovations have been performed in accordance with the requirements of this rule.

There are some slight revisions between the 2006 Proposal and this final rule, although none of these changes add to or detract from the renovator's responsibilities. First, the Proposal used both the term “lead-safe work practices” and “work practices” in the preamble and in the proposed rule text. Although the work practices required in this final rule are lead-safe, for purposes of clarity, the final rule text has been changed to “work practices.” The reason for this change was to make text of the rule relating the renovator's responsibilities text consistent with other provisions in the rule, particularly 40 CFR 745.85 (Work Practice Standards). Today's work practices are lead-safe work practices. The work practice standards listed in § 745.85(a) are the same tasks that the other workers will be directed in and trained to do by the certified renovator (except for cleaning verification). In addition, the term “lead-safe work practices” has different meanings in different contexts, and this change is to make clear that the work practices required by this final rule are the work practices required in § 745.85(a).

Second, one of the renovator's responsibilities listed in the preamble of the 2006 Proposal was to “[r]egularly

direct the work being performed by uncertified persons to ensure that lead-safe work practices are being followed, the integrity of the containment barriers is maintained, and dust or debris is not spread beyond the work area.” The word “regularly” was inadvertently omitted from the proposed regulatory text. To make the regulatory text consistent with the preamble, the word “regularly” has been added to the final regulatory text. In addition, EPA has slightly modified the regulatory text, consistent with the preceding paragraph, to clarify that maintaining the integrity of the containment barriers and ensuring that dust or debris does not spread beyond the work area are among the work practices required by the rule.

Some commenters agreed that it was unnecessary for a certified renovator to be on site at all times and believed that oversight by a certified renovator on a regular basis was sufficient. One commenter believed that the certified renovator should be on site at critical points including site preparations and isolation, end of day and end of project cleaning, and cleaning verification. Many other commenters thought a certified renovator should be on site at all times. Another stated that a certified renovator would not have to be on site at all times if workers received lead safe work practices training. After carefully considering the issue, EPA has concluded that requiring a certified renovator to be on site during critical phases of the work is sufficient to ensure that the work practices required by this final rule are followed. These work practices provide a mechanism to contain dust and debris generated by a job and a clean-up regimen following work that is designed to minimize exposure to lead-based paint hazards created during the renovation activity. Once the containment has been established and until cleanup begins, this final rule requires few, and simple, changes from the way renovation work is currently carried out. Specifically, renovation workers need to avoid using the specific practices prohibited by this final rule; they need to maintain the containment (e.g., avoid ripping or displacing the plastic); and they need to make sure that any waste generated is contained at the end of the day. These are important but relatively simple measures that EPA does not believe require formal classroom training, or the constant supervision of a certified renovator who has had formal training. Once the cleanup begins, the certified renovator will again be required to be present, either performing the cleanup

or directing others. In addition, the certified renovator must perform the cleaning verification. Thus, EPA has concluded that having a renovator on site at all times is unwarranted.

ii. *Renovator training.* To become a certified renovator, a person must successfully complete a renovator course accredited by EPA or by a State, Territorial, or Tribal program authorized by EPA.

Some commenters questioned the need to create a separate discipline for renovators. In their opinion, the existing abatement course is sufficient (with some basic changes) and to create a new program will take resources away from existing efforts in lead hazard control. EPA believes that there are sufficient differences between abatement and renovation activities to warrant different training and work practice requirements. Specific activities of an abatement contractor may be similar to those of a renovator (e.g., sanding, caulking, painting, sawing), but because the project goal is the permanent elimination of hazards, the application and methodology differ. Therefore, a significant portion of an abatement contractor's training is focused on abatement techniques and selection of the appropriate course of action for a variety of hazards. Renovators, on the other hand, do not seek to permanently eliminate lead hazards. Renovators perform maintenance and improvement tasks as directed by the consumer. The goal of EPA's renovator training and certification program is not to update the methodology a renovator uses to accomplish these tasks, with the exception of the practices prohibited or restricted by this final rule, but rather to introduce containment and cleaning methods to minimize exposure to lead-based paint hazards created by the renovation activity.

Several commenters saw the need for universal, standard renovator training. A commenter suggested that training for certified renovators be similar to the current EPA/HUD renovator and remodeler course. One commenter thought that standard training would make it easier when hiring someone to verify that they had completed the appropriate training. Another mentioned that it would encourage state-to-state reciprocity for training programs so that renovators would not need to take multiple courses with the same content. EPA plans to work with HUD to update the model EPA/HUD renovator training course to cover the requirements of this final rule. EPA agrees that reciprocity among authorized State, Territorial, and Tribal programs, and with the Federal

program, is preferable. However, as with the abatement program, authorized programs will have the ability to customize requirements and course content based on their particular needs. The Agency encourages jurisdictions seeking authorization to consider reciprocity of training as they develop their individual programs.

Commenters were also concerned about the cost of formal training. Commenters thought that EPA could provide free training to encourage renovator compliance, or that EPA funds for enforcement of the final rule would be better spent on training. EPA agrees that renovator training should be as inexpensive as possible. However, the training course costs will be established by independent training programs based on market forces. The total cost of conducting a training course depends upon the labor cost for the instructor(s), the cost of providing a classroom and other facilities, and other fixed costs. But the cost per trainee also depends on the number of trainees per class. Due to the large number of individuals who will need training, the Agency anticipates that demand will be high, keeping the cost per trainee lower than might otherwise be the case. But also due to that large volume, the Agency does not anticipate that it will be able to provide any significant source of funding to support training.

iii. *Other renovation worker training.* This final rule does not require everyone involved in performing a regulated renovation project to receive training from an accredited training provider. To allow flexibility for firms undertaking these projects, the rule allows firms to use other workers to perform renovation activities as long as they receive on-the-job training (OJT) in work practices from a certified renovator. This training must include instruction in the specific work practices that these workers will be responsible for performing. OJT training occurs while the worker is engaged in productive work and which provides knowledge and skills essential to the full and adequate performance of the job. OJT may also be structured through a planned process of developing competence on units of work by having the certified renovator train the worker at the work setting or a location that closely resembles the work setting. Although there is no specific requirement for "refresher training," OJT must be provided for each worker for each job to the extent necessary to ensure that that worker is adequately trained for the tasks he or she will be performing.

If, under the direction of the certified renovator, the workers will be posting warning signs, establishing containment, or cleaning the work area after the renovation, the certified renovator must provide instruction, either verbally or through demonstration, to the workers in how to perform these tasks. With respect to other activities, including work performed while the certified renovator is not present, the certified renovator must provide instruction, either verbally or through demonstration, in how to perform the work without using work practices prohibited by this rule, how to maintain the integrity of the containment barriers (e.g., taking care not to tear the plastic), and how to avoid spreading dust or debris beyond the work area (e.g., vacuuming clothing and tools with a HEPA vacuum before leaving the work area). In any event, the certified renovator remains responsible for ensuring that this work is done in compliance with the rule's requirements, e.g., that containment sufficient to prevent release of dust or debris from the work site has been established and that clothing and tools were adequately cleaned before leaving the work area.

Workers need not be trained in work practices that do not pertain to the renovations they will be performing. If the certified renovator will be the one posting warning signs, establishing containment, and cleaning the work area after the renovation, it is not necessary for the certified renovator to provide instruction on these tasks to any workers who will be used elsewhere on the project. Similarly, workers hired to perform only exterior projects need not receive training in how to clean an interior work area after a renovation.

EPA chose to allow OJT to alleviate industry concerns raised during the SBREFA panel process regarding high employee turnover rates within the industry and the potential for high training costs if all workers were required to be certified. The Agency concluded that allowing OJT could be done effectively and would provide flexibility for firms undertaking renovation projects. EPA determined that OJT can be effectively delivered by a certified renovator because the requirements themselves are simple and easy to understand. This final rule also requires a certified renovator be assigned and responsible for each project to ensure compliance with required standards.

Some commenters agreed that OJT by a certified renovator is sufficient for training workers. One commenter stated that as long as a specific person is

designated to oversee the job, there is no need for all workers on site to have formal training. The commenter noted the similarity between this approach and OSHA's "competent person" standard. EPA agrees that there are some similarities between the approach in this final rule and OSHA's "competent person" standard.

However, the majority of commenters had concerns about the use of OJT to train workers. Many argued that OJT is insufficient for providing workers with the necessary skills and thought renovation workers should receive formal LSWP training such as a 1 day course equivalent to that required for certified renovators. Some of these commenters also thought that workers should be certified or licensed.

Some commenters were concerned that the content of OJT is not clearly defined in the rule. One believed EPA should impose a structured OJT program in order to produce consistent, accurate, and comprehensive training outcomes. Others thought more time was needed for OJT, with suggestions ranging from 5 to 6 hours of training to 3 to 4 days. EPA has neither established a structured OJT program nor required a specific length of time for OJT because the OJT required will vary widely from project to project, depending upon how the other workers are used. As discussed above, if the worker will not be establishing containment, there is no need to train the worker in how to establish containment. If the worker in question is an electrician, and he will merely be installing an electrical outlet as part of a larger job, then there may be no need to provide any training to this worker other than instructing him not to disturb the plastic on the floor and making sure that he and his tools are free of dust and debris before leaving the work area.

In addition, as discussed in Unit III.C.1.c.iii. of this preamble, EPA will "grandfather" persons with previous EPA/HUD lead-safe work practices training or accredited abatement supervisor or worker training. To become certified renovators, these persons must take a renovator refresher course in order to ensure that they are acquainted with how to use test kits to determine whether lead-based paint is present on a component and how to perform cleaning verification. However, even if they do not take the refresher course and become certified renovators, these individuals have still received significant training in the required work practices such as establishing containment and cleaning the area after the job is finished. They are not likely to need much, if any OJT, depending

upon how recent their training was. Similarly, although not recognized for the purpose of "grandfathering" by EPA, HUD's Lead Maintenance course would also provide a great deal of information on lead-safe work practices. Someone who had taken the Maintenance course recently would also not be likely to need much, if any, OJT.

Several commenters thought that workers would not receive adequate OJT because the certified renovator was not qualified to train others. They noted that the certified renovators are renovators, not professional trainers, and do not necessarily have the skills necessary for teaching others.

After consideration of these commenters' concerns, EPA has concluded that OJT is sufficient for training some renovation employees. The work practice standards of this final rule are not complex or difficult to institute, and those activities critical to ensuring the lead safe outcome of the project are either conducted by certified renovators or directed by certified renovators. The remainder of the project is often just the renovation itself, and EPA was careful when developing these final work practices to minimize the effect on the way typical renovations are conducted. With the exception of the prohibition of certain unsafe practices, renovation methods are unaffected by this rule. For example, the work practices of this final rule do not affect the method a firm would employ to replace a window. A certified renovator should be able to demonstrate to other firm employees work practices, such as how to work within containment and how to move into and out of containment without spreading lead dust and debris. EPA does not believe a professional trainer is needed to train renovation workers, who will be directed by a certified renovator if they will be performing any of the key tasks associated with the work practices. Most of the people performing renovations today are not trained by professional trainers. They are trained on-the-job by experienced firm employees. For example, persons learn the various techniques for removing and replacing windows from others in the firm who are experienced in these techniques. Renovation workers can learn work practices in the same way from a certified renovator.

Although the work practices in the final regulation are sufficiently straightforward and can be easily demonstrated by the certified renovator, EPA agrees that renovators do not necessarily consider themselves to be trainers. Therefore, accredited renovator training will include a train-the-trainer

component to provide instruction on providing OJT. In addition, instructors will be expected to provide training tips to renovators during hands-on instruction. As the instructor is showing the renovator how to do these work practices, he or she can also provide instruction on how to show others how to do these work practices. Accordingly, EPA has concluded that certified renovators will be adequately prepared to provide OJT that is sufficient and appropriate for the purposes of this rule.

Commenters expressed concerns that the rule would not provide appropriate training for the large number of non-English speaking workers in the renovation field. One of these commenters suggested that EPA consider such means as graphic manuals, video presentations, and translators to aid in training non-English speaking workers. Another thought that a hands-on only training process overlooked possible language barriers between the certified renovator and trainee. EPA agrees that OJT can be conducted effectively by demonstration by the certified renovator or through the use of graphic training materials. The Agency plans to develop materials to assist certified renovators in conducting on-the-job training. To the extent possible, these materials will use a graphic format that does not require the use of any particular language. Moreover, renovation firms currently communicate job needs to their employees, and EPA doubts that firms routinely hire people with whom they are unable to communicate. Finally, EPA emphasizes again that the certified renovator and the renovation firm are responsible for ensuring compliance with this final rule. If the certified renovator has doubts about an employee's understanding of or ability to comply with the requirements that are relevant to the work he or she is to undertake, the certified renovator may need to be on site and direct the work more regularly than he otherwise would, or may need to perform certain tasks himself. However, given the relative simplicity of the work practices that are required between establishment of containment and cleanup, EPA does not expect that this will often be necessary.

Some commenters were concerned that OJT does not include a means to assess worker competence such as an examination. Commenters were also concerned about ongoing training needs and suggested requiring worker refresher training on a periodic or annual basis. This final rule requires a certified renovator to direct workers with OJT as necessary to ensure that

work practices are being followed. This will necessarily involve a period of observation after OJT is provided to ensure that the worker has understood and is following the work practices pertinent to his assigned duties. In addition, to some extent, OJT is continuous and certified renovators will likely need to continue to provide training to workers based on the activities that they will be expected to perform on a particular job. A certified renovator would not need to provide OJT to the same worker on consecutive jobs if the worker is performing the same work, but if the nature of the work varies, or if the firm hires a new employee, relevant OJT would have to be provided for the work to be performed. EPA believes that the continuous nature of OJT obviates the need for a refresher training requirement in the rule and will serve as an incentive for firms to have their permanent employees trained as certified renovators. EPA also believes that refresher training *per se* is not practical, given that OJT will be specific to the job in question.

Some commenters wanted some form of verification that a worker had received training, such as a certificate of training or a sticker which could be placed on an ID card. Because each worker is not likely to receive training in all aspects of lead safe work practices, a certificate or other form of training completion that would indicate an employee's OJT is complete is not appropriate for this program. It is important to note that OJT is not as portable as certified renovator training nor is it intended to be. Certified renovators carry a training certificate that they can present to each new employer to prove that they have received training in the required work practices. There is no corresponding document that can be used to verify OJT by a previous employer. Renovation firms will generally need to provide OJT each time a new worker is used. It is also the renovation firm's responsibility to adequately document the elements of OJT provided to each worker on each project.

Because a certified renovator must be assigned to each and every renovation covered by this regulation, EPA anticipates that some renovation contractors and property management companies will find that they achieve maximum efficiency and flexibility by qualifying all of their permanent employees who perform renovations as certified renovators. However, due to the industry's high employee turnover rates and short-term labor needs, the Agency believes that training flexibility

in the form of on-the-job training is needed. EPA believes that such flexibility will provide firms the ability to respond to variable labor demands and will not compromise the safety of this final rule. EPA is concerned that a regulation requiring formal, classroom training for every worker performing any renovation activity would be unrealistic for this industry and therefore less effective at ensuring that the renovation work force is trained in work practices than the more balanced training requirements in this final rule.

b. *Dust sampling technicians.* Except as provided in 40 CFR 745.85(c), this final rule does not allow dust clearance sampling to be performed in lieu of post-renovation cleaning verification. However, some property owners may still choose to have dust clearance sampling performed after the renovation. Dust sampling technicians certified in accordance with this final rule will be available to perform dust clearance sampling after renovations and for purposes of HUD's Lead Safe Housing Rule.

Some commenters questioned the need for dust sampling technicians. One stated that there is no benefit to creating a third inspection-type discipline that has such limited training requirements. Two commenters thought that only EPA- or State-certified risk assessors should be allowed to collect dust wipe clearance samples and two commenters thought that dust sampling technicians should be required to work under a certified risk assessor or inspector.

In 1999, in order to make accurate dust testing for lead more available and affordable, Congress provided EPA with funding for the development of a 1 day dust sampling technician course. Congress also encouraged the Agency to promote the recognition of this discipline. EPA completed the development of the course, entitled *Lead Sampling Technician Training Course*, in July of 2000. This course provides instruction on how to conduct a visual assessment for deteriorated paint, collect samples for lead dust, and interpret sample results. The training curriculum provides clearance sampling instruction that is equivalent to that presented in inspector and risk assessor courses, in terms of time and quality with respect to dust sampling. Therefore, EPA can recommend that property owners and others who wish to have optional dust sampling performed use the services of a certified inspector, risk assessor, or dust sampling technician.

c. *Certification of individuals*—i. *Initial certification.* Section 745.90 of this final rule addresses renovator and

dust sampling technician certification. To become a certified renovator, a person must successfully complete a renovator course accredited by EPA or by a State, Territorial, or Tribal program authorized by EPA under 40 CFR part 745, subpart Q. The renovator course accreditation requirements are based on the joint EPA-HUD model curriculum entitled *Lead Safety for Remodeling, Repair, & Painting*. EPA is not requiring additional education or work experience of persons wishing to become certified renovators. EPA renovator certification will allow the certified individual to perform renovations covered by this section in any State or Indian Tribal area that does not have a renovation program authorized under 40 CFR part 745, subpart Q. To become a certified dust sampling technician, a person must successfully complete a dust sampling technician training course that has been accredited either by EPA or by a State, Territorial, or Tribal program authorized by EPA under 40 CFR part 745, subpart Q. EPA is not requiring additional education or work experience of persons wishing to become certified dust sampling technicians.

The final rule also establishes, in 40 CFR 745.91, procedures for suspending, revoking, or modifying an individual's or firm's certification. These procedures are very similar to the current procedures in place at 40 CFR 745.226(i) for suspending, revoking, or modifying the certification of an individual who is certified to perform lead-based paint activities. In addition, under the final rule, renovator certification can be suspended, revoked, or modified if the certified renovator does not conduct projects to which he or she is assigned in accordance with the work practice requirements of this final rule. Finally, in order to ensure that the effect of a suspension, revocation, or modification determination is clear to the certified individual or firm, EPA has added language to this section ensuring that the commencement date and duration of a suspension, revocation, or modification is identified in the Presiding Officer's decision and order. EPA has also added language to this section to clarify what steps an individual or firm must take after such an action in order to exercise the privileges of certification again. An individual whose certification has been suspended must take a refresher training course in the appropriate discipline in order to make his or her certification current, while an individual whose certification has been revoked must take another initial training course in order to be re-certified. A firm whose

certification has been suspended need not do anything after the suspension ends to become current again, as long as the suspension ends before the firm's certification expires. If the firm's certificate expires during the suspension, the firm must apply for recertification after the suspension ends. If a firm's certification is revoked, the firm must apply for certification after the revocation period ends in order to be certified.

Some commenters questioned the need for a certification requirement, emphasizing that it is the training that is important rather than the certification. One commenter thought that, since firms will have to be certified, there was no added value in certifying renovators. Others supported certification and some thought renovators should have to apply to EPA to receive their certification in the same way that abatement workers do, stating that no regulatory program can work unless the regulating agency can reliably identify and contact the regulated individuals. One commenter thought that there should also be a work experience requirement for certified renovators.

EPA believes that renovators must be certified so that the Agency has a mechanism to verify an individual has received the appropriate training. In addition, if a contractor does not comply with the regulatory standards then withdrawal of the renovator's certification is a regulatory remedy available to the Agency. The final rule includes a certification process that is more streamlined than the individual certification process of the Agency's abatement regulations. In the abatement program, an individual must complete training, then submit an application and fee to the Agency and, depending on the discipline, take a third party exam in order to be certified. In contrast, an individual will be considered a certified renovator upon successful completion of an accredited training program, and the accredited training program is required to submit identifying and contact information to EPA regarding the individuals that they have trained. EPA does not believe that work experience requirements are necessary because previous experience in the construction or renovation industry would do little to help an individual understand or perform the work practices, which are not a standard practice in the industry. Consequently, there is no relevant work experience for EPA to require. In addition, the work practices required by this final rule are sufficiently straightforward that EPA does not believe it is necessary to

require work experience in addition to certified renovator training.

Because EPA is not requiring any additional education or work experience requirements, or a third-party examination similar to that taken by inspector, risk assessor, or supervisor candidates, EPA believes that there is little value in requiring candidates to apply to EPA to receive their renovator or dust sampling technician certification. Currently, the only certified discipline without prerequisites in education or experience, or a third-party examination, is the abatement worker. When candidates for worker certification apply to EPA, EPA verifies that the copy of the training course certificate submitted with the application is from an accredited training provider. Without requiring renovators or dust sampling technicians to apply to EPA for certification EPA will still receive course completion information from course providers. With this information, EPA will have a complete list of certified renovators and will be able to check to see if a particular course completion certificate holder appeared on a course completion list submitted by the training course provider identified on the certificate. When EPA inspects a renovation job for compliance with these regulations, EPA will have the ability to verify, to the same extent, the validity of a course completion certificate held by a renovator at that job. Therefore, under this final rule, EPA is requiring that a course completion certificate from an accredited training provider serve as a renovator's or dust sampling technician's certification. To facilitate compliance monitoring, the rule requires a certified renovator or dust sampling technician to have a copy of the course completion certificate at the job site.

Several commenters saw the need for a way to determine that a certified renovator was current with applicable training requirements. Suggestions for proof of training included issuing photo IDs, issuing a hard card or certificate, and establishing a national database of workers with current training. One commenter thought that it should be the responsibility of the training provider to certify that renovators have successfully completed the training requirements and to then supply EPA with all of the information. EPA agrees that there must be a way to determine if a renovator is certified and is current with training requirements. The Agency agrees that a database of renovator information would be important, and will include identifying and training information in

the Agency's Federal Lead Paint Program (FLPP) database. However, this database will only contain information about certified renovators working in federally administered jurisdictions. In addition, the Agency will require training programs to include a photograph of the individual who completes renovator or dust sampling technician training on the training certificate and to submit that photo to the Agency to be included in the database record. This will enable inspectors to determine whether a particular individual has received training from an accredited training provider.

Some of the commenters had concerns specific to small businesses. Two commenters stressed the need for outreach programs to inform small businesses of new compliance requirements. One commenter stated that smaller firms should not be exempt from training and certification requirements; another thought that small businesses would continue to operate without appropriate training and certification unless there was some type of enforcement. EPA understands that the task of communicating this final rule requirements to the renovation community will be challenging. Therefore, EPA is developing a comprehensive outreach and communications program to support this final rule. This will include outreach to contractors as well as consumers. In addition the Agency plans to roll out a compliance assistance effort to complement this undertaking.

One commenter suggested that authorized State, Territorial, or Tribal programs include the requirement for training as part of a contractor licensing function, thereby eliminating the need to create a special (new) lead renovator's certification or license. EPA agrees that where a State, Territory, or Tribe has a pre-existing relationship with renovation contractors, such as a renovators' licensing program, the simplest and most cost-effective approach may be to incorporate a requirement for lead safe work practice training into that pre-existing program.

ii. *Recertification.* Under this final rule EPA is requiring that renovators and dust sampling technicians who wish to remain certified take refresher training every 5 years. In addition, EPA is requiring that the refresher training course be half the length of the initial course. This is consistent with current practice for certified individuals performing lead-based paint activities. If an individual does not take a refresher course within 5 years of the date he or she completed the initial course or the

previous refresher course, that individual's certification will expire on that date and that individual may no longer serve as a certified renovator or dust sampling technician. There is no grace period. To become certified again, the individual must take another initial training course. In addition, under this final rule a certified renovator may choose to take the initial renovator course instead of a refresher course to allow maximum flexibility, particularly if for some reason the person was unable to attend a refresher course.

Some commenters asserted that the refresher requirement was of no benefit or imposed an unnecessary cost. These commenters reasoned that lead-safe work practices were not likely to change significantly over time. One noted that HUD's experience with lead-safe work practices training since 1999 has not revealed a need for refresher training in their program. Commenters who supported refresher training differed on the frequency of the training and the length of the refresher course. Some agreed that refresher training should be required every 3 years, others thought it should be required biennially, annually, or every 3 to 6 months. One commenter agreed with the proposed 4-hour course, two commenters thought a 4-hour course was too short, and one thought that instead of completing a refresher, certified renovators should be required to retake the initial training course every 2 to 3 years. One commenter stated that a certified renovator should have the opportunity to take a third party test and allow the renovator to "test out" of having to complete the refresher course.

After considering the range of concerns raised by the commenters, EPA has concluded that refresher training is important for renovators and dust sampling technicians and for the Agency. During the refresher course, renovators and dust sampling technicians are given the opportunity to discuss any point of emphasis and to be updated on changes in the regulations or technical issues. For example, refresher training could be used to update renovators on availability of new techniques and products, such as test kits. Refresher training provides the Agency with a mechanism to pass along critical information to certified individuals and to keep track of the workforce. However, EPA has determined that these purposes can be adequately served by 4-hour refresher training every 5 years, instead of every 3 years. This provides a reasonable period between trainings that limits training costs while providing an opportunity to update renovators and

dust sampling technicians regarding regulations and technical issues. EPA believes that most renovators will not also be certified abatement professionals, so the difference in the length of time between required refresher courses should not confuse individuals about their responsibilities under the two programs.

iii. *Grandfathering.* Under this final rule, individuals who successfully completed an accredited abatement worker or supervisor course, and individuals who successfully completed either HUD, EPA, or the joint EPA/HUD model renovation training courses may take an accredited refresher renovation training course in lieu of the initial renovation training to become a certified renovator. In addition, individuals who have successfully completed an accredited lead-based paint inspector or risk assessor course, but are not currently certified in the discipline, may take an accredited refresher dust sampling technician course in lieu of the initial training to become a certified dust sampling technician. Inspectors and risk assessors who are certified by EPA or an authorized program are qualified to perform dust sampling as part of lead hazard screens, risk assessments, or abatements. Therefore, it would be unnecessary for a certified inspector or risk assessor to seek certification as a dust sampling technician.

A number of commenters thought that certification should be given to those who have already attended appropriate training. Some of these commenters thought that individuals who had received EPA, HUD, or State-approved Lead Safe Work Practices (LSWP) training should be grandfathered. One commenter thought individuals that had completed OSHA's 40-hour Hazardous Waste Operations and Emergency Response course should also be grandfathered and another wanted individuals that had taken the National Apartment Association's lead worker training course to be grandfathered. Four commenters were in favor of grandfathering dust sampling technicians that have previously completed a dust sampling course.

Most of the commenters who expressed an opinion agreed with grandfathering previously trained individuals but suggested that there be restrictions. Some of these commenters thought that in order to receive credit the training needed to have been completed in the last 2 to 3 years while others thought that certification should be given only if a refresher or "gap" course were completed. One commenter thought that the quality of the previous

course should be taken into account and another commenter thought that a one-size fits all rule would not be appropriate and that factors including previous course requirements, the facility that had provided the training, and time elapsed since initial training should all be considered in establishing requirements for streamlined certification. One commenter opposed grandfathering, noting that existing courses do not cover lead test kits, cleaning verification, or recordkeeping in accordance with the proposed rule.

The final rule allows individuals who have successfully completed model renovation courses developed by HUD or EPA and individuals who have taken an abatement worker or supervisor course accredited by EPA or an authorized State or Tribal program to become certified renovators by taking EPA-accredited renovator refresher training. Individuals who have successfully completed a risk assessor or inspector course accredited by EPA or an authorized State or Tribal program can become certified dust sampling technicians by taking EPA-accredited dust sampling technician refresher training. EPA is recognizing only EPA and HUD model renovation training and lead-based paint activities training courses accredited by EPA or an authorized State, Territorial, or Tribal program because EPA has not sufficiently evaluated the content of other courses. In addition, it would be unwieldy to develop the content of multiple refresher courses based on the content of different initial training courses. While the recognized training provides meaningful information relevant to these disciplines, it does not include some specific requirements of this final regulation. Therefore, EPA is requiring these individuals to receive refresher training to ensure they are familiar with the requirements of this final rule. Training providers are required to notify EPA of the individuals who become certified by successfully completing the refresher training. This information will support EPA's compliance assistance programs.

2. *Renovation firms—a.*

Responsibilities of renovation firms.

Under this final rule, firms must ensure that all persons performing renovation activities on behalf of the firm are either certified renovators or have been trained and are directed by a certified renovator in accordance with 40 CFR 745.90. The firm is responsible for assigning a certified renovator to each renovation performed by the firm and ensuring that the certified renovator discharges all of the responsibilities identified in this final rule. The firm must ensure that the

information distribution requirements in 40 CFR 745.84 are met. As mentioned above, the certified renovator is responsible for ensuring compliance with 40 CFR 745.85 at all renovations to which he or she is assigned. The firm is also responsible for ensuring that all renovations performed by the firm are performed using certified renovators and in accordance with the work practice standards in proposed 40 CFR 745.85.

Where multiple contractors are involved in a renovation, any contractor who disturbs, or whose employees disturb, paint in excess of the minor maintenance exception is responsible for compliance with all of the requirements of this final rule. In this situation, renovation firms may find it advantageous to decide among themselves which firm will provide pre-renovation education to the owners and occupants, which firm will establish containment, and which firm will perform the post-renovation cleaning and cleaning verification. For example, a general contractor may be hired to conduct a multi-faceted project involving the large-scale disturbance of paint, which the general contractor then divides up among several subcontractors. In this situation, having the general contractor discharge the obligations of the Pre-Renovation Education Rule is likely to be the most efficient approach, since this only needs to be done once. With regard to containment, the general contractor may decide that it is most cost-effective to establish one large work area for the entire project. In this case, from the time that containment is established until post-renovation cleaning verification occurs, all general contractor and subcontractor personnel performing renovation tasks within the work area must be certified renovators or trained and directed by certified renovators in accordance with this rule. In addition, these personnel are responsible for ensuring the integrity of the containment barriers. The cleaning and post-renovation cleaning verification could be performed by any properly qualified individuals, without regard to whether they are employees of the general contractor or a subcontractor. However, all contractors involved in the disturbance of lead-based paint, or who perform work within the work area established for the containment of lead dust and debris, are responsible for compliance with this final rule, regardless of any agreements the contractors may have made among themselves.

b. *Certification of firms*—i. *Initial certification*. This final rule requires

firms that perform renovations, as defined by this rule, to be certified by EPA. EPA is adding a definition of “firm” to § 745.83 to make it clear that this term includes persons in business for themselves, i.e., sole proprietorships, as well as Federal, State, Tribal, and local governmental agencies, and nonprofit organizations. Firms covered by this final rule include firms that typically perform renovations, such as building contractors or home improvement contractors, as well as property management companies or owners of multi-family housing performing property maintenance activities that include renovations within the scope of this final rule.

This final rule provides information about the certification and re-certification process, establishes procedures for amending and transferring certifications, and identifies clear deadlines. A firm wishing to become certified to perform renovations must submit a complete “Application for Firms,” signed by an authorized agent of the firm, along with the correct certification fee. EPA intends to establish firm certification fees in a separate rulemaking. EPA will approve a firm’s initial application within 90 days of receipt if it is complete, including the proper amount of fees, and if EPA determines that the environmental compliance history of the firm, its principals, or its key employees does not show an unwillingness or inability to comply with applicable environmental statutes or regulations. EPA will generally consider the following to be an indication that the applicant is unwilling or unable to comply with environmental statutes or regulations if, during the past 3 years, the applicant has:

- A criminal conviction under a Federal environmental statute;
- An administrative or civil judgment against the applicant for a willful violation of a Federal environmental statutory or regulatory requirement; or
- More than one administrative or civil judgment for a violation of a Federal environmental statute. Violations that involve only recordkeeping requirements will not be considered.

If the application is approved, EPA will establish the firm’s certification expiration date at 5 years from the date of EPA’s approval. EPA certification will allow the firm to perform renovations covered by this section in any State or Indian Tribal area that does not have a renovation program authorized under 40 CFR part 745,

subpart Q. If the application is incomplete, EPA will notify the firm within 90 days of receipt that its application was incomplete, and ask the firm to supplement its application within 30 days. If the firm does not supplement its application within that period of time, or if EPA’s check into the compliance history of the firm revealed an unwillingness or inability to comply with environmental statutes or regulations, EPA will not approve the application and will provide the applicant with the reasons for not approving the application. EPA will not refund the application fees. A firm could reapply for certification at any time by filing a new, complete application that included the correct amount of fees.

This final rule provides firms with more time to amend their certification whenever a change occurs. A firm must amend its certification within 90 days whenever a change occurs to information included in the firm’s most recent application. If the firm failed to amend its certification within 90 days of the date the change occurred, the firm would not be authorized to perform renovations until its certification was amended. Examples of amendments include a change in the firm’s name without transfer of ownership, or a change of address or other contact information. To amend its certification, a firm must submit an application, noting on the form that it was submitted as an amendment. The firm must complete the sections of the application pertaining to the new information, and sign and date the form. The amendment must include the correct amount of fees. Amending a certification will not affect the validity of the existing certification or extend the certification expiration date. EPA will issue the firm a new certificate if necessary to reflect information included in the amendment. Firm certifications are not transferable—if the firm is sold, the new owner must submit a new initial application for certification in accordance with 40 CFR 745.89(a). The final rule also includes procedures for suspending, revoking, or modifying a firm’s certification. These procedures are very similar to the current procedures in place for suspending, revoking, or modifying the certification of a firm that is certified to perform lead-based paint activities.

Some commenters questioned the need for firm certification, while others, including industry representatives, supported it. The Agency believes that firm certification is necessary for several reasons. First, certification is an important tool for the Agency’s

enforcement program. To become certified, a firm acknowledges their responsibility to use appropriately trained and certified employees and follow the work practice standards set forth in the final rule. This is especially important under this final rule, since the certified renovator is not required to perform or be present during all of the renovation activities. Under these circumstances, it is important for the firm to acknowledge its legal responsibility for compliance with all of the final rule requirements, since the firm both hires and exercises supervisory control over all of its employees. Should the firm be found to violate any requirements, its certification can be revoked, giving the firm a strong incentive to ensure compliance by all employees.

ii. *Recertification.* Under 40 CFR 745.89(b), a certified firm maintains its certification by submitting a complete and timely "Application for Firms," noting that it is an application for re-certification, and paying the required re-certification fee. With regard to the timeliness of the application for re-certification, if a complete application, including the proper fee, is postmarked 90 days or more before the date the firm's current certification expires, the application will be considered timely and sufficient, and the firm's existing certification will remain in effect until its expiration date or until EPA has made a final decision to approve there-certification application, or not, whichever occurs later. If the firm submits a complete re-certification application fewer than 90 days before the date the firm's current certification expired, EPA might be able to process the application and re-certify the applicant before the expiration date, but this would not be guaranteed. If EPA does not approve the re-certification application before the existing application expired, the firm's certification expires and the firm is not able to conduct renovations until EPA approves its re-certification application. In any case, the firm's new certification expiration date will be 5 years from the date the existing certification expired.

If the firm submits an incomplete application for re-certification and EPA does not receive all of the required information and fees before the date the firm's current certification expires, or if the firm does not submit its application until after its certification expired, EPA will not approve the firm's re-certification application. The firm cannot cure any deficiencies in its application package by postmarking missing information or fees by its certification expiration date. All

required information and fees must be in EPA's possession as of the expiration date for EPA to approve the application. If EPA does not approve the application, the Agency will provide the applicant with the reasons for not approving the re-certification application. Any fees submitted by the applicant will not be refunded, but the firm can submit a new application for certification, along with the correct amount of fees, at any time.

As with initial applications, this final rule includes a description of the actions EPA may take in response to an application for re-certification and the reasons why EPA will take a particular action. This section is identical to the process for initial applications, except that EPA will not require an incomplete application to be supplemented within 30 days of the date EPA requests additional information or fees. In the re-certification context, the firm must make its application complete by the date that its current certification expires.

Several commenters thought that firms should not be required to be re-certified because the firm's certification is not based on knowledge or technology, but rather on a promise to abide by the rules. The Agency believes that firm re-certification is an important element of the final regulation. Firm re-certification provides a mechanism for EPA to keep its records current with respect to firms actively engaged in renovations. Re-certification also provides a means for EPA to ensure that it has updated firm contact information. Re-certification also prompts the firm to positively reaffirm their commitment to adhere to the requirements set forth in this regulation. Finally, re-certification allows EPA an opportunity to review a firm's compliance history before it obtains re-certification. However, EPA has determined that these purposes can be adequately served by re-certifying renovation firms every 5 years instead of every 3 years as proposed.

D. Training Provider Accreditation and Recordkeeping

EPA is amending the general accreditation requirements of 40 CFR 745.225 to apply to training programs that offer renovator or dust sampling technician courses for certification purposes. The regulations describe training program qualifications, quality control measures, recordkeeping and reporting requirements, as well as suspension, revocation, and modification procedures. Amendments to § 745.225 add specific requirements for the renovator and dust sampling technician disciplines. Also included are minimum training curriculum,

training hour, and hands-on requirements for courses leading to certification as a renovator or a dust sampling technician. As discussed in the previous Unit of this preamble, to assist EPA compliance inspectors in determining whether a renovator at a renovation work site successfully completed an accredited renovator training course, this final rule also requires providers of renovator training to take a digital photograph of each individual who successfully completes a renovator training course, include that photograph on the individual's course completion certificate, and provide that photograph to EPA along with the training course provider's post-training notification required by 40 CFR 745.225(c)(14).

Training course providers that obtained accreditation to offer renovator or dust sampling technician training would have to comply with the existing recordkeeping requirements for lead-based paint activities training course providers. These existing recordkeeping provisions require providers to maintain records of course materials, course test blueprints, information on how hands-on training is delivered, and the results of the students' skills assessments and course tests. EPA received no comments on this aspect of the proposed recordkeeping requirements. These requirements are currently working well for lead-based paint activities training providers and EPA believes they will work equally well for renovation training providers. Therefore, EPA is finalizing this requirement as proposed. Training course providers who receive accreditation to provide renovator or dust sampling technician courses must comply with the recordkeeping requirements of 40 CFR 745.225(i).

1. *Renovator training.* The minimum curriculum requirements for an initial renovator course are described in 40 CFR 745.225(d)(6). The topics include the roles and responsibilities of a renovator; background information on lead and its health effects; background on applicable Federal, State, and local regulations and guidance; use of acceptable test kits to test paint to determine whether it is lead-based paint; methods to minimize the creation of lead-based paint hazards during renovations; containment and clean-up methods; ways to verify that a renovation project has been properly completed, including cleaning verification; and waste handling and disposal. Hands-on activities relating to renovation methods, containment and clean-up, cleaning verification, and waste handling would be required in all courses. Section 745.225(c)(6)(vi)

establishes the minimum length for an initial renovator course at 8 training hours, with 2 hours being devoted to hands-on activities.

Commenters raised concerns and had suggestions regarding how certified renovator training should be conducted in three broad areas: Course length; course content and format; and training of non-English speaking renovators.

a. *Course length.* Several commenters raised concerns about the length of the certified renovator training course. Some agreed with the training length as defined in the rule, others stated it was too short or too long, and one said that the length of the training should not be defined in the rule. In establishing the minimum requirements for the renovator course, the Agency considered the many types of activities that would likely be performed during renovation, remodeling, and painting activities and tried to balance that with the need for a training course that would address the necessary skills without being overly burdensome on the part of the trainee. The suggested course schedule for the EPA/HUD lead-safe work practices curriculum "Lead Safety for Remodeling, Repair, & Painting" calls for an 8-hour training day, including lunch, two breaks, and an hour-long course test. The course is designed in a modular format, so that it can be delivered in 1 day or over two or more days, at the discretion of the training provider. Based on a review of the material and the suggested schedule, EPA believes that "Lead Safety for Remodeling, Repair, and Painting" can be modified to include material on the use of test kits and performing cleaning verification and still fit within eight training hours. However, any attempt to cover all of the required elements in a shorter period of time would likely result in a significant reduction in the level of detail with which the elements are presented. A minimum requirement for eight training hours represents a reasonable minimum requirement for the renovator course and gives training course providers an indication of the amount of time that EPA has determined through experience with the EPA/HUD curriculum that it takes to adequately cover each required training element.

b. *Course content and format.* Most commenters agree that the certified renovator course should include a hands-on training portion and several of these agree that the hands-on portion should not be any shorter than two hours as proposed. Other commenters suggested that the hands-on portion of the training should be allowed to be conducted as a demonstration via a

remote delivery system (DVD or Internet). EPA agrees that development of a procedure to address the hands-on component of the renovator course via remote delivery systems would be beneficial. This final rule does not preclude training providers from developing alternative methods for the delivery and evaluation of training for submission for approval to EPA.

Several commenters had suggestions as to the certified renovator training content. Two recommended that the renovator course include training on recordkeeping requirements. EPA agrees with these commenters, and has added the element of recordkeeping to the required training course elements for renovators. Because EPA has modified the recordkeeping requirements, as discussed below, to require the certified renovator to prepare the records associated with renovations to which he or she is assigned, the renovation training course will include a recordkeeping component. Three commenters suggested that, if the certified renovator is responsible for providing OJT to other renovation workers, the renovator training course should include a train-the-trainer component. EPA agrees with these commenters and has added a train-the-trainer element to the required elements for the renovator training course. In addition, EPA will develop a train-the-trainer component for its model renovator training course. Other commenters suggested that the required training elements include OSHA health and personal safety requirements. The Agency agrees that these are relevant topics and considers an overview of the OSHA requirements to be part of the required element of background on applicable Federal, State, and local regulations and requirements. To ensure that this is clear, EPA has modified this provision to state that the background information must include EPA, HUD, OSHA, and other Federal, State, and local regulations and guidance. Consistent with its approach in other courses related to lead-based paint activities, the Agency believes that identifying potential OSHA requirements, rather than requiring in-depth curriculum components, is the best way to make trainees aware of those requirements and yet avoid redundancies between EPA- and OSHA-required courses.

c. *Training of non-English speaking renovators.* Renovator and dust sampling technician courses, both initial and refresher, can be taught in any language, but accreditation would be required for each specific language the provider wished to present the

course in. All course materials and instruction for the course would have to be in the language of the course. The modification to § 745.225(b)(1)(ii) clarifies that all lead-based paint courses taught in different languages are considered different courses, and accreditation must be obtained for each. To facilitate accreditation of courses in languages other than English, EPA is requiring that the training provider include in its application both the English version as well as the non-English version of all training materials, in addition to a signed statement from a qualified, independent translator that the translator has compared the non-English language version of the course materials to the English-language version and that the translation is accurate. This requirement applies to any course for which accreditation is sought, including lead-based paint activities courses. Finally, to assist EPA in monitoring compliance with these requirements, EPA is requiring that course completion certificates include the language in which the course was taught.

Several commenters agreed that the needs of non-English speaking workers should be considered. Commenters suggested that EPA translate its model course into other languages and/or facilitate free access to such translations. EPA agrees that it is important to have renovator training available in languages other than English. EPA anticipates translating its revised model renovator course into Spanish. EPA will also consider translating the course into other languages. However, EPA is not able to make available proprietary material developed by training course providers that is then translated by those providers into other languages.

2. *Dust sampling technician training.* The minimum curriculum requirements for an initial dust sampling technician course are described in 40 CFR 745.225(d)(7). The topics include the roles and responsibilities of a dust sampling technician; background information on lead and its adverse health effects; background information on Federal, State, and local regulations and guidance that pertains to lead-based paint and renovation activities; dust sampling methodologies; clearance standards and testing; and report preparation and recordkeeping requirements. Section 745.225(c)(6)(vii) establishes the minimum length for an initial dust sampling technician course at 8 training hours, with 2 hours being devoted to hands-on activities. EPA received relatively few comments specifically on the content of dust

sampling technician training; most had to do with the length of the training course. EPA has developed a model dust sampling technician course (Ref. 33). This course has been designed to be delivered in one 8-hour training day, including lunch, breaks, and a course test. As with the EPA/HUD "Lead Safety for Remodeling, Repair, & Painting" curriculum, EPA believes that this is a reasonable minimum requirement for the dust sampling technician course and it gives training course providers an indication of the amount of time that EPA has determined it takes to adequately cover each required training element.

E. Work Practices

This final rule requires that all renovations subject to this rule be conducted in accordance with a defined set of work practice standards. Again, this final rule is a revision of the existing TSCA section 402(a) Lead-based Paint Activities Regulations to extend training, certification, and work practice requirements to certain renovation and remodeling projects in target housing and child-occupied facilities. In so doing, EPA did not merely modify the scope of the current abatement requirements to cover renovation and remodeling activities. Rather, EPA has carefully considered the elements of the existing abatement regulations and is revising those regulations in a manner that reflects the differences between abatement and renovation activities.

Work practices for abatement are part of larger range of activities that are intended to identify and eliminate lead-based paint hazards. When abatements are conducted, residents typically are removed from the home until after the abatement activities are completed, which is demonstrated through the use of clearance testing. This may require the removal of carpeting, refinishing, sealing, or replacement of floors to achieve clearance. Accordingly, clearance testing is part of a broader set of activities that comprise abatement, with the purpose of permanently eliminating existing lead-based paint hazards.

Renovation, repair, and painting activities typically are conducted while the residents are present in the dwelling and are not activities intended to eliminate lead-based paint hazards. Work practices for renovation, repair, and painting are designed to minimize exposure to lead-based paint hazards created by the renovation both during the renovation, while residents are likely to be present in the dwelling, and after the renovation. The work practices

are not intended to address pre-existing hazards.

1. *In general.* This final rule incorporates work practice standards generally derived from the HUD Guidelines, EPA's draft technical specifications for renovations, and the model training curriculum entitled *Lead Safety for Remodeling, Repair, & Painting* (Refs. 18, 34, and 35). For more information on the development of these documents, please consult Unit III.C. of the preamble to the 2006 Proposal. To reduce exposure to lead-based paint hazards created by renovation activities, the work practices standards in this regulation provide basic requirements for occupant protection, site preparation, and clean-up.

Commenters generally felt that work practices are important and should be clear and correctly followed. One commenter stated that the rule has "tremendous potential for making a difference," especially in establishing and "reinforcing the industry norm." One commenter noted that EPA should "set simple and flexible work practices." Another commenter asked for less specificity. EPA believes that this final rule provides certified renovators an appropriate blend of flexibility and specificity. EPA believes that, due to the highly variable nature of renovation activities, flexibility is needed for certain tasks, such as establishing containment, and that other tasks, such as specialized cleaning, require a greater degree of specificity.

2. *Occupant protection.* This final rule requires the firm to post signs clearly defining the work area and warning occupants and other persons not involved in renovation activities to remain outside of the work area. In addition, it requires that the certified renovator be physically present at the work site when the required signs are posted. These signs must be posted before beginning the renovation and must remain in place until the renovation has been completed and cleaning verification has been completed. The signs must be, to the extent practicable, provided in the occupants' primary language. If warning signs have been posted in accordance with HUD's Lead Safe Housing Rule (24 CFR 35.1345(b)(2)) or OSHA's Lead in Construction Standard (29 CFR 1926.62(m)), additional signs are not required.

Three commenters stated that the required signs for posting at a work site should be in the language of the occupant. One commenter stated that such a requirement would be consistent with HUD's Lead Safe Housing Rule

requirements. EPA agrees that having signs in the language of the occupant is preferable. However, the Agency is concerned that renovators will not have the ability to provide signs in every language, and that it may be the case that occupants, especially in multi-family dwellings, will speak a variety of languages. In the HUD Lead Safe Housing Rule, HUD addressed this issue by requiring that signs, to the extent practicable, be provided in the occupants' primary language. Therefore, consistent with HUD's Lead Safe Housing Rule, this final rule requires warning signs, to the extent practicable, to be provided in the occupants' primary language.

3. *Containment.* This final rule requires that the firm isolate the work area so that dust or debris does not leave the work area while the renovation is being performed. In addition, EPA has clarified that the firm must maintain the integrity of the containment by ensuring that any plastic or other impermeable materials are not torn or displaced, and taking any other steps necessary to ensure that dust or debris does not leave the work area while the renovation is being performed.

In addition, EPA has made conforming changes to the performance standard that renovators and renovation firms are being held to in this final rule. EPA was concerned that the rule text and preamble were confusing because there were references to "visible" dust and debris or "identifiable" dust and debris and "all" dust and debris. For example, in the 2006 Proposal "work area" was defined as the area established by the certified renovator to "contain all the dust and debris generated by a renovation." In the renovator responsibilities (as proposed at 40 CFR 745.90(b)(4)), the renovator was responsible for ensuring "that dust and debris is not spread beyond the work area." In describing the containment to be established, the rule text referred to "visible" dust and debris and in the section on waste from renovations (as proposed at 40 CFR 745.85(a)(3)) the rule text referred to "identifiable" dust. It was not EPA's intention to create subjectivity as to whether dust and debris were being dispersed. By conforming its terminology EPA is clarifying that certified renovators and renovation firms must ensure that the dust and debris (as opposed to "visible" or "identifiable" dust and debris) generated by the renovation is contained. Should an EPA inspector observe dust or debris escaping from the containment, the certified renovator and

the renovation firm would be in violation of this final rule.

This final rule also requires that the certified renovator be physically present at the work site when the required containment is established. This means the certified renovator must determine for each regulated project the size and type of containment necessary to prevent dust and debris from leaving the established work area. This determination will be based on the certified renovator's evaluation of the extent and nature of the activity and the specific work practices that will be used.

Containment refers to methods of preventing lead dust from contaminating objects in the work area and from migrating beyond the work area. It includes, among other possible measures, the use of disposable plastic drop cloths to cover floors and objects in the work area, and sealing of openings with plastic sheeting where necessary to prevent dust and debris from leaving the work area. When planning a renovation project, it is the certified renovator's responsibility to determine the type of work site preparation necessary to prevent dust and debris from leaving the work area.

Renovation projects generate varying amounts of lead dust, paint chips, and other lead-contaminated materials depending on the type of work, area affected, and work methods used. Because of this variability, the size of the area that must be isolated and the containment methods used will vary from project to project. Large renovation projects could involve one or more rooms and potentially encompass an entire home or building, while small projects may require only a relatively small amount of containment. The necessary work area preparations will depend on the size of the surface(s) being disturbed, the method used in disturbing the surface, and the building layout. For example, repairing a small area of damaged drywall would most likely require the containment of a smaller work area and less preparation than demolition work, which would most likely require a containment of a larger work area and more extensive preparation in order to prevent the migration of dust and debris from the work area. The Environmental Field Sampling Study, which found that the following activities created dust-lead hazards at a distance of 6 feet from where the work was being performed:

- Paint removal by abrasive sanding.
- Window replacement.
- HVAC duct work.
- Demolition of interior plaster walls.

- Drilling into wood.
- Sawing into wood.
- Sawing into plaster.

Based on these data, EPA believes that at least 6 feet of containment is necessary to contain dust generated by most renovation projects.

Under this final rule, at a minimum, interior work area preparations must include removing all objects in the work area or covering them with plastic sheeting or other impermeable material. This includes fixed objects, such as cabinets and countertops, and objects that may be difficult to move, such as appliances. Interior preparations must also include closing all forced air HVAC ducts in the work area and covering them with plastic sheeting or other impermeable material; closing all windows in the work area; closing and sealing all doors in the work area; and covering the floor surface in the work area, including installed carpet, with taped-down plastic sheeting or other impermeable material in the work area 6 feet beyond the perimeter of surfaces undergoing renovation or a sufficient distance to contain the dust, whichever is greater.

To ensure that dust and debris do not leave the work area, it may be necessary to close forced air HVAC ducts or windows near the work area. Doors within the work area that will be used while the job is being performed must be covered with plastic sheeting or other impermeable material in a manner that allows workers to pass through, while confining dust and debris to the work area. In addition, all personnel, tools, and other items, including the exterior of containers of waste, must be free of dust and debris when leaving the work area.

For exterior projects, the same performance standard applies; namely, the certified renovator or a worker under the direction of the certified renovator must contain the work area so that dust or debris does not leave the work area while the renovation is being performed. Additionally, in response to comments suggesting that EPA follow the HUD Guidelines with respect to exterior containment requirements, EPA has incorporated a similar 10 foot minimum. Consequently, this final rule requires that exterior containment include covering the ground 10 feet beyond the perimeter of surfaces undergoing renovation or a sufficient distance to collect falling paint debris, whichever is greater, unless the property line prevents 10 feet of such ground covering. EPA has concluded that this is an appropriate and reasonable precaution for exterior work, given the fact that some amount of

dispersal of dust or debris is likely as a result of air movement, even on relatively calm days. In addition, EPA sees value in maintaining appropriate consistency between this regulation and related HUD rules and guidelines.

In addition to such ground covering, exterior work area preparations must include, at a minimum, closing all doors and windows within 20 feet of the outside of the work area on the same floor as the renovation, and closing all doors and windows on the floors below that area. For example, if the renovation involves sanding a 5-foot by 5-foot area of paint in the middle of the third floor of a building, and that side of the building is only 40 feet long, all doors and windows on that side of the third floor must be closed, as well as all of the doors and windows on that side of the second and first floors. In situations where other buildings are in close proximity to the work area, where the work area abuts a property line, or weather conditions dictate the need for additional containment (i.e., windy conditions) the certified renovator or a worker under the direction of the certified renovator performing the renovation may have to take extra precautions in containing the work area to ensure that dust and debris from the renovation does not contaminate other buildings or migrate to adjacent property. This may include erecting vertical containment designed to prevent dust and debris from contaminating the ground or any object beyond the work area. In addition, doors within the work area that will be used while the job is being performed must be covered with plastic sheeting or other impermeable material in a manner that allows workers to pass through while confining dust and debris to the work area.

Some commenters agreed with the proposed procedures. One commenter agreed that with containment, dust can be contained and cleaned up sufficiently to pass the wipe test screening results. Another commenter supported the use of standard containment and cleaning practices known to reduce dust lead levels on both interior and exterior surfaces and to protect soils and gardens surrounding the house.

Some commenters asserted that the containment procedures were not stringent enough. Some suggested that EPA follow the HUD Guidelines with respect to exterior containment requirements. Others asked EPA to strengthen exterior containment requirements by specifying that containment extend at least twenty feet to collect all debris and residue and that

the rule address circumstances such as wind and rain. One commenter asserted that allowing the certified renovator complete discretion to determine what is appropriate renders the worksite containment requirements completely unenforceable and asked EPA to consider providing a minimum performance standard that all renovators must meet. EPA agrees that a minimum performance standard is necessary and that is why under this final rule EPA is requiring certified renovators to establish containment that prevents dust and debris from leaving the work area. In addition, in this rule EPA has established minimum containment requirements for both interior and exterior renovation requirements. While the certified renovator has discretion regarding the specific components and extent of containment, the renovator and firm will be in violation of this final rule if dust or debris leaves the work area for both interior and exterior renovations. If dust or debris migrates beyond the work area, that migration constitutes a violation of the rule. Accordingly, EPA does not agree with the commenter that the rule is unenforceable.

This final rule provides the certified renovator with some discretion to define the specific size and configuration of the containment to accommodate the variability in size and scope of renovations. EPA considered requiring that in all cases the entire room in which a renovation is occurring be contained, but concluded that doing so would be unwarranted. For example, a small manual sanding job in a large room would not necessarily require full room containment to isolate the work area. EPA has concluded that the most appropriate approach is to impose a minimum size for containment coupled with a performance standard--preventing dust or debris from leaving the work area--and to prescribe with reasonable specificity the containment measures that are required--e.g., use of plastic or other impermeable material, removal or covering of objects in the work area - but to provide some measure of discretion with regards to the case-specific approaches to containment.

In response to EPA's request for comments on whether there are any situations where some or all of the proposed work practices are not necessary, commenters suggested that work practices were not needed during a gut rehabilitation, although two of the commenters suggested a waiver rather than an exemption in these situations. Several commenters thought that work in unoccupied structures should not require the use of lead safe work

practices, or should have an adapted set of work practices. A commenter opined that certain interior containments may not be necessary in vacant and empty housing, but that exterior work always should use lead safe work practices to protect the environment and neighborhood. A commenter stated that there are certain activities common to multifamily and rental housing that warrant special consideration from the Agency. For example, simple painting activities that occur when rental properties turn over should not require a full suite of work practices, particularly given that most state laws require apartment owners to paint each unit at turnover. The commenter suggested that EPA consider a less restrictive set of guidelines for those properties simply undergoing routine painting during the turnover process.

EPA believes that whole house gut rehabilitation projects may demolish and rebuild a structure to a point where it is effectively new construction. In this case, it would not be a modification of an existing structure, and therefore not a renovation. However, a partial-house gut rehabilitation such as a kitchen or bathroom gut rehabilitation project clearly falls within the scope of this final rule.

EPA disagrees that temporarily unoccupied or vacant housing should be *per se* exempt from the requirements of this final rule. EPA's primary concern with exempting renovations in such housing from the work practices required by this final rule is the exposure to returning residents to lead-based paint hazards created by the renovation. However, EPA recognizes that if no child under 6 or no pregnant woman resides there, the owner-occupant may so state in writing and the requirements of this rule would not apply. In addition, for routine painting, such as at unit turnover, if such painting activity does not involve disturbing more than 6 ft² of painted surfaces per room for interiors or 20 ft² for exteriors, and otherwise meet the definition of "minor repair and maintenance," the requirements of this final rule would not apply. EPA cannot see a basis for imposing a less restrictive set of requirements for projects that disturb more than 6 ft² of painted surfaces per room for interiors or 20 ft² for exteriors.

Some commenters believed that the Proposal did not adequately address the decontamination of workers and equipment involved in a renovation. They supported the proposed requirement that all personnel, tools and other items, including the exteriors of containers of waste, be free of dust and debris before leaving the work area.

However, they believed that the proposed alternative, covering the paths used to reach the exterior of the building with plastic, was not sufficiently protective. One contended that significant lead dust contamination can be tracked or carried out of a work area if workers and equipment are not properly decontaminated. This commenter further noted that workers with contaminated clothing can take that contamination home to their own children and taking contaminated equipment to another jobsite could potentially create a lead hazard at a new site. EPA agrees with these commenters and has deleted the alternative language. The final rule requires renovation firms to use precautions to ensure that all personnel, tools and other items, including the exteriors of containers of waste, to be free of dust and debris before leaving the work area. There are several ways of accomplishing this. For example, tacky mats may be put down immediately adjacent to the plastic sheeting covering the work area floor to remove dust and debris from the bottom of the workers' shoes as they leave the work area, workers may remove their shoe covers (booties) as they leave the work area, and clothing and materials may be wet-wiped and/or HEPA-vacuumed before they are removed from the work area.

Finally, in response to a commenter who was concerned about containment not impeding occupant egress in an emergency, EPA has modified the regulatory text to specify that containment must be installed in such a manner that it does not interfere with occupant and worker egress in an emergency. This can be accomplished, as noted in chapter 17 of the HUD Guidelines, by installing plastic over doors with a weak tape.

4. Prohibited and restricted practices. The final rule prohibits or restricts the use of certain work practices during regulated renovations. These practices are open flame burning or torching of lead-based paint; the use of machines that remove lead-based paint through high speed operation such as sanding, grinding, power planing, needle gun, abrasive blasting, or sandblasting, unless such machines are used with HEPA exhaust control; and operating a heat gun above 1100 degrees Fahrenheit. These are essentially the same practices as are currently prohibited or restricted under the Lead-based Paint Activities Regulations, 40 CFR 745.227(e)(6), with the exception of dry hand scraping of lead-based paint. While this final rule and EPA's Lead-Based Paint Activities Regulations do not prohibit or restrict the use of volatile paint strippers or

other hazardous substances to remove paint, the use of these substances are prohibited for use in poorly ventilated areas by HUD's Lead Safe Housing Rule and they are regulated by OSHA.

EPA did not propose to prohibit or restrict any work practices, but instead asked for public comment regarding their prohibition or restriction. The Agency was concerned that, because these practices are commonly used during renovation work, prohibiting such practices could make certain jobs, such as preparing detailed or historic millwork for new painting, extremely difficult, if not impossible. In addition, EPA believed that use of the proposed package of training, containment, cleanup, and cleaning verification requirements would be effective in preventing the introduction of new lead-based paint hazards, even when such practices were used. EPA is modifying the proposal based on new data evaluating specific work practices and in response to comments received.

a. *The Dust Study.* EPA understood when developing the proposed rule that considerable data existed showing the potential for significant lead contamination when lead paint is disturbed by practices restricted under EPA's Lead-based Paint Activities Regulations for abatements. EPA conducted the Dust Study, in part, to determine the effectiveness of the proposed work practices. The Dust Study evaluated a variety of renovation activities, including activities that involved several practices restricted or prohibited under the abatement regulations. For example, power planing was included in the Dust Study as a representative of machines that remove lead-based paint through high speed operation. Similarly, the Dust Study also included experiments with power sanding and a needle gun. Each of these activities generated very high levels of dust. The Dust Study thus evaluated the proposed work practice standards, using a range of typical practices currently used by contractors.

In particular, the Dust Study found that renovation activities involving power planing and high temperature heat gun resulted in higher post-job renovation dust lead levels than activities using other practices. The geometric mean post-work, pre-cleaning floor dust lead levels in the work room were 32,644 $\mu\text{g}/\text{ft}^2$ for power planing and 7,737 $\mu\text{g}/\text{ft}^2$ for high temperature heat guns. More importantly, in experiments performed in compliance with this rule's requirements for containment, cleaning, and cleaning verification, the geometric mean post-job floor dust lead levels were still 148

$\mu\text{g}/\text{ft}^2$ for power planing, well over the TSCA section 403 hazard standard for floors. While the geometric mean post-job floor dust levels for the 3 similar experiments involving high temperature heat guns, i.e., experiments performed in compliance with this rule's requirements, were 36 $\mu\text{g}/\text{ft}^2$, the average post-cleaning-verification floor dust lead levels for the individual experiments were 147.5, 65.5, and less than 10 $\mu\text{g}/\text{ft}^2$. Thus, in 2 of these 3 experiments, the requirements of this final rule were insufficient to reduce the floor dust lead levels below the TSCA section 403 hazard standards for floors. In addition, power planing and use of a high temperature heat gun generated fine particle-size dust that was difficult to clean. In fact, almost all of the high post-renovation lead levels were associated with activities involving power planing and high temperature heat guns. Moreover, activities involving power planing and high temperature heat gun jobs also resulted in higher post-job tool room and observation room lead levels than other practices.

Thus, while the Dust Study confirmed that most practices prohibited or restricted under EPA's Lead-based Paint Activities Regulations do indeed produce large quantities of lead dust, it also demonstrated that, with respect to lead-based paint hazards created by machines that remove lead-based paint through high speed operation and high temperature heat guns, the use of the proposed work practices were not effective at containing or removing dust-lead hazards from the work area.

b. *Alternatives to certain practices.* As discussed above, in the proposed rule, EPA stated a concern that, because practices prohibited or restricted under EPA's Lead-based Paint Activities Regulations are commonly used during renovation work, prohibiting or restricting such practices could make certain jobs, such as preparing detailed or historic millwork for new painting, extremely difficult or, in some cases, impossible. In response to its request for comment, the Agency received information on techniques including benign strippers, steam stripping, closed planing with vacuums, and infrared removal that the commenter believed are far superior, far safer and far cheaper than some of the traditionally prohibited or restricted practices. Another commenter noted that window removal and off-site chemical stripping in a well-ventilated setting is an alternative to using heat or mechanical methods to remove lead paint on-site. Alternatively, chemical strippers can be used on-site, given adequate ventilation

and protection for workers and building occupants. EPA is therefore persuaded that there are sufficient alternatives to these practices.

c. *Conclusion.* Based on the results of the Dust Study and in response to the voluminous persuasive public comments, this final rule prohibits or restricts the use of the following practices during renovation, repair, and painting activities that are subject to the work practice requirements of this rule:

- Open-flame burning or torching.
- Machines that remove lead-based paint through high speed operation such as sanding, grinding, power planing, needle gun, abrasive blasting, or sandblasting, unless such machines are used with HEPA exhaust control.
- Operating a heat gun above 1100 degrees Fahrenheit.

EPA has concluded that these practices must be prohibited or restricted during renovation, repair, and painting activities that disturb lead-based paint because the work practices in this final rule are not effective at containing the spread of leaded dust when these practices are used, or at cleaning up lead-based paint hazards created by these practices. Thus, the work practices are not effective at minimizing exposure to lead-based paint hazards created during renovation activities when these activities are used.

This final rule does not prohibit or restrict the use of dry hand scraping. EPA has concluded based primarily on the Dust Study as corroborated by other data described below that it is not necessary to prohibit or restrict dry scraping because the containment, cleaning, and cleaning verification requirements of this rule are effective at minimizing exposure to lead-based paint hazards created by renovations and the migration of dust-lead hazards beyond the work area when dry hand scraping is employed.

The Dust Study evaluated dry hand scraping, which is restricted under EPA's lead abatement program. In contrast to the results of the activities using power planing and high temperature heat gun, average post-job dust lead levels in the two experiments in which paint was disturbed by dry hand scraping and the work practices required by this rule were used were below the regulatory dust-lead hazard standard for floors. In addition, the National Institute for Occupational Safety and Health (NIOSH) conducted a Health Hazard Evaluation (HHE) at the request of the Rhode Island Department of Health, and published a final report in June of 2000 (Ref. 36). The purpose of the evaluation was to measure worker exposure during various tasks and to

determine whether workers were exposed to hazardous amounts of lead-based paint. Notably worker exposures were compared when scraping painted surfaces using wet and dry scraping methods (wet scraping is the customary substitute for dry scraping in abatement applications). A comparison of worker exposure found statistically equivalent worker exposures. Based on the NIOSH study, EPA has determined that dry scraping is the equivalent of its only practical alternative, wet scraping.

In sum, EPA has determined based on the studies described above and the persuasive comments, including those summarized below, provided by the overwhelming majority of commenters that its approach of prohibiting or restricting certain practices in combination with the containment, cleaning, and cleaning verification, will be effective in minimizing exposure to lead-based paint hazards created during renovation activities, provide an appropriate measure of consistency with other regulatory programs, and cause minimal disruption for renovation firms.

i. *Substantial exposures.* Numerous commenters argued that the rule should prohibit certain practices based on potential health hazards, many backed up by well-documented scientific studies and proven health-protective standards. One commenter stated, after citing several scientific studies, that removing or disturbing lead paint without proper controls causes substantial contamination, posing serious risks to occupants, workers and others. Another cited numerous scientific studies demonstrating the adverse public health implications of permitting these work practices and the availability of alternative work methods. Still another cited the EPA renovation and remodeling study and a State of Maryland study as evidence that prohibited work practices may be associated with elevated blood lead levels. One commenter cited health hazard evaluations of residential lead renovation work showing that these activities produce hazardous worker exposures. Another commenter noted that the hazards of activities that are likely to produce large amounts of lead dust or fumes are well documented, stating that, for example, the Wisconsin Childhood Blood-Lead Study found that the odds of a resident child having a blood lead level in excess of 10 µg/dL increased by 5 times after renovation using open flame torching, and by 4.6 times after heat gun use. Another commenter was concerned that previously collected data may not account for different particle-size

distribution, a factor in both the potential cleaning efficacy of work areas and the toxicology of lead poisoning.

ii. *Consistency with other standards.* Some commenters urged EPA to prohibit certain high dust generating practices for the sake of consistency with other work practice standards. Numerous commenters asserted EPA's rule should be consistent with HUD requirements to avoid confusion on the part of contractors and to conform to the standard that has been in place for nearly 6 years. One commenter noted that the regulations of several other federal agencies that administer housing programs, such as the Department of Defense, Department of Agriculture, and Veterans Affairs include prohibited practices. Other commenters noted that the proposed rule conflicted with OSHA rules and would cause confusion among contractors.

Some commenters noted that EPA's proposed rule would conflict with individual state or local regulations prohibiting some or all of these practices. One commenter listed the following states and some cities that have prohibited work practices: California, Indiana, Maine, Massachusetts, Minnesota, New Jersey, Ohio, Rhode Island, Vermont, Wisconsin, Chicago, Cleveland, New Orleans, New York City, Rochester, and San Francisco. Two commenters cited state law in Indiana, under which certain work practices are prohibited and contractors using such work practices are committing a Class D felony (422, 449).

Other commenters noted that practices that are prohibited under EPA's Lead-based Paint Activities Regulations should also be prohibited for renovation work in pre-1978 properties, and noted that in developing the abatement rule EPA demonstrated through its own studies that these practices may increase the risk of elevated blood lead levels in children.

5. *Waste from renovations.* Under this final rule the certified renovator or a worker trained by and under the direction of the certified renovator is required to ensure that all personnel, tools, and other items including waste are free of dust and debris when leaving the work area. The certified renovator or a worker trained by and under the direction of the certified renovator must also contain waste to prevent releases of dust and debris before the waste is removed from the work area for storage or disposal. If a chute is used to remove waste from the work area, it must be covered. At the conclusion of each work day and at the conclusion of the renovation, the certified renovator or a

worker trained by and under the direction of the certified renovator must ensure that waste that has been collected from renovation activities is stored under containment, in an enclosure, or behind a barrier that prevents release of dust and debris from the work area and prevents access to dust and debris. This final rule also requires the certified renovator or a worker trained by and under the direction of the certified renovator transporting lead-based paint waste from a work site to contain the waste to prevent releases, e.g., inside a plastic garbage bag. As described in more detail in Unit IV.D.2.c. of the preamble to the 2006 Proposal, EPA revised its solid waste regulations in 40 CFR parts 257 and 258 to make clear that lead-based paint waste generated through renovation and remodeling activities in residential settings may be disposed of in municipal solid waste landfill units or in construction and demolition (C&D) landfills. Requirements for waste disposal may vary by jurisdiction and state and local requirements may be more stringent than Federal requirements. When disposing of waste, including waste water, from renovation activities, the renovation firm must ensure that it complies with all applicable Federal, State, and local requirements.

One commenter suggested that EPA should consider requiring that lead-contaminated waste be stored in a locked area or in a lockable storage container. This commenter also suggested that to prevent any confusion on what constitutes a covered chute, a definition or clarification should be provided in the rule. Another commenter recommended the use of "sealed" rather than "covered" chutes for waste removal, as a covered chute may not be protective enough to prevent the release of significant amounts of lead-contaminated dust. This final rule requires that waste must be contained to prevent releases of dust and debris before the waste is removed from the work area for storage or disposal. With respect to the use of chutes for waste removal, the requirement for a covered chute was proposed merely to facilitate the removal of bagged or sealed waste so that it is deposited in an appropriate waste disposal container and does not fall to the ground. EPA does not, therefore, believe that this term either needs to be further defined or to require the use of a "sealed" chute.

EPA understands that renovation projects can generate a considerable amount and variety of waste material. However, EPA believes that the requirements of the final rule protect

occupants and others from potential lead-based paint hazards presented by this waste. While storing the waste in a locked container is one way to meet the performance standard of this final rule, EPA does not believe that is necessary to specify that as a requirement. The waste may be stored in the work area, which will already be delineated with signs cautioning occupants and others to keep out. EPA believes the owner/occupants have some responsibility for observing these signs. Renovation sites pose potential hazards other than lead-based paint hazards—including the potential fall hazards, sharp protrusions, etc. In sum, the certified renovator is responsible for ensuring that lead-contaminated building components and work area debris that are stored under containment, in an enclosure, or behind a barrier that prevents release of dust and debris and prevents access to the debris. Under this final rule the certified renovator must ensure that waste leaving the work area is contained (e.g., in a heavy duty plastic bag or sealed in plastic sheeting) and free of dust or debris. This imposes a reasonable performance standard without requiring a specific approach. The certified renovator is responsible for evaluating the waste generated and the characteristics of the work site to determine the most effective way of meeting this standard.

6. *Cleaning the work area—a. Final rule requirements.* Under this final rule the certified renovator or a worker under the direction of the certified renovator must clean the work area to remove dust, debris or residue. All renovation activities that disturb painted surfaces can produce dangerous quantities of leaded dust. Because very small particles of leaded dust are easily absorbed by the body when ingested or inhaled, it can create a health hazard for children. Unless this dust is properly removed, renovation and remodeling activities are likely to introduce new lead-based paint hazards. Therefore, the rule requires prescriptive cleaning practices. Ultimately, improper cleaning can increase the cost of a project because additional cleaning may be necessary during post-renovation cleaning verification.

This final rule requires that, upon completion of interior renovation activities, all paint chips and debris must be picked up. Protective sheeting must be misted and folded dirty side inward. Sheeting used to isolate contaminated rooms from non-contaminated rooms must remain in place until after the cleaning and removal of other sheeting; this sheeting must then be misted and removed last.

Removed sheeting must be either folded and taped shut to seal or sealed in heavy-duty bags and disposed of as waste. After the sheeting has been removed from the work area, the entire area must be cleaned including the adjacent surfaces that are within 2 feet of the work area. The walls, starting from the ceiling and working down to the floor, must be vacuumed with a HEPA vacuum or wiped with a damp cloth. The final rule requires that all remaining surfaces and objects in the work area, including floors, furniture, and fixtures be thoroughly vacuumed with a HEPA vacuum. When cleaning carpets, the HEPA vacuum must be equipped with a beater bar to aid in dislodging and collecting deep dust and lead from carpets. The beater bar must be used on all passes on the carpet face during dry vacuuming. This cleaning step is intended to remove as much dust and remaining debris as possible. After vacuuming, all surfaces and objects in the work area, except for walls and carpeted or upholstered surfaces, must be wiped with a damp cloth. Wet disposable cleaning cloths of any color may be used for this purpose. In contrast, as discussed in the next section, only wet disposable cleaning cloths that are white may be used for cleaning verification. Uncarpeted floors must be thoroughly mopped using a 2-bucket mopping method that keeps the wash water separate from the rinse water, or using a wet mopping system with disposable absorbent cleaning pads and a built-in mechanism for distributing or spraying cleaning solution from a reservoir onto a floor.

When cleaning following an exterior renovation, all paint chips and debris must be picked up. Protective sheeting used for containment must be misted with water. All sheeting must be folded from the corners or ends to the middle to trap any remaining dust and either taped shut to seal or sealed in heavy duty bags. The sheeting must be disposed of as waste.

b. *Comments on the cleaning protocol.* Several commenters proposed minor changes to the cleaning procedures. Three commenters recommended that daily clean-up be required for projects lasting more than 1 day. One commenter stated that all tools and equipment should be cleaned prior to leaving the job site. One commenter indicated concern that there is no mention of wet wiping areas such as window sills. This final rule requires cleaning both in and around the work area to ensure no dust or debris remains following the renovation. The final rule also requires that all personnel, tools, and other items including waste are free

of dust and debris when leaving the work area. EPA recommends that contractors keep work areas as clean and free of dust and debris as practical. Daily cleaning is a good practice, and it may be necessary in some cases to ensure no dust or debris leaves the work area as required by this final rule. However, EPA has no basis to believe that daily cleaning is necessary in every case or even most cases. EPA also notes that the work area must be delineated by signs so that occupants and others do not enter the area. This final rule requires the work area to be contained, and to ensure that all tools, personnel, and other items, including waste, to be free of dust and debris when leaving the work area. Under this final rule, interior windowsills and most other interior surfaces in the work area must be wet wiped. The exceptions are upholstery and carpeting, which must be vacuumed with a HEPA vacuum, and walls, which may be wet wiped or vacuumed with a HEPA vacuum.

Some commenters requested clarification of the requirement to clean “in and around the work area.” In response to the two commenters that noted that the HUD Guidelines recommend cleaning 2 feet beyond the work area, EPA has modified the regulatory text to require cleaning of surfaces and objects in and within 2 feet of the work area.

One commenter argued that vacuuming was not necessary because 40 CFR 745.85 requires the certified renovator to cover all furnishings not removed from the work area, so additional cleaning is unnecessary. EPA disagrees with this commenter. Carpets and upholstered objects that remained, covered with plastic, in the work area during the renovation must be vacuumed after the plastic is removed to ensure that the surfaces did not become contaminated during the renovation due to a breach in the containment or during the removal of the containment during clean-up.

One commenter asserted that some requirements for cleaning were not prescriptive enough. The commenter suggested that the rule text, which states that the certified renovator or a worker under the direction of the certified renovator must “pick up all paint chips and debris,” could be re-worded to state that the certified renovator or a worker under the direction of the certified renovator must “collect all paint chips, debris, and dust, and, without dispersing any of it, seal this material in a heavy-duty plastic bag.” EPA agrees that additional detail would be helpful in this instance and has modified the final rule to include this

recommendation, with the exception of dust, which is collected when the protective sheeting is misted and folded inward.

One commenter stated that the cleaning procedures were excessive and problematic. This commenter asserted that the two-bucket mopping system is inappropriate for some floor types such as wood floors for which excessive water could damage the floor. The commenter suggested that EPA allow a cleaning method employing a dry or damp cloth, or any other specified methodology, to be used in order to achieve a no dust or debris level of cleaning. Three commenters asserted that EPA's definition of wet mopping system was too specific. One commenter stated that to include "a long handle, a mop head..." in the description of the wet mopping system is too prescriptive and favors a particular model of commercial product. EPA understands that the two bucket mopping system may not be appropriate for all floor types due to the quantity of water involved. However, the HUD Guidelines recommend and the Dust Study demonstrates that wet cleaning is best able to achieve desired results. This final rule allows for the use of a wet mopping system instead of the two bucket system for the cleaning of flooring. EPA has included a definition of a wet mopping system in order to allow the regulated community to use such a system in place of the traditional two-bucket mop method. EPA's Electrostatic Cloth and Wet Cloth Field Study in Residential Housing study ("Disposable Cleaning Cloth Study"), discussed in more detail in Unit IV.E.2. of the 2006 Proposal, indicates that a wet mopping system is an effective method for cleaning up lead dust (Ref. 37). EPA believes that allowing the use of a wet mopping system like those widely available in a variety of stores should alleviate concerns regarding the quantity of water used in the cleanup. In addition, EPA disagrees that the description of a wet mopping system favors a particular model of commercial product. Rather, it generally describes any number of wet mopping systems widely available in most stores. However, to alleviate concerns that a particular model of commercial product is preferred, EPA has added the phrase "or a method of equivalent efficacy" to the end of the definition of "wet mopping system."

One commenter recommended that instead of referencing a two bucket method, EPA should consider simply stating that a method be used that keeps the wash water separate from the rinse water. EPA agrees and has revised the

regulatory text to specify a method that keeps wash water separate from rinse water, giving as an example the two bucket method.

One commenter questioned the requirement to vacuum underneath a rug or carpet where feasible. The commenter suggested that EPA clarify that this does not include permanently affixed wall-to-wall carpeting. The commenter notes that it is highly unlikely that the renovation or remodeling activity conducted in a carpeted room would have created the dust embedded underneath both the layer of plastic sheeting and the installed carpeting. EPA agrees with this commenter. EPA did not intend to require vacuuming beneath permanently affixed carpets, i.e., wall to wall carpeting, but rather that removable rugs should be removed and the area beneath vacuumed. However, small, movable, area rugs should be removed from the work area prior to the renovation and the floor beneath would be cleaned as required under this final rule. Therefore, in response to this commenter, EPA has deleted the requirement to vacuum beneath rugs where feasible.

One commenter recommended four options for cleaning carpets: Removing the carpet and pad, cleaning the underlying flooring, then replacing the carpet and pad; shampooing the carpet using a vacuum attachment that removes the suds; steam cleaning the carpet using a vacuum attachment that removes the moisture; or HEPA filtered vacuuming. This final rule seeks to minimize the introduction of lead-based paint hazards to carpeted floors by requiring the certified renovator to cover the floor of the work area with plastic sheeting, carefully clean up and remove the plastic sheeting following work, and thoroughly vacuum the carpet using a HEPA vacuum with a beater bar. EPA believes this containment and cleanup protocol will minimize exposure to lead-based paint hazards created during renovation activities. EPA does not believe a renovation contractor should be responsible for removing and replacing carpet in a home when such a requirement was not within the scope of the renovation project. Also, in contrast to the effectiveness of using a HEPA on carpets, EPA does not have sufficient data on steam cleaning or shampooing to evaluate its effectiveness. Without data to demonstrate the effectiveness of shampooing or steam cleaning carpets EPA is not prepared to require these methods be used in lieu of vacuuming with a HEPA vacuum. EPA further notes that the HUD lead-safe Housing Rule

only requires HEPA vacuuming, not steam cleaning or shampooing.

c. *Vacuums equipped with HEPA filters.* Given that the HUD Guidelines recommend the use of HEPA vacuums and the OSHA Lead in Construction standard requires that vacuums be equipped with HEPA filters where vacuums are used, EPA proposed requiring the use of HEPA vacuums in its proposed work practices. Nonetheless, EPA requested comment on whether the rule should allow the use of vacuums other than vacuums equipped with HEPA filters given. Specifically, EPA requested comment on whether there are other vacuums that have the same efficiency at capturing the smaller lead particles as HEPA-equipped vacuums, along with any data that would support this performance equivalency and whether this performance specification is appropriate for leaded dust cleanup.

i. *Background.* HEPA filters were first developed by the U.S. Atomic Energy Commission during World War II to capture microscopic radioactive particles that existing filters could not remove. HEPA filters have the ability to capture particles of 0.3 microns with 99.97% efficiency. Particles both larger and smaller than 0.3 microns are easier to catch. Thus, HEPA filters capture those particles at 100%. Available information indicates that lead particles generated by renovation activities range in size from over 20 microns to 0.3 microns or less (Ref. 38).

OSHA recently completed a public review of their Lead in Construction standard (Ref. 39). OSHA concluded that the principal concerns regarding HEPA vacuums (i.e., cost and availability) have been significantly reduced since the standard was established in 1994. HEPA vacuum cleaners have an increased presence in the marketplace and their cost has decreased significantly. Therefore, OSHA continues to require the use of HEPA vacuums in work subject to the Lead in Construction Standard.

ii. *Final rule requirements.* Vacuums used as part of the work practices being finalized in this final rule must be HEPA vacuums, which are to be used and emptied in a manner that minimizes the reentry of lead into the workplace. The term "HEPA vacuum" is defined as a vacuum which has been designed with a HEPA filter as the last filtration stage. A HEPA filter is a filter that is capable of capturing particles of 0.3 microns with 99.97% efficiency. The vacuum cleaner must be designed so that all the air drawn into the machine is expelled through the filter with none of the air leaking past it.

iii. *Comments.* Many commenters supported the use of HEPA vacuums. Some of these commenters supported the requirement that they be used because they are also required by the OSHA Lead in Construction standard. One commenter noted that the price of HEPA vacuums had decreased and were no longer significantly more expensive than non-HEPA vacuums.

Another commenter cited the Dust Study, the NAHB Lead Safe Work Practices Survey, and several other studies as supporting the conclusion that lead-safe work practices and modified lead-safe work practices, along with a two-step or three-step cleaning process using a HEPA-equipped vacuum and wet washing, greatly reduce dust lead levels and should be regarded as best management practices for renovation jobs. The commenter notes that the NAHB study found significant reductions in loading levels after cleanup using HEPA-equipped vacuum and then either wet washing or using a wet disposable cleaning cloth mop.

One commenter contended that HEPA vacuums with beater bars were not currently available on the market at the time comments were submitted. However, EPA has been able to identify commercial vacuum manufacturers as well as department store brands that currently offer HEPA vacuums with beater bar attachments.

Several commenters noted that vacuum cleaners other than HEPA vacuums were effective at removing lead dust. They cited several papers which they asserted support their conclusion, including *Comparison of Home Lead Dust Reduction Techniques on Hard Surfaces: The New Jersey Assessment of Cleaning Techniques Trial* (2002) by Rich, *et al* (Ref. 40), a study by the California Department of Health Services (Ref. 41) which the commenter contends concluded that some non-HEPA vacuums performed better than the HEPA units tested, *Comparison of Techniques to Reduce Residential Lead Dust on Carpet and Upholstery: The New Jersey Assessment of Cleaning Techniques Trial* (2002) by Yiin, *et al* (Ref. 42), and *Effectiveness of Clean up Techniques for Leaded Paint Dust* (1992) by the Canadian Mortgage and Housing Corporation (Ref. 43).

The commenter that cited the Rich, *et al* paper contended that the authors found no clear difference between the efficacy of HEPA and non-HEPA vacuums on hard surfaces (non-carpeted floors, windowsills, and window troughs), and found that non-HEPA vacuums appeared more efficient in removing particles on uncarpeted floors, which are the hard surfaces that may

best reflect exposure to children. One commenter stated that given the research literature demonstrates that there is no performance difference in lead dust removal, EPA should allow cleanup with either a HEPA or non-HEPA vacuum. Another commenter contended that a vacuum cleaner retrofitted with a HEPA filter rather than a HEPA vacuum should be required to be used as part of the work practices.

EPA disagrees with the commenters who state that the literature does not demonstrate a difference between HEPA vacuums and non-HEPA vacuums. In the Yiin, *et al* study, the authors stated that for carpets, data from the "[Environmental and Occupational Health Sciences Institute] vacuum sampling method showed a significant reduction (50.6%, $p = 0.014$) in mean lead loading for cleaning using the HEPA vacuum cleaner but did not result in a significant difference (14.0% reduction) for cleaning using the non-HEPA vacuum cleaner." They also note that when they used wipe sampling "the results indicated that neither of the cleaning methods yielded a significant reduction in lead loading." EPA believes the results from the wipe sampling method is less useful because as discussed in Unit III.E.8.iv. of this preamble, the Agency believes that wipe sampling on carpets is not a reliable indicator of the lead-based paint dust in the carpet. The authors report that in their study non-HEPA vacuums were more effective than HEPA vacuums on upholstery but note "[t]he reduced efficiency of the HEPA vacuum cleaner in cleaning upholstery [as compared to carpets] may be, at least partially, due to the lower pre-cleaning dust lead level and the smaller sample data set for the HEPA vacuum cleaner than for the non-HEPA vacuum cleaner."

In the Rich, *et al* study, the authors noted that "On windowsills, the HEPA vacuum cleaner produced 22% (95% CI, 11-32%) larger reductions than the non-HEPA vacuum cleaner, and on the window troughs it produced 16% (95% CI, -4 to 33%) larger reductions than the non-HEPA vacuum cleaner." Not only were the percent reductions greater, the post-cleaning geometric mean lead loadings for the experiments in which the HEPA vacuums were used was lower than the post-geometric mean lead loadings for the experiments in which the non-HEPA vacuums were used. On hard floors, the authors reported that the non-HEPA vacuum removed the largest quantities of lead-based paint dust. They note that this may be due in part to the fact that the initial loadings were higher where the non-HEPA vacuums were used (Pre-

cleaning geometric mean lead loadings were 200 and 155 $\mu\text{g}/\text{ft}^2$ for the two types of experiments where non-HEPA vacuum were used) as compared to the lead loadings for the experiments in which the HEPA vacuum was used (Pre-cleaning geometric mean lead loading of 100 $\mu\text{g}/\text{ft}^2$). However, the post-cleaning geometric mean lead loading for the experiments in which the HEPA vacuum was used was lower than for either of the two types of experiments where non-HEPA vacuums were used. The post-cleaning geometric mean lead loading was lower for each set of experiments in which the HEPA vacuum was used. In considering these data, EPA believes that the data on the post-cleaning lead loadings are particularly important. In assessing the performance of cleaning methods, it is not only the percent reduction that is important but also the ability to clean down to very low levels. Several studies have demonstrated that reducing lead loadings from relatively high levels to about 100 $\mu\text{g}/\text{ft}^2$ is more readily accomplished than reductions below 100 $\mu\text{g}/\text{ft}^2$ and becomes progressively harder at lower levels (Ref. 44).

One commenter stated that EPA did not have sufficient evidence showing that HEPA vacuums are significantly better at removing lead dust than non-HEPA vacuums and cited a Canadian Mortgage and Housing Corporation study from 1992 (Ref. 43). That study was a laboratory study done in a dynamic chamber under controlled conditions and used simulated lead dust. Lead stearate, a compound not typically used in lead-based paint, was used to spike the construction dust used in the experiments. This study has various limitations. It focused on how much of the quantity of lead dust applied to a surface was present in the vacuum bag after vacuuming. There was no assessment of the size of the dust particles collected. Most importantly, the study did not measure the quantity of lead dust that remained on the floor. Without this data, the efficacy of the non-HEPA vacuums cannot be assessed. In addition, the study is not very informative as to what will occur under real world conditions.

Two years later, the same group (Ref. 45) studied 20 test rooms where they produced lead-containing dust by power sanding walls of known lead levels. Four cleaning methods were used, of which only two produced acceptable results. The two cleaning methods that did not produce acceptable clean-ups were: (1) Dry sweeping the floor with a corn broom followed by vacuuming with a utility vacuum; and (2) vacuuming the floor with a household

vacuum cleaner followed by wet mopping with a commercial household cleaner. The other two methods that achieved clean-ups resulting in floors that passed dust clearance testing were: (3) vacuuming the floor with a utility vacuum followed by wet mopping with a 2% solution of a commercial lead-cleaning product, followed by a rinse with clean water; and (4) vacuuming with a HEPA vacuum, followed by wet mopping with trisodium phosphate, followed by a clean water rinse, followed by more vacuuming with a HEPA vacuum. The report concludes that “. . . Cleaning Methods 1 and 2 were inadequate to meet the cleanliness criteria. . .” Later it states “Cleaning Methods 3 and 4 did meet both the current and proposed HUD criteria.”

The same commenter also referred to a report submitted to HUD by the California Department of Health Services (Ref. 41). This study evaluated a range of vacuums. The efficacy of the non-HEPA vacuums varied, particularly in comparison with the HEPA vacuums. The authors of the report did not identify the attributes of the non-HEPA vacuums that were instrumental in determining their effectiveness. At best, vacuums that were effective at picking up and retaining lead-based paint dust could be classified as high performing although there were no criteria that could be discerned on what made a high performing vacuum. The report also states that HEPA models without floor tool brushes performed poorly. This may be the case. The HEPA vacuums used in EPA's Dust Study performed adequately and all of these vacuums were equipped with flip down brushes on the floor tool.

The California report contained another finding of interest. “Of special concern is the direct observation under the scanning electron microscope of lead dust particles dissolving on exposure to water to release large numbers of sub-micron lead particles. Although requiring further study, this effect suggests that vacuuming to remove most of the water soluble lead dust, followed by wet-washing would be the best cleaning strategy.” The cleaning protocol in this final rule follows this strategy by requiring, for all surfaces in and around the work area except for walls, HEPA vacuuming, followed by wet wiping or wet mopping, followed by the cleaning verification protocol.

EPA has determined that the weight of the evidence provided by these studies demonstrate that the HEPA vacuums consistently removed significant quantities of lead-based paint dust and reduced lead loadings to lower levels than did other vacuums.

While there may be some vacuums cleaners that are as effective as HEPA vacuums, EPA has not been able to define quantitatively the specific attributes of those vacuums. That is, EPA is not able to identify what criteria should be used to identify vacuums that are equivalent to HEPA vacuums in performance. The authors of the studies discussed above do not state that the vacuums used are representative of all vacuums nor do they try to identify particular aspects of the non-HEPA vacuums. Thus, EPA does not believe that it can identify in this final rule what types of vacuums can be used as substitutes for HEPA-vacuums. EPA believes it would be ineffective to identify specific makes or models of vacuums (e.g., the ones used in the studies) in this final rule given how quickly manufacturers change models, nor would that take into account new manufacturers.

EPA also disagrees with the commenter that suggested that vacuums that are retrofitted with a HEPA filter should be considered sufficient for purposes of this rule. These vacuums are not necessarily properly sealed or designed so that the air flow goes exclusively through the HEPA filter. EPA agrees with the commenter who stated that HEPA vacuums are vacuums which have been designed for the integral use of HEPA filters, in which the contaminated air flows through the HEPA filter in accordance with the instructions of its manufacturer and for which the performance standard for the operation of the filter is defined. EPA also agrees with those commenters that contended that the rule should contain a more-specific definition of HEPA vacuum. Accordingly, this final rule defines “HEPA vacuum” as a vacuum which has been designed with a HEPA filter as the last filtration stage and includes a description of what the term HEPA means. The definition of “HEPA vacuum” also specifies that the vacuum cleaner must be designed so that all the air drawn into the machine is expelled through the filter with none of the air leaking past it.

Furthermore, EPA agrees that OSHA's requirement that HEPA vacuums should be an important consideration in determining whether HEPA vacuums should be required to be used as part of the work practices being finalized today. Because OSHA's standard covers practically all work subject to EPA's final Renovation, Repair, and Painting program regulations, and applies to all firms having an employee/employer relationship with few exceptions, there is no reason to create a separate standard for those firms not subject to

the OSHA standard, particularly in light of the data on the efficacy of HEPA vacuums versus non-HEPA vacuums discussed above. Even if EPA were able to define vacuums that were acceptable substitutes to HEPA vacuums, it is not clear that the benefits would outweigh the complications associated with creating an EPA standard that is different than that required by OSHA.

7. Cleaning verification. This final rule requires the certified renovator to use disposable cleaning cloths after cleaning both as a fine cleaning step and as verification that the containment and cleaning have sufficiently cleaned up the lead-paint dust created by the renovation activity. Cleaning verification's usefulness is based on the combination of its fine cleaning properties and the fact that it provides feed-back to the certified renovator on the effectiveness of the cleaning. Cleaning verification is an important component of the work practices set forth in this rule and contributes to the effectiveness of the combination of training, containment, cleaning and verification at minimizing exposure to lead-based paint hazards created during renovation, remodeling and painting activities.

a. Background. As described in greater detail in Unit IV.E.2. of the preamble to the 2006 Proposal (Ref. 3), EPA began looking for an alternative to dust clearance sampling that would be quick, inexpensive, reliable, and easy to perform. EPA believed that a verification method was needed because studies have consistently shown that interior visual clearance resulted in a high percentage of false negatives, that is falsely indicating that lead loadings were below the standards used. This occurred even when using a clearance standard of 100 µg/ft².

i. Disposable Cleaning Cloth Study. The Disposable Cleaning Cloth Study used commercially available disposable cleaning cloths to determine whether variations of a “white glove” test could serve as an effective alternative (Ref. 37). White disposable wet and dry cleaning cloths were used to wipe windowsills and wipe floors, then they were examined to determine whether dust was visible on the cloth. This determination was made by visually comparing the cloth to a photographic standard that EPA developed to correlate to a level of contamination that is at or below the dust-lead hazard standard in 40 CFR 745.65(b). Cloths that matched or were lighter than the photographic standard were considered to have achieved “white glove.” This series of studies found that on uncarpeted floors, 91.5% of the surfaces

that achieved “white glove” using only dry cloths were confirmed by dust wipe sampling to be below the dust lead hazard standard for floors, while 97.3% of the floors that achieved “white glove” using only wet cloths were also below the hazard standard. In addition, 10 of the 11 floors where “white glove” was not achieved using dry cloths, and 20 of the 21 floors where “white glove” was not achieved using wet cloths, were nonetheless below the dust lead hazard standard. There were very few instances where “white glove” was achieved but the dust lead level was above the dust lead hazard standard. Thus, the study showed that for floors, the white glove test results were biased towards false positives. Windowsills were also tested. For the dry cloth protocol, 96.4% of the sills that achieved “white glove” were also confirmed by dust wipe sampling to be below the dust lead hazard standard for windowsills, and the one sill that did not achieve “white glove” was also below the standard. For the wet cloth protocol, all of the sills that achieved “white glove” were also below the dust lead hazard standard, as were the four sills that did not reach “white glove.”

Based on the results of the Disposable Cleaning Cloth Study, the 2006 Proposal included for interior renovations, as part of the work practices, a post-renovation cleaning verification process that would follow the visual inspection and cleaning. Cleaning verification would consist of wiping the interior windowsills and uncarpeted floors with wet disposable cleaning cloths and, if necessary dry disposable cleaning cloths, and comparing each to a cleaning verification card developed and distributed by EPA.

ii. *The Dust Study.* The Dust Study (Ref. 17), which is described elsewhere in this preamble, assessed the proposed work practices. As one component of the proposed work practices, the cleaning verification was evaluated in the Dust Study. It should be noted that the Dust Study was not designed specifically to evaluate the cleaning verification in isolation of the rest of the work practices. Unlike the earlier Disposable Cleaning Cloth Study that was intended to test the effectiveness of the use of the “white glove” test in isolation, the Dust Study was meant to evaluate the effectiveness of the proposed work practices, including cleaning verification. Unlike the earlier Disposable Cleaning Cloth Study, the Dust Study involved actual renovations performed by local renovation contractors who received instruction in how to perform cleaning verification and then were left alone to determine

whether cleaning cloths matched or were lighter than the cleaning verification card. In order to maximize the information collected about cleaning verification in the Dust Study, cleaning verification was conducted after each experiment, not just those experiments that were being conducted in accordance with the proposed rule requirements for containment and cleaning.

One of the Dust Study conclusions was that cleaning verification resulted in decreases in lead levels, but was not always accurate in identifying the presence of levels above EPA dust lead hazard standards for floors and sills. This refers to the experiments involving power planing and high temperature heat guns. An examination of the cleaning verification data in the study shows that, if power planing and high temperature heat gun experiments are excluded, the values for post-renovation cleaning verification when the proposed rule work practices were used were at or below the regulatory hazard standard for floors, often significantly below the regulatory hazard standard. These results were similar for windowsills. Excluding power planing and high temperature heat gun experiments, all of the post-renovation cleaning verification windowsill sample averages for experiments conducted in accordance with the proposed rule requirements were below the regulatory dust lead hazard standard for windowsills. In addition, 26 of the 30 other experiments (using only some elements of the proposed containment and cleaning requirements) not involving power planing or high temperature heat guns had post-renovation cleaning verification sill sample averages well below the hazard standards.

b. *Cleaning verification as an alternative to clearance testing.* In determining whether cleaning verification could be seen as a qualitative alternative to clearance testing, EPA considered both the Disposable Cleaning Cloth Study and the Dust Study. Even though the Disposable Cleaning Cloth Study showed that the cleaning verification cloths that reached “white glove” were approximately 91% to 97% likely to be below the regulatory hazard standard, EPA believes the greater variability seen in the Dust Study, particularly in the experiments where the complete suite of proposed work practices were not used does not support the characterization of cleaning verification as a direct substitute for clearance testing. Cleaning verification, when used apart from the other work practices, is not as reliable a test for determining whether the

hazard standard has been achieved as clearance testing. However, the Dust Study supports the validity of cleaning verification as an effective component of the work practices. The cleaning and feedback aspects of cleaning verification are important to its contribution to the effectiveness of the work practices.

c. *Final rule requirements.* Based on a review of the Dust Study and the Disposable Cleaning Cloth Study, EPA concluded that if the practices prohibited in this final rule are avoided and the required work practices are followed, then cleaning verification is an effective component of the work practices. EPA believes that the suite of work practices as a whole are effective at addressing the lead-paint dust that is generated during renovation, repair, and painting preparation activities. Therefore, the final rule does not require dust clearance sampling after any renovations, nor does it allow the signs delineating the work area to be removed based solely on the results of a visual inspection. The final rule does require a certified renovator to perform a visual inspection to determine whether dust, debris, or residue is still present in the work area, and, if these conditions exist, they must be eliminated by re-cleaning and another visual inspection must be performed. In addition, the rule requires that after an interior work area passes the visual inspection, the cleaning of each windowsill and uncarpeted floor within the work area must be verified, as explained below. After an exterior work area passes the visual inspection, the renovation has been properly completed. In response to one commenter who was concerned about the dust that could collect on exterior windowsills during exterior projects, the final rule clarifies that the visual inspection must confirm that no dust, debris or residue remains on surfaces in and below the work area, including windowsills and the ground.

For interior renovations, after the work area has been cleaned and has passed a visual inspection, a certified renovator must wipe each interior windowsill in the work area with a wet disposable cleaning cloth and compare the cloth to a cleaning verification card developed by EPA. If the cloth matches or is lighter than the image on the card, that windowsill has passed the post-renovation cleaning verification. If the cloth is darker than the image on the card, that windowsill must be re-cleaned in accordance with § 745.85(a)(5)(ii)(B) and (C) and the certified renovator must wipe that windowsill with a new wet cloth, or the same one folded so that an unused surface is exposed, and compare it to

the cleaning verification card. If the cloth matches or is lighter than the card, that windowsill has passed. If not, the certified renovator must then wait for one hour after the surface was wiped with the second wet cleaning verification cloth or until the surface has dried, whichever is longer. Then, the certified renovator must wipe the windowsill with a dry disposable cleaning cloth. Based on the Dust Study, EPA concluded that this process need not be repeated after the first dry cloth. At that point, that windowsill has passed the post-renovation cleaning verification process. Each windowsill in the work area must pass the post-renovation cleaning verification process.

The cleaning verification protocol in the final rule is similar to what was in 2006 Proposal. By not requiring the surface to be re-cleaned after the second wet wipe and by ending the cleaning verification process after one dry cloth, this final rule is different from the Proposal. The 2006 Proposal required that the dry cloths be used until one passed verification (i.e., reached "white glove"). EPA's final rule does not require more than one dry cloth because only 3 experiments out of the 60 performed in the Dust Study failed the second wet cloth. None of these 3 experiments were performed in accordance with the requirements of this final rule; all experiments performed in accordance with the requirements of this final rule passed after either the first or second wet cloth. Based on the Dust Study, it is unlikely that dust containing lead will remain in excess of the hazard standard following two wet and one dry wipes; however EPA is concerned about the possibility of requiring potentially indefinite cleaning by renovation contractors, with the potential of making them responsible for cleaning up pre-existing dirt or grime, whether lead-contaminated or not.

After the windowsills in the work area have passed the post-renovation cleaning verification, a certified renovator must proceed with the cleaning verification process for the floors and countertops in the work area. A certified renovator must wipe no more than 40 ft² of floor or countertop area at a time with a wet disposable cleaning cloth. For floors, the renovator must use an application device consisting of a long handle and a head to which a wet disposable cleaning cloth is attached. If the floor and countertop surfaces in the work area exceed 40 ft², the certified renovator must divide the surfaces into sections, each section being no more than 40 ft², and perform the post-renovation

cleaning verification on each section separately. If the wet cloth used to wipe a particular section of surface matches or is lighter than the image on the cleaning verification card, that section has passed the post-renovation cleaning verification. If, however, on the first wiping of a section of the surface, the wet cloth does not match and is darker than the image on the cleaning verification card, the surface of that section must be re-cleaned in accordance with § 745.85(a)(5)(ii)(B) and (C). After re-cleaning, the certified renovator must wipe that section of the surface again using a new wet disposable cleaning cloth. If the second wet cloth matches or is lighter than the image on the cleaning verification card, that section of the floor has passed. If the second wet cloth does not match and is darker than the image on the verification card, the certified renovator must wait for 1 hour or until the surface has dried, whichever is longer. Then, the certified renovator must wipe each of those 40 ft² sections of the floor or countertop surfaces that did not achieve post-renovation cleaning verification using the wet cloths with a dry disposable cleaning cloth. On floors, this wiping must also be performed using an application device with a long handle and a head to which the dry cloth is attached. At that point, the floors and countertops have passed the post-renovation cleaning verification process and the warning signs may be removed.

In finalizing the work practices in this final rule, EPA has taken into consideration safety, reliability and effectiveness. EPA has concluded that these work practices, including cleaning verification, are an effective and reliable method for minimizing exposure to lead-based paint hazards created by the renovation, both during and after the renovation.

d. *Comments.* EPA received many comments on cleaning verification. The majority of the comments supported the use of dust wipe clearance testing and did not consider cleaning verification as a suitable substitute. Some of these commenters supported the use of dust wipe clearance testing for purposes of clearance. Some commenters did not support either dust wipe clearance testing or cleaning verification; they contended that visual inspection alone was sufficient and that dust clearance testing is too costly. Others questioned whether cleaning verification had been demonstrated to be valid, reliable, and effective in establishing that the work area had been adequately cleaned or that the clearance standards were met. Some contended that the cleaning

verification method showed promise, but should be subjected to additional testing, including field trials, to demonstrate its effectiveness when used by certified renovators. A minority of commenters supported the use of cleaning verification. Some supported its use rather than dust wipe-clearance testing and clearance, particularly given that renovations are not intended to remove lead-based paint. Some supported cleaning verification because it is faster, easier to implement, and less expensive than clearance testing.

i. *Cleaning verification is not a substitute for clearance testing.* Many commenters contended that cleaning verification is not a substitute technology for dust-wipe clearance testing and should not be used in this manner. EPA agrees with the commenters. As discussed in Unit III.E.8.b., based on a careful consideration of the Disposable Cleaning Cloth Study and the Dust Study, EPA has concluded that, in itself, cleaning verification should not be used as a substitute for dust wipe clearance testing.

ii. *Dust clearance testing and clearance.* Many commenters asserted that the rule should require dust clearance testing instead of the cleaning verification. Some further contended that dust clearance testing is the only proven method for verifying lead dust levels. Others supported the use of dust wipe clearance testing for purposes of clearance for the renovation. One commenter noted that even when dust clearance testing is performed it is not uncommon for clearance to be conducted up to three times on a home to make sure that lead levels are sufficiently low. Some commenters suggested that cleaning verification be used as a screen before dust clearance testing. Other commenters contended that dust clearance testing should not be required because it is expensive and time consuming and is an obstacle to completing the renovation job. Other commenters contended that dust clearance testing has been done in some jurisdictions quickly and relatively inexpensively. A few commenters contended that EPA should not require dust clearance testing because there is a difference between abatement, which is intended to eliminate lead-based paint hazards, and renovations in which the focus should be to not create any new lead-based paint hazards. Some commenters asserted that dust clearance testing should not be required because this would result in the renovator being responsible for existing lead-based paint hazards. One commenter used the example of a window replacement

project to illustrate this point. The commenter argued that, where the floor in the work area is in poor condition but outside the scope of the renovation contract, the window replacement contractor should not be responsible for making sure the floor passes a clearance standard, which may not be possible without modifying the floor.

EPA disagrees that dust clearance testing and clearance should be components of the renovation activities subject to this final rule. Dust clearance testing is used in abatement to determine whether lead-based paint hazards have been eliminated. This test is part of a specific process that involves a specialized work force (e.g., inspector, risk-assessor), typically removal of residents, and modifications to the housing in some instances to eliminate lead-based hazards (e.g., removing carpet or refinishing or sealing uncarpeted floors). Dust clearance testing is needed to determine if lead-based paint hazards have been eliminated and residents can re-occupy a house and not be exposed to lead-based paint hazards. As noted by a commenter, a home may require clearance testing be conducted up to three times before the home is determined to be free of lead-based paint hazards and it may require that floors be refinished or that carpets be replaced.

The Disposal Cleaning Cloth Study showed that wet wipes can pick up accumulated grime from floors. Applying this to the renovation context, if EPA were to require clearance, renovators might be held responsible for cleaning up pre-existing lead dust hazards that had accumulated in the grime on the floor. Based on the Dust Study, EPA has determined that all of the leaded dust generated by the renovation will have been cleaned up by two wet wipes followed by one dry wipe, where necessary. EPA is concerned about the possibility of requiring potentially indefinite cleaning by renovation contractors, with the potential of making them responsible for cleaning up pre-existing dirt or grime, whether lead-contaminated or not. Even assuming EPA has authority to require replacement of carpets and floors under some circumstances as part of a renovation project, EPA does not think as a policy matter that such an approach in which pre-existing hazards must be eliminated is appropriate. It could fundamentally change the scope of a renovation job. The time and cost of conducting clearance testing and achieving clearance is an acceptable part of the time and cost of conducting the abatement given the goal of an

abatement, the range of activities that are inherent in an abatement, and the activities that are required to be conducted to achieve clearance. Given the effectiveness of the work practices being finalized in this rulemaking, including the role of cleaning verification in minimizing exposure to lead-based paint dust generated during renovations, dust clearance testing does not provide the added value to balance the time and effort and the cost to home and building owners associated with requiring this additional step to the work practices.

As discussed in Unit II.A.6.b., there are many differences between renovations and abatements. Renovations are different from abatements in intent, implementation, type of workforce, workforce makeup, funding, and goal. Renovations are focused not on eliminating lead-based paint hazards, but rather on making repairs or improvements to a building. The vast majority of abatements are either done with funding from HUD and/or a State or local government. In addition, residents are not typically present in a residence during an abatement while they are typically present in a residence during a renovation. Thus, the purpose of dust wipe clearance testing and clearance would necessarily be different if it were used in a renovation than in an abatement. For abatements, clearance testing and clearance are used to minimize potential exposure by eliminating lead-based paint hazards after completion of the job. Clearance acts as the means to ensure that minimization and signal the end of the job. For renovations, given the presence of residents, the concern is for potential exposure both during and after the job. Dust clearance testing and clearance would only address the second part of the exposure equation. Thus, dust clearance testing conducted after renovation activities have been completed would not provide the equivalent determination of potential exposure that it does for abatement. EPA has considered this difference as one factor in its determination that given the effectiveness of the work practices being finalized in this rulemaking, including the role of cleaning verification in minimizing exposure to lead-based paint dust generated during renovations, dust clearance testing does not provide the added value to balance the time and effort and the cost to home and building owners associated with requiring this additional step to the work practices.

Although renovators should be required to address lead-based paint dust generated by renovation activities,

the Agency is not requiring renovators to take the actions required under the abatement rules to achieve clearance for lead-based paint dust not associated with the renovation and to address housing conditions not associated with the renovation.

EPA agrees that having dust wipe samples collected by a qualified laboratory and analyzed by a qualified laboratory is an effective way to determine the quantity of lead in dust remaining after a renovation activity, but it would not necessarily show that the dust was due to the specific renovation activity. EPA also notes that in addition to providing a numerical value, dust clearance testing costs more than cleaning verification and takes longer to produce results. Results can take from 24 to 48 hours or longer and cleaning, sampling and analysis may have to be repeated depending upon the initial results. During this period, the warning signs delineating the work area would need to be maintained to protect occupants and others from the risk of exposure to lead-based paint hazards created by the renovation. Thus, EPA believes that dust clearance sampling is a poor fit for renovation work for a variety of reasons, including the greater expense associated with clearance testing, the time necessary to obtain the results of the testing and the consequent delay in the completion of the job, and the potential to expand the scope of the renovation.

EPA believes that dust clearance testing and clearance are not necessary given that the Dust Study demonstrates that cleaning verification, as an effective component of the work practices, minimizes exposure to lead-based paint hazards created by the renovation, both during and after the renovation. The cleaning and feedback aspects of cleaning verification are important to its contribution to the effectiveness of the work practices. EPA notes that unlike dust wipe clearance testing in which a small part of the work area would be tested, cleaning verification is conducted over the whole work area. Each repetition of the cleaning verification protocol further cleans the surface.

The work practices, including cleaning verification, required by this final rule are expected to minimize exposure to any newly created lead-based paint hazards created by a renovation by removing newly deposited dust, while requiring cleanup of pre-existing hazards only incidentally, to the extent such cleanup is unavoidable to address the newly created hazards. The Dust Study demonstrates that the cleaning verification protocol, used in

conjunction with the other work practices in this final rule, is effective and reliable in achieving this result.

While the requirements of this rule will, in some cases, have the ancillary benefit of removing some pre-existing dust-lead hazards, it strikes the proper balance of addressing the lead-based paint hazards create during the renovation but at the same time not requiring renovators to remediate or eliminate hazards that are beyond the scope of the work they were hired to do.

iii. *Visual inspection in lieu of cleaning verification.* Some commenters urged EPA to require only visual inspection of the work area after the cleaning following a renovation. They contend that cleaning verification is not needed. Some commenters argued that thorough cleaning in combination with a requirement that no visible dust or debris remain is adequate to address the lead dust created by the renovation activity. Most of these commenters also noted that because renovation and abatement are different that it would be inappropriate for EPA to impose additional requirements on renovation firms beyond visual inspection. Some commenters contended that the lead dust from a renovation is usually in the form of debris such as chips and splinters that can be seen with the naked eye, and the presence of this debris is an indicator to workers that the job site requires additional cleaning until no visible debris remains.

One commenter contended that cleaning after the renovation activity until the worksite passed a visual inspection was the most important determinant of whether a job would pass a dust clearance test. In support of this contention, the commenter cited the Reissman study (Ref. 22). The commenter contended that the study demonstrates that when there was no visible dust and debris present after completion of renovation or remodeling activity, there was no added risk of a child having an elevated blood lead level as compared to the risk for children living in homes where there was no reported renovation or remodeling work.

Two commenters offered an analysis of two sets of data collected by an environmental testing firm. One dataset consists of post-renovation dust samples collected in Maryland apartment units; the other consists of dust samples collected for risk assessment purposes in 41 states. No information on renovation activity is provided for the second dataset. The commenters argue that because 96.7% of the Maryland post-renovation samples and 96.1% of the other samples were below the

applicable hazard standard for the surface (floor or windowsill) tested, this suggests that visual inspection in those cases was sufficient to ensure that no dust-lead hazard existed.

One commenter cited the Dust Study (Ref. 17), the NAHB Lead Safe Work Practices Survey (Ref. 19), and several other studies as supporting the conclusion that lead-safe work practices and modified lead-safe work practices, along with a two-step or three-step cleaning process using a HEPA-equipped vacuum and wet washing, greatly reduce dust lead levels and should be regarded as best management practices for renovation jobs. The commenter notes that the NAHB study found significant reductions in loading levels after cleanup using HEPA-equipped vacuum and then either wet washing or using a wet mopping system. The commenter argues that if the work area is cleaned using these practices, it is appropriate to adopt a visual clearance standard allowing no visible dust or debris in the work area at the conclusion of the job.

Other commenters contended that visual inspection following cleaning after a renovation is not a reliable method for determining whether a lead-based paint hazard remains after cleaning. Some commenters cited a study conducted by the National Center for Healthy Housing (NCHH) showing that 67% of the visual inspections that initially passed failed when checked more carefully and 54% that eventually passed a visual inspection were found to be above the hazard standard. However, one commenter contended this was a poorly conducted study. Another commenter referred to the study "An Evaluation of the Efficacy of the Lead Hazard Reduction Treatments Prescribed in Maryland Environmental Article 6-8" conducted by NCHH for the Baltimore City Health Department in which 53% of housing identified by visual inspection as being below the hazard standard was actually above the hazard standard. Another commenter argued that NIOSH research indicates that significant lead contamination may remain on surfaces that appear clean.

During inter-Agency review, one commenter pointed to 2007 studies from Maryland and Rochester, New York that they contend show trained workers and visual inspection for dust and debris can achieve 85–90% compliance with the hazard standards following renovations in previously occupied housing. Given the lateness of the submission, EPA did not review this information. However, EPA notes that in a cover letter, the commenter states that the 2007 Maryland Study was

conducted by workers that had taken a 2-day training course, which is more training than required by this rule. Even if the studies do demonstrate this effectiveness by highly trained workers, EPA does not believe that a 85–90% effectiveness is sufficiently protective for residents.

EPA disagrees with those commenters that contended that a visual inspection following cleaning after a renovation is sufficient to ensure the lead-based paint dust generated by a renovation has been sufficiently cleaned-up. The weight-of-the-evidence clearly demonstrates that visual inspection following cleaning after a renovation is insufficient at detecting dust-lead hazards, even at levels significantly above the regulatory hazard standards. Further, EPA disagrees with the implication that easily visible paint chips and splinters are necessarily the primary materials generated during a renovation. EPA studies, including the Dust Study, show that renovation activities generate dust as well as chips and splinters. Finally, EPA disagrees with those commenters who requested the work practices in this final rule not include any verification beyond visual inspection. In the Dust Study, there were 10 renovations performed in accordance with the 2006 proposed work practices that did not involve practices prohibited by this final rule. Of those 10 renovations, 5 needed the additional cleaning verification step in order to achieve EPA's regulatory dust-lead hazard standards for floors. (EPA notes that the Dust Study Protocol did not explicitly specify that all dust and debris be eliminated prior to the cleaning verification step, only that visible debris be removed. However, the contractor running the study for EPA reported that, in practice, the renovators participating in the study eliminated all visible dust and debris as part of their typical cleaning regimen. Thus, the study protocol was slightly different from the rule requirements, which state that the renovation firm must remove all dust and debris and conduct a visual inspection before beginning the cleaning verification procedure.)

EPA does not believe that the Reissman, *et al.* study is supportive of the contention that visual inspection of the work area is sufficient because it did not evaluate the effectiveness of a visual inspection requirement. The study did not measure dust lead levels, which are the basis for this rule. Instead, it characterized the relationships between elevated blood lead levels and renovation dust and debris that spread throughout the housing. EPA notes that Reissman, *et al.* concluded that there

was a correlation between renovation activities and elevated blood lead levels.

EPA concluded that the dataset referenced by one commenter that consists of dust samples collected for risk assessment purposes in 41 States is not informative because there was no information on renovation activity collected with these dust samples. With respect to the Maryland renovation study, 96.7% is an overstatement. The author who conducted the analysis stated that:

[W]hen the maximum test values are examined rather than the mean, 9.8% of the MD sample and 12.5% of the national sample of properties with LBP surpassed at least one of the hazard thresholds of 40 µg/sf for floors and 250 µg/sf for sills. As illustrated in Exhibit 1, a fairly sizable percentage of the lead tests exceed the clearance thresholds. The failure rates are about 20 percent lower for Maryland than for the national LBP sample. However, even for Maryland, nearly one in ten apartments would fail the hazard test.

Thus, even if these were the only data available, it would not support the conclusion that visual clearance is effective.

After reviewing the NAHB Lead Safe Work Practices Survey, EPA concluded that it does not support the contention that visual inspection is sufficient to detect whether lead-based paint dust remains. While EPA agrees that use of a HEPA-vacuum and wet-washing are effective at cleaning lead-based paint dust, this does not support the case for relying on visual inspection without subsequent cleaning verification. In the NAHB study, the levels of lead-based paint dust that remained after the renovation activities were sometimes higher and sometimes lower than at the start of the renovation, but they were always at relatively high levels after the renovation--as high as 11,400 µg/ft².

In addition, the two studies conducted by the National Center for Healthy Housing as noted by commenters demonstrate that visual inspection was not effective at determining the presence of dust-lead hazards. The study "Evaluation of the HUD lead-Based Paint Hazard Control Grant Program" study conducted by NCHH corroborates these findings.

iv. Carpets and other horizontal surfaces within the work area. Some commenters were concerned that cleaning verification is not intended for use on carpeted floors. They were not confident that thorough cleaning was adequate to address potential lead hazards that might remain in carpet after the renovation. One commenter pointed to studies showing a significant correlation between dust lead in carpets and children's blood lead. As cleaning

verification is not required for carpet, commenters criticized the lack of a required method for determining that lead hazards in carpet had been eliminated. Commenters suggested EPA require clearance testing for carpeted rooms in the work area, which some argued has been demonstrated to be effective, or rely on the HUD protocol, which they asserted is widely accepted and used.

As discussed in detail in Unit IV.E. of the preamble to the 2006 Proposal, EPA did not design cleaning verification for use on carpeted floors. This was based on EPA's concerns about the validity of dust wipe sampling on carpeted floors. EPA noted that the decision to apply the clearance standard promulgated in the TSCA section 403 rulemaking to carpeted floors ultimately had little consequence, given the context in which clearance standards are used--to ensure that lead-based paint hazards have been eliminated. Typically, during an abatement, carpets that are in poor condition or are known to be highly contaminated are removed and disposed. EPA further notes that the HUD Lead-safe Housing Rule only requires HEPA vacuuming, not steam cleaning or shampooing.

While an abatement might require the removal of a lead-contaminated carpet, EPA has concluded that it is not appropriate to require carpet removal following a renovation. Even assuming EPA has authority to require removal of carpet following a renovation, this could significantly expand the cost of a renovation, and fundamentally expand the scope of the renovation activity contracted for by the homeowner or building owner by requiring removal of carpets as a result of pre-existing lead contamination.

Dust Study data on containment and information on the effectiveness of HEPA vacuums show that the use of containment and post-renovation cleaning with HEPA vacuums to remove the lead-based paint dust potentially deposited on the carpets during the renovation would reliably and effectively address lead-based paint dust generated during a renovation. Thus, rather than rely upon a dust clearance sample that may not be accurate and may require the replacement of the carpet for renovation projects in which a carpet is present, EPA is finalizing the work practices which require containment and the use of a HEPA vacuum equipped with a beater bar for cleaning.

In the absence of a practical, effective way of determining how much lead dust has been added to a carpet and whether it has been fully removed, EPA is

adopting a technology-based approach for carpets that differs from the approach used for hard-surfaced floors, by requiring use of a HEPA vacuum with a beater bar. EPA is not aware of, and commenters have not identified, a practicable approach similar to the one EPA has adopted for floors as a basis to evaluate the results of the application of work practice standards to carpets. In the absence of such an approach, EPA believes the approach adopted today is the most effective, reliable approach available for minimizing potential lead-based paint hazards in carpets created by renovations.

One commenter suggested that cleaning verification be required on other horizontal surfaces within the work area, in addition to windowsills and uncarpeted floors. EPA agrees with this commenter because the Dust Study demonstrated that, in nearly all cases, the cleaning verification step resulted in lower dust lead levels and, in most cases, the verification step was needed in order to achieve cleanup of all of the leaded dust deposited on the floors by the renovation. EPA is also concerned about the possible contamination of surfaces that are used to prepare, serve, and consume meals. EPA expects that movable surfaces, such as tables and desks, will be moved from the work area before work begins. Therefore, EPA has modified the rule to require cleaning verification on all countertops in the work area.

v. Reliability of cleaning verification. EPA received comments prior to the 2007 request for comments on the proposed work practices in light of the Dust Study. Those pre-Dust Study comments are summarized here. Commenters questioned whether cleaning verification had been demonstrated to be valid, reliable, effective, or efficient in establishing that the work area had been adequately cleaned or that the clearance standards were met. Some commenters contended that the cleaning verification method showed promise, but should be subjected to additional testing, including field trials, to demonstrate its effectiveness when used by certified renovators. Commenters on the 2006 Proposal observed that the cleaning verification protocol was supported by a single study that was conducted under conditions unlike those presented by the typical renovation. Specifically, a commenter noted that most of the housing units studied had undergone some form of abatement that would likely have reduced dust levels and the study used professional inspectors or other highly trained individuals to collect the samples according to

specified protocols. The commenter was concerned that a renovator with no experience with sample collection and little training could replicate the work of the professionals used in the study. The commenter pointed out that the study avoided testing the procedure on rough surfaces, a condition that will frequently occur in real world applications, and used a different set of wipe protocols than actually utilized by the EPA in the 2006 Proposal. Another commenter on the 2006 Proposal noted that cleaning verification had never been employed in a real-world practical setting. In addition, some of these commenters contended that the cleaning verification protocol was too complicated or too confusing to follow.

A number of commenters who provided comments in response to EPA's request for comments on the proposed work practices in light of the Dust Study quoted the sentence in the conclusion section of EPA's Dust Study that states that the cleaning verification protocol was not always accurate in identifying the presence of levels above EPA standards for floors and sills. Some of these commenters also noted the Dust Study report's discussion of factors that affected the effectiveness of cleaning verification, such as floor condition, contractor performance, job type, and dust particle characteristics. One commenter observed that while all interior experiments resulted in final passed cleaning cloths for all floor zones and for all windowsills, nearly half of the experiments in the study ended with average work room floor lead levels above EPA's dust lead hazard standard for floors of 40 $\mu\text{g}/\text{ft}^2$. The Clean Air Scientific Advisory Committee, while not asked to comment on the efficacy of the cleaning verification, contended that in the Dust Study cleaning verification did not provide sufficiently reliable results, leading to an inaccurate assessment of cleaning efficiency.

EPA disagrees with these commenters. The Dust Study did provide a real-world practical setting in which to assess the use of cleaning verification. Local renovation contractors performed actual renovations for each experiment in the study. The contractors performed cleaning verification on floors of wood, vinyl, or tile, in good, fair, or poor condition. The Dust Study used the protocols that were consistent with those in the 2006 Proposal. While the Dust Study was not designed specifically to assess cleaning verification, it did assess the effectiveness of cleaning verification both when it was used as part of the proposed rule work practices and as a

separate step after the other experiments which did not follow all the proposed work practices. Each experiment included a cleaning verification step. The contractors were instructed in how to perform cleaning verification. They independently determined whether particular cloths matched or were lighter than the cleaning verification card. In most renovations not involving the practices that EPA is prohibiting in this rule, i.e., power planing (power sanding) and high temperature heat guns, cleaning verification in combination with the other work practices were effective at reducing dust lead levels on surfaces to or below the dust lead hazard standards, regardless of the condition of the floor. Cleaning verification, as well as the other components of the work practices being finalized today were not effective when high dust generation practices such as power planing (including power sanding) and high temperature heat guns were used. These practices, as well as torching, are being prohibited in this rulemaking. Thus, EPA, in its determination on the effectiveness of cleaning verification, is focusing on the results of the experiments in the Dust Study that did not involve these prohibited practices.

Of the 10 experiments in which the proposed rule practices were used and in which the practices being prohibited in this final rule were not used, all final lead-based paint dust levels were at or below the regulatory hazard standard (taking into account the accepted level of uncertainty, i.e., within plus or minus 20%, which is the performance criteria for the National Lead Laboratory Accreditation Program). In fact, four experiments resulted in levels that were less than 10 $\mu\text{g}/\text{ft}^2$, three resulted in levels less than 30 $\mu\text{g}/\text{ft}^2$, and three resulted in levels that were approximately 40 $\mu\text{g}/\text{ft}^2$ (all were well within the level of uncertainty for this value). In four of the experiments, at least one floor area failed verification on the first wet disposable cleaning cloth, all passed on the second wet cloth. In one of the experiments, a windowsill failed the first wet cloth, but passed the second. These results were seen on floors in a variety of conditions, including good, fair and poor conditions. As a general case, in the other experiments that did not follow all the proposed work practices, the use of cleaning verification after cleaning (both baseline cleaning and cleaning following the proposed work practices) reduced, often significantly, the amount of lead dust remaining.

EPA agrees with commenters that cleaning verification should not be used

for clearance. However, while cleaning verification is not clearance testing, as described above the use of cleaning verification consistently resulted in levels of lead-based paint dust at or below the hazard standard. Also, the use of cleaning verification consistently resulted in lower levels of lead-based paint dust than remained after all types of cleaning studied when only followed by visual inspection. There is sufficient consistency in the data to support the use of cleaning verification as an effective component of the work practices being finalized today.

In response to the comment that the Disposable Cleaning Cloth Study used professional inspectors or other highly trained individuals following specified protocols, EPA intends to include cleaning verification in its training course for renovators and will use the results of the Dust Study and the Agency's observations on the experience of the contractors in the study in its development of this course.

vi. *Subjectivity of cleaning verification.* Many commenters objected to the "white glove" standard as inherently subjective, and doubted whether it would be protective. The commenters were concerned that the effectiveness of cleaning verification relies upon a renovation worker's understanding and application of the protocol, ability to define the floor sampling area or areas, and use of the cleaning verification card to determine whether a surface has been adequately cleaned. One commenter contended that, based on its experience as a sub-contractor to EPA on the Disposable Cleaning Cloth Study, making the visual pass/fail determination can be quite subjective and open to interpretation. The commenter believes that it may be unrealistic to expect that renovation workers will consistently make the proper decision using the proposed verification card. Some commenters speculated that the renovator's accuracy in comparing the cleaning cloth to the verification card could depend on factors such as the renovator's visual acuity, the lighting in the room, or simply differences in judgment among renovators. Another commenter thought that the lack of corrections for surface conditions, the experience of the person conducting the visual assessment, or pre-existing conditions might bias the results of testing.

EPA agrees that visual comparison of a cleaning cloth to a cleaning verification card has an element of subjectivity because the visual comparison of cloth to card requires some exercise of judgment on the part of the person doing the comparing.

However, this does not necessarily mean that the comparison is suspect. As previously stated, the Dust Study represents a real-world test of the ability of renovators to learn how to do cleaning verification and to apply it in the field. Although one participant in the Dust Study expressed concern about the subjectivity of the test, the fact remains that cleaning verification was successfully performed by the renovation contractors in all of the experiments involving the work practices being finalized in this final rule (excluding those involving power planing (power sanding) and high temperature heat guns) and was predictive of whether renovators had cleaned-up the lead-based paint hazards created during the renovation activity to the dust-lead standard, particularly when the proposed work practices were used. These cleaning verifications were conducted by various persons in various light conditions and on various surface conditions. Further, EPA notes that cleaning verification is not simply qualitative clearance. Unlike the sampling for dust clearance testing, the cleaning verification involves a cleaning component. The act of doing the cleaning verification has been shown to lower, often significantly, the dust lead levels. Finally, in the development of its training course for contractors, EPA plans to use its data on the contractors' use of cleaning verification in the Dust Study, including their use of the cleaning verification cards.

vii. *Cost of cleaning verification.* Some commenters were concerned that the cleaning verification protocols are too impractical, burdensome, or time-consuming for many contractors to perform. However, the Dust Study found that cleaning verification only took, on average, slightly less than 13 minutes for experiments where the proposed rule requirements were followed. EPA's Final Economic Analysis estimates that the average cost of cleaning verification ranges from less than \$10 to \$30 in residences, and in public and commercial building COFs it ranges from less than \$10 to less than \$50.

viii. *Availability of cleaning verification card.* One commenter asked about the availability of the cleaning verification card, specifically, who would produce them, where would they be available, and how often do they need to be replaced. EPA intends to produce the cleaning verification cards and to make them available at accredited renovator training courses and upon request from the National Lead Information Center.

ix. *Third-parties.* Several commenters argued that a third party should perform cleaning verification (or visual inspection, in the case of exterior jobs) rather than the certified renovator. Commenters saw a conflict of interest, since by performing the cleaning verification the certified renovator is evaluating the effectiveness of his or her own work. Some thought the subjective nature of the method left it open to misinterpretation or fraud. Commenters were concerned that given the competitive pressures of the renovation industry and lack of independent oversight, it was not realistic to expect all renovators to follow the cleaning verification protocol in good faith. Others worried that a renovator might feel pressured to produce a passing result, perhaps to the point of recording false results. One commenter stated that those who would not comply with the cleaning procedure are unlikely to comply with cleaning verification.

Again, as described above, EPA addressed potential conflicts-of-interest in its lead-based paint program in the preamble to the final Lead-based Paint Activities Regulations. That discussion outlined two reasons for not requiring that inspections or risk assessments, abatements, and post-abatement clearance testing all be performed by different entities. The first was the cost savings and convenience of being able to hire just one firm to perform all necessary lead-based paint activities. The second was the potential regional scarcity of firms to perform the work. EPA believes that these considerations may be equally applicable to renovations, and perhaps more compelling, given the objective of keeping this rule simple and relatively inexpensive. EPA is concerned that a requirement that contractors engage a third party for every renovation job will add undue complication and expense to home renovations, and that it could delay completion of renovation jobs. There are estimated to be 8.4 million renovation events annually. Moreover, as stated above, it is not uncommon for regulated entities to make determinations relating to their regulated status. Thus, after weighing these competing considerations, EPA has decided to take an approach that is consistent with the approach taken in the 402(a) Lead-based Paint Activities Regulation and not require third party visual inspections, testing, or cleaning verification.

x. *Relationship between cleaning verification and the regulatory lead-based paint hazard standards.* Some commenters contend that cleaning verification is not protective because it

was designed to pass based on the regulatory hazard standard for floors. These commenters contend that this level is too high to be protective and that continuing to use this level is unwarranted given more recent data that demonstrates that lead causes neurocognitive effects at levels much lower than 10 µg/dL, the current CDC blood lead level of concern which was used in establishing the regulatory hazard standards.

EPA interprets the statutory directive to take into account safety when promulgating work practice standards as meaning that such work practice standards should be established in relation to lead-based paint hazards—as identified pursuant to TSCA section 403. There is no level of lead exposure that can yet be clearly identified, with confidence, as clearly not being associated with potentially increased risk of deleterious health effects. EPA does not believe the intent of Congress was to require elimination of all possible risk arising from a renovation, nor is EPA aware of a method that could reliably and effectively accomplish this. Given that the hazard standards are the trigger for regulation under section 402(c)(3) and that they are set through rulemaking, EPA has concluded that it makes most sense to use the same standards as the target level for safe work practices. Otherwise, the potential is created for a scheme under which any renovation activities found not to create hazards are not regulated at all, whereas renovation activities found to create hazards trigger requirements designed to leave the renovation site cleaner than the unregulated renovations. Given the Congressional intent that the section 403 hazard standards apply for purposes of subchapter IV of TSCA, EPA is applying them as the target level for safe work practices, which include the cleaning verification process, in this rule.

8. *Consistency with HUD.* Several commenters recommended that EPA adopt HUD's clearance requirement for activities other than abatement, which some commenters noted has been successfully implemented in projects in federally assisted housing. One pointed out that renovators have accepted HUD's clearance testing protocol, and implementing the "white glove" method will cause confusion in the industry and give contractors a reason for not following lead-safe work practices. A commenter recommended that EPA adopt HUD's standard for exterior clearance of visual inspection of the work area and a soil test. Commenters expressed concern that the final rule could undermine more stringent State

and local standards, and asked EPA to make clear that more stringent state and local requirements for clearance would apply despite the lack of mandatory clearance in the final rule.

This final regulation does not supersede more stringent or different requirements for interim control projects or renovations regulated by HUD, the States, or local jurisdictions. Renovation firms are still responsible for complying with all applicable Federal, State, or local laws when conducting renovations. In some cases, this may mean that dust clearance testing must be performed at the conclusion of a renovation rather than cleaning verification. EPA believes that renovation firms will be able to integrate these new requirements into their existing business practices with very little difficulty.

EPA also notes that the scope of the housing covered by HUD is different than the scope covered by this final rule. As noted by the commenter, HUD covers activities in projects in federally assisted housing. The occupancy patterns, including turn-over, will be different than in the general population covered by this final rule. While there is some overlap, there are substantial differences. Thus, EPA believes that total consistency with HUD is not needed.

9. *Optional use of clearance.* In the 2006 Proposal, EPA proposed to allow optional dust clearance sampling at the completion of renovation activities instead of the post-renovation cleaning verification described in § 745.85(b). Some commenters agreed that the decision whether to perform clearance at the conclusion of the job should be left to the homeowner. One commenter asked EPA to require that, if a resident arranged for clearance testing and found lead hazards, the contractor would have to re-clean to the resident's satisfaction.

As discussed, dust clearance sampling and cleaning verification are not surrogates and EPA is not requiring renovation firms to perform an abatement, i.e., eliminate all lead-based paint hazards, as part of a renovation. The Dust Study demonstrated that cleaning verification is quite often needed to minimize exposure to dust-lead hazards created during renovations. EPA is concerned that if dust clearance sampling were allowed instead of cleaning verification, without an accompanying requirement that the renovation firm re-clean until clearance is achieved, the rule would actually be less protective because the surfaces in the work area could be left less clean than if cleaning verification were performed.

In response to these comments, EPA has further considered the issue and decided to allow dust clearance sampling instead of cleaning verification only in certain limited situations. EPA agrees with the commenters that, if the rule were to allow clearance sampling instead of verification, EPA would have to require the renovator to achieve clearance, otherwise, there would be no check on whether the renovation had been safely performed. HUD's Lead Safe Housing Rule requires clearance to be achieved in many situations, as do several States. For example, the State of New Jersey requires dust clearance sampling and clearance in certain situations in multi-unit rental housing. As noted in Unit III.G. of this preamble, States, Territories, and Tribes may choose to have as protective as or more protective requirements than this final rule. One example of a more protective requirement would be a requirement to perform dust clearance testing and achieve clearance after renovations. Another example may be requiring that trained renovation workers demonstrate achievement of clearance levels by other cleaning verification methods, such as using newer technologies. If a firm can demonstrate, for example, using data obtained in the field, that it regularly meets the clearance standards without using the EPA specified approach but rather by using newer technology or alternative methods, a State may request that EPA evaluate such a provision as being as protective as or more protective than the methods described in this final rule.

Therefore, in situations where the contract between the renovation firm and the property owner or another regulation, such as HUD's Lead-Safe Housing Rule or a state regulation, requires dust clearance sampling by a properly qualified person and requires the certified renovator or a worker under the direction of the certified renovator to re-clean until clearance is achieved, EPA will allow the renovation firm to use both dust clearance testing and clearance instead of the cleaning verification step.

Property owners in other situations may still choose to perform dust testing at any time, such as after a renovation, including cleaning verification, has been completed. EPA recommends that property owners who choose to have dust testing performed use certified dust sampling professionals such as inspectors, risk assessors, or dust sampling technicians. EPA also recommends that property owners who wish to have dust testing performed after a renovation reach an agreement

with the renovation firm up front as to what will happen based on the results of the dust testing, such as whether additional cleaning will be performed if the surfaces do not achieve the clearance standards in 40 CFR 745.227(e)(8)(viii).

F. Recordkeeping for Renovation Firms

1. *Recordkeeping—a. Pre-renovation education.* 40 CFR 745.86 already requires that persons performing renovations in target housing document compliance with the lead hazard information distribution provisions of the Pre-Renovation Education Rule. Consistent with the 2006 Proposal, this final rule deletes existing 40 CFR 745.88 because it contains only sample acknowledgment statements for the purpose of documenting compliance with the information distribution requirements and is thus unnecessary. EPA received no comments on this proposed deletion. In addition, EPA received no substantive comments on the sample acknowledgment form provided with the proposed rule. New sample acknowledgment forms incorporating language consistent with this final rule and reflecting commenter editorial suggestions are available on EPA's website at <http://www.epa.gov/lead> and from the National Lead Information Center at 1-(800)-424-LEAD (5323).

In addition, as proposed in the 2006 Proposal, EPA has modified paragraph (a) of 40 CFR 745.86 to make compliance with the recordkeeping requirements the responsibility of the renovation firm, not the certified renovator. Although, as discussed below, this final rule requires the certified renovator assigned to a renovation to certify compliance with the work practice requirements for that renovation, the renovation firm may choose to delegate other tasks associated with recordkeeping requirements to someone other than a certified renovator. For example, this rule does not require a certified renovator to distribute lead hazard information to owners and occupants before a renovation, nor does it require a certified renovator to obtain the necessary acknowledgment statements or certified mail receipts. The renovation firm may decide that it is more efficient to have someone other than the certified renovator perform these tasks.

As described in Unit III.B.2. of this preamble, this final rule expands the information distribution requirements to renovations in child-occupied facilities. In proposing this expansion, the 2007 Supplemental Proposal included

associated recordkeeping requirements for firms performing renovations in child-occupied facilities. Although EPA did receive comments on extending the information distribution requirements to child-occupied facilities, none of these comments specifically addressed the recordkeeping provisions themselves. EPA has determined that the recordkeeping requirements are an important part of monitoring compliance with and ensuring the effectiveness of the information distribution provisions of this rule. Therefore, this final rule retains the existing recordkeeping requirements for pre-renovation lead hazard information distribution in target housing and extends those recordkeeping requirements to renovations in child-occupied facilities. Firms performing renovations in target housing or child-occupied facilities must obtain and retain signed and dated acknowledgements of receipt of the lead hazard information from building owners or a certificate of mailing for such information. In addition, renovation firms must obtain and retain signed and dated acknowledgments of receipt from the occupant (the resident of the housing unit being renovated or the proprietor of the child-occupied facility) or certificates of mailing for such information, or the firm must prepare a certification that documents the attempts made to provide this information to the occupants. For renovations in common areas in target housing, the firm must also document the steps taken to provide information to the tenants with access to the common area being renovated. Finally, firms performing renovations in child-occupied facilities must take steps to provide information to the parents and guardians of children under age 6 using the facility. Firms may do this by either mailing each parent or guardian the lead hazard information pamphlet and a general description of the renovation or by posting informational signs where parents and guardians are likely to see them. Informational signs must be accompanied by a posted copy of the pamphlet or information on how to obtain the pamphlet at no charge to interested parents or guardians. The firm's activities with respect to parents and guardians must also be documented.

b. Documentation of compliance with other regulatory provisions. This final rule provides for a number of exceptions. Unit III.A.3. of this preamble describes an exception for renovations in owner-occupied target housing that is neither the residence of

a child under age 6 or apregnant woman, nor a child-occupied facility. In order for a renovation to be eligible for this exception, the renovation firm must obtain a signed statement from the owner of the housing to the effect that he or she is the owner of the housing to be renovated, that he or she resides in the housing to be renovated, that no child under 6 or no pregnant woman resides there, that the housing is not a child-occupied facility, and that the owner acknowledges that the work practices to be used during the renovation will not necessarily include all of the work practices contained in EPA's renovation, repair, and painting rule. Consistent with the 2006 Proposal and the 2007 Supplemental Proposal, this final rule requires renovation firms to maintain this signed statement, which must include the address of the housing being renovated, for 3 years after the completion of the renovation. Again, although EPA received comments on the merits of this exception, no comments were directed specifically to the recordkeeping requirement. EPA has determined that the recordkeeping requirement is necessary to allow EPA to monitor compliance with the terms of this exception.

This final rule also requires firms performing renovations to retain documentation of compliance with the work practices and other requirements of the rule. Specifically, the firm must document that a certified renovator was assigned to the project, that the certified renovator provided on-the-job training for workers used on the project, that the certified renovator performed or directed workers who performed the tasks required by this final rule, and that the certified renovator performed the post-renovation cleaning verification. This documentation must include a copy of the certified renovator's training certificate. Finally, the documentation must include a certification by the certified renovator that the work practices were followed with narration as applicable. The certification must include the specific information listed in § 745.86(b)(7). The firm must keep this information for 3 years after the completion of the renovation.

The 2006 Proposal also included a requirement that renovation firms maintain documentation of compliance with the renovator and worker training requirements and the work practice requirements. This documentation would have had to include signed and dated descriptions of how activities performed by the certified renovator were conducted in compliance with the proposed requirements. To demonstrate

how these recordkeeping requirements might be met, EPA prepared and placed into the docket a draft recordkeeping checklist.

EPA received many comments on the substance of these recordkeeping requirements and on the draft recordkeeping checklist. Some commenters thought that the purpose of the recordkeeping requirement should be to provide important information to consumers or to serve as part of the record of whether a particular structure was lead-safe. Some, but not all of these commenters suggested that there was no need for the renovation firm to retain the records it prepares. Rather, the records should be given to the owners and occupants of the building either before or after the renovation. However, as proposed, the recordkeeping requirement served two purposes. The first is to allow EPA or an authorized State to review a renovation firm's compliance with the substantive requirements of the regulation through reviewing the records maintained for all of the renovation jobs the firm has done. The second is to remind a renovation firm what it must do to comply. EPA envisioned that renovation firms would use the recordkeeping requirements and checklist as an aid to make sure that they have done everything that they are required to do for a particular renovation. For these two purposes, there is no substitute for recordkeeping by renovation firms.

However, EPA agrees with those commenters that felt that the recordkeeping requirements were vague, particularly in light of the draft recordkeeping checklist itself and the amount of time that EPA estimated it would take a renovation firm to complete the checklist. Many commenters said that it was unclear how much detail EPA would be looking for in descriptions of how the firm complied with the various work practices, and some noted that an extensive narrative would contribute no more to compliance or enforcement than a box checked to indicate that the requirements had been complied with.

In response to these commenters, EPA has revised that draft recordkeeping checklist to be more in the nature of a checklist, with a certification that the representations on the form are true and correct. Narrative information is still required where necessary, such as an identification of the brand of test kits used, the locations where they were used, and the results. EPA has also revised the regulatory text to describe the specific information that must be provided and the specific items for which a certification of compliance is

required. The regulatory text at 40 CFR 745.86(b)(7) now contains a list of work practice elements that must be certified as having been performed. In response to two commenters that suggested that the only person truly capable of certifying that the lead-safe work practices were followed on a particular job would be the certified renovator assigned to that job, EPA is requiring the certification to be completed by the certified renovator assigned to the renovation. EPA has determined that a review of the records maintained by renovation firms will be an effective method of determining whether a particular firm is generally complying with the regulations or not.

2. *Notification to EPA.* In the 2006 Proposal, EPA requested comment on, but did not propose, a requirement that renovation firms notify EPA before beginning a covered renovation project. Most commenters supported a notification requirement, arguing notifications would provide information to EPA about where renovation activities will be occurring, so EPA could inspect ongoing renovation projects for compliance with the requirements of this rule. These commenters stated that EPA would be unable to enforce the requirements of the rule without a notification provision. Some commenters also suggested that the act of informing EPA of their activities provides a powerful incentive for renovation firms to comply. Other commenters observed that prior notification for every covered renovation would be too burdensome for the regulated community and for the Agency. Some of these commenters suggested that notifications only be required for renovations involving high-risk methods, housing where a child under age 6 or a pregnant woman resides, or renovations involving multiple rooms in a housing unit.

This final rule does not include a prior notification requirement. EPA disagrees with the notion that there is no way to enforce this regulation without a prior notification requirement. As stated above in the discussion on recordkeeping, EPA believes that a review of a renovation firm's records will demonstrate whether or not a renovation firm generally complies with the regulations. In addition, as at least one commenter noted, many renovations require a building permit from the local permitting authority. EPA can work with the local authorities to identify inspection targets. EPA can also follow up on tips and complaints.

EPA agrees with those commenters that believe that prior notification for

every project is simply too burdensome for the regulated community and for the Agency. If the streamlined, telephone-based system recommended by some of the commenters were implemented, it would reduce the initial burden on the renovation firms. However, EPA would still have to process millions of such notifications annually, and the collective burden on renovation firms and the government would be considerable. Rather than require millions of notifications annually, the great majority of which would never be reviewed, EPA prefers to use other methods for targeting renovation projects for inspections.

An initially attractive option considered by EPA was a prior notification requirement for a subset of covered renovation projects. This option could potentially reduce the notifications received to a manageable level, while preserving the benefits of a prior notification requirement, but EPA was unable to develop appropriate criteria for defining which renovations would require prior notification. EPA considered requiring prior notification for renovations using certain high-risk practices, the practices prohibited by the HUD Lead Safe Housing Rule and EPA's Lead-based Paint Activities Regulations. However, EPA ultimately decided, as described in Unit III.E.6. of this preamble, to prohibit most of those practices for covered renovations. Requiring prior notifications only for renovations in housing where a child under age 6 resides and in child-occupied facilities would not significantly reduce the notifications that would be required. EPA determined that a prior notification requirement tied to project size would not be feasible or effective, because the hazard potential from a renovation job is a combination of the size of the project and the activity being performed.

With regard to the compliance mindset mentioned by some commenters, EPA believes that the recordkeeping requirements are a less burdensome way to achieve the same goal. In fact, a prior notification requirement could lead to EPA targeting for inspection those persons who are most likely to be making an effort to comply with the substantive requirements of the regulation. The person who would not bother to comply with the substantive provisions of this rule would most likely avoid filing a prior notification to EPA before beginning a covered renovation, repair, or painting project. These persons are more likely to be performing renovations in a non-compliant manner than are persons who have complied

with a prior notification requirement and told EPA where to find them.

EPA has therefore determined that a prior notification requirement is not an effective or efficient means of facilitating the monitoring of compliance with this regulation. States, Territories, and Tribes developing their own renovation, repair, and painting programs may come to a different conclusion. These jurisdictions are free to establish prior notification schemes that make sense for their community.

G. State, Territorial, and Tribal Programs

1. *In general.* Because of the enormous number of renovation activities that occur in this country on an annual basis, EPA welcomes the help of its State, Territorial, and Tribal partners to ensure that these renovations are performed by trained persons in accordance with this final rule. This final rule establishes, in accordance with TSCA section 404 and EPA's Policy for the Administration of Environmental Programs on Indian Reservations (Ref. 46), requirements for the authorization of State, Territorial, and Tribal renovation, repair, and painting programs. The process for obtaining authorization to operate these programs in lieu of the Federal program is the same process used to authorize State, Territorial, and Tribal lead-based Paint Activity or Pre-Renovation Education programs found in 40 CFR part 745, subpart Q.

Interested States, Territories, and Indian Tribes may apply for, and receive authorization to, administer and enforce all of the elements of the new subpart E, as amended. States, Territories and Tribes may choose to administer and enforce just the existing requirements of subpart E, the pre-renovation education elements, or all of the requirements of the proposed subpart E, as amended. The 2006 Proposal and the 2007 Supplemental Proposal would not have provided for the authorization of State, Territorial, or Tribal programs that include only the training, certification, accreditation, and work practice requirements for renovation, repair, and painting programs and not the pre-renovation education provisions of subpart E. EPA proposed this approach because the Agency believes that the pre-renovation education provisions are an integral part of ensuring that consumers have the information they need to make informed decisions about renovation practices in their homes and other buildings. In addition, consistent with the proposals, this final rule encourage renovation firms to use the existing pamphlet acknowledgment

process to provide owner-occupants of target housing with the opportunity to opt out of the training, certification, and work practice requirements of the rule if they reside in the housing to be renovated, there is no child under age 6 or pregnant woman in residence, the housing does not otherwise meet the definition of child-occupied facility, and the owner acknowledges that the work practices to be used during the renovation will not necessarily include all of the lead-safe work practices contained in EPA's renovation, repair, and painting rule.

One State commenter disagreed with EPA's proposed approach and requested that EPA authorize State, Territorial or Tribal programs that incorporate only the training, certification, accreditation, and work practices of this final rule because TSCA section 404 allows states to administer and enforce the standards, regulations, or other requirements established under TSCA section 402 or TSCA section 406 or both. EPA agrees with this commenter's reading of TSCA. Therefore, this final rule provides for the authorization of State, Territorial, or Tribal programs that include either the pre-renovation education requirements of 40 CFR part 745, subpart E, or the training, certification, accreditation and work practice requirements of this rule, or both.

States, Territories, and Tribes that wish to administer and enforce the pre-renovation education provisions of subpart E, as amended, must include both target housing and child-occupied facilities within the scope of their program. Similarly, States, Territories, and Tribes that are also interested in obtaining authorization to administer and enforce the training, certification, accreditation, work practice, and recordkeeping elements of subpart E, as amended, must include both target housing and child-occupied facilities within the scope of their program. States with existing authorized pre-renovation education programs are required to demonstrate that they have modified their programs to include child-occupied facilities. These States must provide this demonstration no later than the first report submitted pursuant to 40 CFR 745.324(h) on or after April 22, 2009.

2. Process. The authorization process currently codified at 40 CFR part 745, subpart Q, will be used for the purpose of authorizing State, Territorial, and Tribal renovation, repair, and painting programs. States, Territories, and Tribes seeking authority for their programs must obtain public input, then submit an application to EPA. Applications must contain a number of items,

including a description of the State, Territorial, or Tribal program, copies of all applicable statutes, regulations, and standards, and a certification by the State Attorney General, Tribal Counsel, or an equivalent official, that the applicable legislation and regulations provide adequate legal authority to administer and enforce the program. The program description must demonstrate that the State, Territorial, or Tribal program is at least as protective as the Federal program. In this case, the Federal program consists of the requirements for training, certification, and accreditation and the work practice standards of this final rule.

One commenter suggested that EPA require States with a currently authorized TSCA 402(a) lead-based paint activities program to submit only an amended application for incorporating the TSCA section 402(c)(3) renovation, repair, and painting program requirements since many of the required documents would be the same as those submitted for the original TSCA 402(a) application. Furthermore, the commenter recommended that a letter from the State agency identified in the original 402(a) authorization application with a synopsis detailing how the State proposes to administer and enforce the renovation, repair, and painting program serve as an amended application. EPA has determined that a new application for authorization for the renovation, repair, and painting program is necessary because there may be a different State agency or consortia of agencies implementing and enforcing this program, a long time may have elapsed since most States submitted their TSCA section 402(a) program application, and many of the requirements within the elements of the renovation, repair, and painting program differ from their counterparts in the lead-based paint activities program.

To be eligible for authorization to administer and enforce the training, certification, accreditation, and work practice requirements of this final rule, State, Territorial, and Tribal renovation programs must contain certain minimum elements, e.g., work practice standards and procedures and requirements for the certification of individuals and/or firms, that are very similar to the existing minimum elements specified in 40 CFR 745.326(a) for lead-based paint activities programs. In order to be authorized, State, Territorial, or Tribal programs must have procedures and requirements for the accreditation of training programs,

which can be as simple as procedures for accepting training provided by an EPA-accredited provider, or a provider accredited by another authorized State, Territorial, or Tribal program. Procedures and requirements for the certification of renovators are also necessary. At a minimum, these must include a requirement that certified renovators have taken accredited training, and procedures and requirements for re-certification. State, Territorial, and Tribal programs applying for authorization must also include work practice standards for renovations that ensure that renovations are conducted only by certified renovation firms and the renovations are conducted using work practices at least as protective as those of the Federal program. As is the current practice with lead-based paint activities, EPA will not require State, Territorial, or Tribal programs to certify both firms and individuals that perform renovations. States, Territories and Tribes may choose to certify either firms or individuals, so long as the individuals that perform the duties of renovators are required to take accredited training.

3. Implementation. In order to provide interested States, Territories and Tribes time to develop, or begin developing renovation, repair, and painting programs in accordance with this rule, EPA will not begin to actively implement the Federal program until April 22, 2009, at which time EPA will begin accepting applications for training program accreditation. Several commenters thought 1 year would be adequate for the purpose of allowing States, Territories, and Tribes to develop their own programs, while others expressed concern that 1 year would not be enough time to get these programs developed and authorized. Most commenters who expressed an opinion on this topic generally agreed that an implementation delay is necessary. Reasons given in support of a delay were conservation of State financial and administrative resources and the fact that some States have had difficulties in retraining contractors to new State-specific requirements after the contractors had become accustomed to working under the Federal program. In contrast, some commenters argued that, in light of the 2010 goal, no delay whatsoever was warranted. This final rule retains the 1 year implementation delay set forth in the 2006 Proposal. EPA has determined that this period of time represents an appropriate balance between the need to implement this rule quickly and concerns over potential duplication of effort and additional

costs incurred by the regulated community if EPA begins accrediting training providers and certifying firms in jurisdictions that are also working towards implementing their own programs. States, Territories, and Tribes may begin the authorization process at any time after the effective date of this final rule, even after the Federal program has been implemented in their jurisdiction.

Some commenters were concerned about the effect of this rule on existing State programs. Several commenters asked EPA to expressly state that this rule does not pre-empt existing State programs and that State programs that are more stringent than the Federal program will be eligible for authorization. One commenter noted that the number of houses with lead contaminated paint is disproportionately distributed throughout the U.S. This commenter pointed out that this apparent disparity supports the need for State control of lead programs and for EPA to practice "regulatory restraint." According to this commenter, this "regulatory restraint" will allow States with more severe lead paint problems to impose stricter standards and requirements regarding certification and work practices without imposing unnecessary burdens on States with less severe problems.

This final rule does not preempt existing programs that address renovations. However, to the extent that these programs are less protective than the requirements of this final rule, the requirements of this final rule will apply. To be eligible for authorization, State, Territorial, and Tribal programs need not exactly duplicate the Federal program contained in this final rule, but they must still meet the requirement of TSCA section 404 that they be "at least as protective as" the Federal program. It would be difficult for the Agency to describe specific requirements that would make a program more or less "protective." EPA will review each program application separately against the protections provided by this final rule.

Several commenters expressed concern regarding the uniformity and consistency of State programs. Some recommended that EPA take States' concerns into account, but guarantee uniformity of State programs by prohibiting States from arbitrarily deviating from program elements. Others noted that if there are uniform regulations for approved training courses for State certification, there should be reciprocity between States since many people work in multiple States. One commenter suggested that,

in an effort to promote consistency, States institute a lead-safety test that renovators must pass prior to receiving permits to conduct work. Several commenters noted that a lack of reciprocity between States and/or duplicative or divergent certification requirements will add an unnecessary burden and level of complexity for renovation and remodeling firms, especially those working in multi-State areas. One commenter argued that this could lead to a problem in maintaining certifications similar to the problem the commenter believes exists in maintaining lead-based paint inspector, risk assessor, and other certifications associated with TSCA section 402 abatements. One suggested that EPA should exert control over the right to refuse approval of State programs unless they provide for reciprocity with the Federal program and programs of other jurisdictions approved by EPA.

The standard of EPA review for State, Territorial, and Tribal programs under TSCA section 404 is that they be "at least as protective" as the Federal program. In addition, TSCA section 404 (e) reserves the right of States and their political subdivisions to impose requirements that are more stringent than the Federal program. EPA interprets this to mean that EPA cannot compel States, Territories, and Tribes to adopt programs identical to the Federal program or to establish reciprocity provisions. However, EPA continues to encourage States, Territories, and Tribes that may be considering establishing their own renovation programs to keep reciprocity in mind as they move forward. The benefits to be derived from reciprocity arrangements with the Federal program and other authorized jurisdictions include potential cost-savings from reducing duplicative activity and the development of a professional renovation workforce more quickly, thus providing maximum flexibility to State, Territorial, or Tribal residents. In addition, the Agency encourages States, Territories and Tribes to consider the use of existing certification and accreditation procedures as they develop their programs. These existing programs need not be limited to lead-based paint. For example, a State may choose to add lead-safe renovation requirements to their existing contractor licensing programs.

H. Effective Date and Implementation Dates

This final rule is effective on June 23, 2008. This final rule will be implemented according to the following schedule:

1. As of June 23, 2008.

a. States, Territories, and Tribes may begin applying for authorization to administer and enforce their own renovation, repair, and painting programs. EPA will begin authorizing States, Territories, and Tribes as soon as it receives their complete applications.

b. No training program may provide, offer, or claim to provide training or refresher training for EPA certification as a renovator or a dust sampling technician without accreditation from EPA under 40 CFR 745.225.

2. As of April 22, 2009. Training programs for renovators or dust sampling technicians may begin applying for accreditation under 40 CFR 745.225. EPA will begin accrediting training programs as soon as it receives complete applications from training providers. Individuals who wish to become certified renovators or dust sampling technicians may begin taking accredited training as soon as it is available.

3. As of October 22, 2009. Renovation firms may begin applying for certification under 40 CFR 745.89. EPA will begin certifying renovation firms as soon as it receives their complete applications.

4. As of April 22, 2010. The rule will be fully implemented.

a. No firm may perform, offer, or claim to perform renovations without certification from EPA under 40 CFR 745.89 in target housing or child-occupied facilities, unless, in the case of owner-occupied target housing, the firm has obtained a statement signed by the owner that the renovation will occur in the owner's residence, no child under age 6 resides there, the housing is not a child-occupied facility, and the owner acknowledges that the work practices to be used during the renovation will not necessarily include all of the lead-safe work practices contained in EPA's renovation, repair, and painting rule.

b. All renovations must be directed by renovators certified in accordance with 40 CFR 745.90(a) and performed by certified renovators or individuals trained in accordance with 40 CFR 745.90(b)(2) in target housing or child-occupied facilities, unless, in the case of owner-occupied target housing, the firm performing the renovation has obtained a statement signed by the owner that the renovation will occur in the owner's residence, no child under age 6 resides there, the housing is not a child-occupied facility, and the owner acknowledges that the work practices to be used during the renovation will not necessarily include all of the lead-safe work practices contained in EPA's renovation, repair, and painting rule.

c. All renovations must be performed in accordance with the work practice standards in 40 CFR 745.85 and the associated recordkeeping requirements in 40 CFR 745.86(b)(6) and (b)(7) in target housing or child-occupied facilities, unless, in the case of owner-occupied target housing, the firm performing the renovation has obtained a statement signed by the owner that the renovation will occur in the owner's residence, no child under age 6 resides there, the housing is not a child-occupied facility, and the owner acknowledges that the work practices to be used during the renovation will not necessarily include all of the lead-safe work practices contained in EPA's renovation, repair, and painting rule.

With respect to the new renovation-specific pamphlet and the requirements of the Pre-Renovation Education Rule, as of the effective date of the rule June 23, 2008, renovators or renovation firms performing renovations in States and Indian Tribal areas without an authorized Pre-Renovation Education Rule program may provide owners and occupants with either of the following EPA pamphlets: *Protect Your Family From Lead in Your Home*; or *Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools*. As of December 22, 2008, *Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools* must be used exclusively.

IV. References

The following is a list of the documents that are specifically referenced in this final rule and placed in the public docket that was established under Docket ID number EPA-HQ-OPPT-2005-0049. For information on accessing the docket, refer to the **ADDRESSES** unit at the beginning of this document.

1. U.S. Environmental Protection Agency (USEPA). Air Quality Criteria for Lead (September 29, 2006).
2. President's Task Force on Environmental Health Risks and Safety Risks to Children. Eliminating Childhood Lead Poisoning: A Federal Strategy Targeting Lead Paint Hazards (February 2000).
3. USEPA. Lead; Renovation, Repair, and Painting Program; Proposed Rule. **Federal Register** (71 FR 1588, January 10, 2006).
4. USEPA. Lead; Requirements for Lead-based Paint Activities; Final Rule. **Federal Register** (61 FR 45778, August 29, 1996).
5. USEPA. Lead; Fees for Accreditation of Training Programs and Certification of Lead-based Paint

Activities Contractors; Final Rule.

Federal Register (64 FR 31091, June 9, 1999).

6. USEPA. Lead; Notification Requirements for Lead-Based Paint Abatement Activities and Training; Final Rule. **Federal Register** (69 FR 18489, April 8, 2004).

7. USEPA, Consumer Product Safety Commission (CPSC), U.S. Department of Housing and Urban Development (HUD). Protect Your Family From Lead in Your Home (EPA 747-K-99-001, June 2003).

8. USEPA. Lead; Requirements for Hazard Education Before Renovation of Target Housing; Final Rule. **Federal Register** (63 FR 29907, June 1, 1998).

9. USEPA. Lead; Identification of Dangerous Levels of Lead; Final Rule. **Federal Register** (66 FR 1206, January 5, 2001).

10. USEPA. Reducing Lead Hazards When Remodeling Your Home (EPA 747-K-97-001, September 1997).

11. USEPA. Lead Exposure Associated With Renovation and Remodeling Activities: Phase I, Environmental Field Sampling Study (EPA 747-R-96-007, May 1997).

12. USEPA. Lead Exposure Associated With Renovation and Remodeling Activities: Phase II, Worker Characterization and Blood-Lead Study (EPA 747-R-96-006, May 1997).

13. USEPA. Lead Exposure Associated With Renovation and Remodeling Activities: Phase III, Wisconsin Childhood Blood-Lead Study (EPA 747-R-99-002, March 1999).

14. USEPA. Lead Exposure Associated With Renovation and Remodeling Activities: Phase IV, Worker Characterization and Blood-Lead Study of R&R Workers Who Specialize in Renovation of Old or Historic Homes (EPA 747-R-99-001, March 1999).

15. USEPA. Lead; Renovation, Repair, and Painting Program; Supplemental Notice of Proposed Rulemaking. **Federal Register** (72 FR 31022, June 5, 2007).

16. USEPA. Lead; Renovation, Repair, and Painting Program; Notice of Availability. **Federal Register** (72 FR 12582, March 16, 2007).

17. USEPA. Characterization of Dust Lead Levels After Renovation, Repair, And Painting Activities. (November 13, 2007).

18. USEPA. Lead Safety for Remodeling, Repair, And Painting. Joint EPA/HUD Renovation Training Curriculum (EPA 747-B-03-001/2, July 2003).

19. National Association of Home Builders (NAHB). Lead Safe Work Practices Survey Project Report. Prepared by Atrium Environmental

Health and Safety Services (November 9, 2006).

20. McMillan Associates. Response to SBREFA Panel Recommendations for Further Analysis of Existing Phase III Data (August 6, 2001).

21. U.S. Department of Health and Human Services (HHS), U.S. Public Health Service (PHS), CDC. Children with Elevated Blood Lead Levels Attributed to Home Renovation and Remolding Activities--New York, 1993-1994. Morbidity and Mortality Weekly Report (45(51); 1120-1123, January 3, 1997).

22. Reissman, Dori B., Thomas D. Matte, Karen L. Gurnite, Rachel B. Kaufmann, and Jessica Leighton. "Is Home Renovation or Repair a Risk Factor for Exposure to Lead Among Children Residing in New York City?" Journal of Urban Health: Bulletin of the New York Academy of Medicine. Vol. 79, No. 4, 502-511, (December 2005).

23. USEPA. Lead; Requirements for Lead-based Paint Activities; Proposed Rule. **Federal Register** (59 FR 45872, September 2, 1994).

24. USEPA. Office of Pollution Prevention and Toxics (OPPT) "Economic Analysis for the TSCA Lead Renovation, Repair, and Painting Program Final Rule for Target Housing and Child-Occupied Facilities" (March 2008).

25. S. Rep. 102-332, P.L. 102-550, Housing and Community Development Act of 1992 (July 23, 1992).

26. National Institute of Standards and Technology (NIST). Spot Test Kits for Detecting Lead in Household Paint, a Laboratory Evaluation (NISTIR 6398, May 2000).

27. HUD. National Survey of Lead and Allergens in Housing, Volume I: Analysis of Lead Hazards, Final Report, Revision 7.1. (October 31, 2002).

28. ASTM International. Standard Practice for Evaluating the Performance Characteristics of Qualitative Chemical Spot Test Kits for Lead in Paint (E 1828-01).

29. USEPA. Lead-Based Paint Pre-Renovation Education Rule; Interpretive Guidance, Part I (May 28, 1999).

30. USEPA and HUD. Lead; Requirements for Disclosure of Information Concerning Lead-Based Paint in Housing; Final Rule. **Federal Register** (61 FR 9064, March 6, 1996).

31. USEPA, HUD. Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools. (March 2008).

32. USEPA. Lead-Based Paint Pre-Renovation Education Rule; Interpretive Guidance, Part II (October 15, 1999).

33. USEPA. Lead Sampling Technician Course (EPA 747-B-00-002, July 2000).

34. HUD. Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (June 1995).

35. USEPA. Lead Dust Minimization Work Practices for Renovation, Remodeling and Repainting; Draft Technical Manual (September 29, 1998).

36. National Institute for Occupational Safety and Health (NIOSH). Health Hazard Evaluation; Rhode Island Department of Health; HETA 96-0200-2799 (June 2000).

37. USEPA. Electrostatic Cloth and Wet Cloth Field Study in Residential Housing (September 2005).

38. United States Department of Energy. Office of Health, Safety and Security. <http://www.hss.energy.gov/csa/csp/hepa>.

39. Occupational Safety and Health Administration (OSHA), Department of Labor (DOL). Regulatory Flexibility Act Review of the Occupational Safety Standard for Lead in Construction Labor (72 FR 54826, September 27, 2007).

40. Rich, David Q. George G. Rhoads, Lih-Ming Yiin, Junfeng Zhang, Zhipeng Bai, John L. Adgate, Peter J. Ashley, and Paul J. Liroy. "Comparison of Home Lead Dust Reduction Techniques on Hard Surfaces: the New Jersey Assessment of Cleaning Techniques Trial." *Environmental Health Perspectives* 110(9): 889-893 (September 2002).

41. HUD. Evaluation of Household Vacuum Cleaners in the Removal of Settled Lead Dust from Hard Surface Floors. (December 27, 2002, revised February 2006).

42. Lih-Ming Yiin, George G. Rhoads, David Q. Rich, Junfeng Zhang, Zhipeng Bai, John L. Adgate, Peter J. Ashley, and Paul J. Liroy. "Comparison of Techniques to Reduce Residential Lead Dust on Carpet and Upholstery: the New Jersey Assessment of Cleaning Techniques Trial." *Environmental Health Perspectives* 110(12): 1233-1237. (December 2002).

43. Canadian Mortgage and Housing Corporation (CMHC). "Effectiveness of Clean up Techniques for Leaded Paint Dust." (1992).

44. USEPA. A Comparison of Post-Renovation and Remodeling Surface Cleaning Techniques. Prepared by Clemson Environmental Technologies Laboratory (December 14, 2001)

45. CMHC. "Evaluation of the Cleanup of Lead Paint Dust In Houses." Prepared by Pinchin Environmental Consultants (1995).

46. USEPA. EPA Policy for the Administration of Environmental Programs on Indian Reservations (November 8, 1984).

47. USEPA. ICR Final Rule Addendum for rulemaking entitled "Lead; Renovation, Repair, and Painting Program; Final Rule" (March 2008).

48. USEPA. Report of the Small Business Advocacy Review Panel on the Lead-based Paint Certification and Training; Renovation and Remodeling Requirements (March 3, 2000).

49. Final Regulatory Flexibility Analysis for the Lead; Renovation, Repair, and Painting Program; Final Rule (March 2008).

50. ASTM International. Standard Practice for Clearance Examinations Following Lead Hazard Reduction Activities in Single-Family Dwellings and Child-Occupied Facilities (E 2271-05).

51. ASTM International. Standard Guide for Evaluation, Management, and Control of Lead Hazards in Facilities (E 2052-99).

V. Statutory and Executive Order Reviews

A. Executive Order 12866

Under Executive Order 12866, entitled *Regulatory Planning and Review* (58 FR 51735, October 4, 1993), it has been determined that this rule is a "significant regulatory action" under section 3(f)(1) of the Executive Order because EPA estimates that it will have an annual effect on the economy of \$100 million or more. Accordingly, this action was submitted to the Office of Management and Budget (OMB) for review under Executive Order 12866 and any changes made based on OMB recommendations have been documented in the public docket for this rulemaking as required by section 6(a)(3)(E) of the Executive Order.

In addition, EPA has prepared an analysis of the potential costs and benefits associated with this rulemaking. This analysis is contained in the Economic Analysis (Ref. 24), which is available in the docket for this action and is briefly summarized here.

1. *Types of facilities.* This rule applies to an estimated 37.8 million pre-1978 facilities. Of these, approximately 37.7 million facilities are located in target housing, either in rental housing, owner-occupied housing where a child under age 6 resides, or owner-occupied housing where no child under age 6 resides but that otherwise meets the definition of a child-occupied facility. Approximately 100,000 facilities are child-occupied facilities in pre-1978 public or commercial buildings.

2. *Options evaluated.* EPA considered a variety of options for addressing the risks presented by renovation, repair, and painting actions where lead-based

paint is present. The Economic Analysis analyzed several different options for the scope of the rule, which would limit the coverage of the rule's substantive provisions depending on when the facility was built (such as pre-1960 or pre-1978), and whether or not there are children under the age of 6 or a pregnant woman residing in owner-occupied housing. In some options, coverage of the rule was phased in over time. EPA also considered different options for work practices, such as containment, cleaning, and cleaning verification.

3. *Number of events and individuals affected.* In the first year that all of the rule requirements will be in effect, there will be an estimated 8.4 million renovation, repair, and painting events where lead-safe work practices will be used due to the rule. As a result, there will be approximately 1.4 million children under the age of 6 who will be affected by having their exposure to lead dust minimized due to the rule. There will also be about 5.4 million adults who will be affected. After improved test kits for determining whether a painted surface contains lead-based paint become available (which is assumed in the analysis to occur by the second year of the rule), the number of renovation, repair, and painting events using lead-safe work practices is expected to drop to 4.4 million events per year. No change in the number of exposures avoided due to the rule is expected because the improved test kit will more accurately identify paint without lead, thus reducing the number of events unnecessarily using the required work practices.

4. *Benefits.* The Economic Analysis describes the estimated benefits of the rulemaking in qualitative and quantitative terms. Benefits result from the prevention of adverse health effects attributable to lead exposure. These health effects include impaired cognitive function in children and several illnesses in children and adults. EPA estimated the benefits of avoided incidence of IQ loss due to reduced lead exposure to children under the age of 6. There are not sufficient data at this time to develop dose-response functions for other health effects in children or for pregnant women. The benefits of avoided exposure to adults were not quantified due to uncertainties about the exposure of adults to lead in dust from renovation, repair, and painting activities in these facilities.

The rule is estimated to result in quantified benefits of approximately \$700 million to \$1,700 million in the first year. The 50-year annualized benefits provide a measure of the

steady-state benefits. The quantified IQ benefits to children are expected to be approximately \$700 million to \$1,700 million per year when annualized using a 3% discount rate, and \$700 million to \$1,800 million per year when using a 7% discount rate. The estimated benefits for the other scope options range from approximately \$300 million to \$1,700 million using a 3% discount rate and from \$300 million to \$1,800 million using a 7% discount rate. The benefits from prohibiting certain paint preparation and removal practices in renovations requiring lead-safe work practices under the rule are estimated to be \$400 million to \$900 million per year using a 3% discount rate. There are additional unquantified benefits, including other avoided health effects in children and adults.

5. *Costs.* The Economic Analysis estimates the costs of complying with the rule. Costs may be incurred by contractors that perform renovation, repair, and painting work for compensation, landlords that use their own staff to perform renovation, repair, and painting work in leased buildings; and child-occupied facilities that use their own staff to perform renovation, repair, and painting work.

The rule is estimated to result in a total cost of approximately \$800 million in the first year that all of the rule requirements will be in effect. The cost is estimated to drop to approximately \$400 million per year in the second year when the improved test kits are assumed to become available. The 50-year annualized costs provide a measure of the steady-state cost. Annualized costs of the rule are estimated to be approximately \$400 million per year using either a 3% discount rate or a 7% discount rate. Annualized costs for the other scope options range from approximately \$300 million to approximately \$700 million per year using a 3% discount rate and \$400 million to \$700 million per year using a 7% discount rate. The cost of prohibiting certain paint preparation and removal practices is estimated to cost less than \$10 million per year using either a 3% or a 7% discount rate.

6. *Net benefits.* Net benefits are the difference between benefits and costs. The rule is estimated to result in net benefits of--\$50 million to \$1,000 million in the first year, based on children's IQ benefits alone. The 50-year annualized net benefits for the rule based on children's benefits are estimated to be \$300 million to \$1,300 million per year using either a 3% or a 7% discount rate. The annualized net benefits for the other scope options range from approximately--\$50 million

to \$1,300 million per year using either a 3% or a 7% discount rate. The net benefits of prohibiting certain paint preparation and removal practices for renovations requiring lead-safe work practices are estimated to be approximately \$400 million to \$900 million per year using either a 3% or a 7% discount rate. There are additional unquantified benefits, including other avoided health effects in children and adults that are not included in the net benefits estimates.

It is important to note that the EPA analysis generates certain results that seem to indicate that more stringent control options yield smaller improvements reducing the risks of elevated blood lead levels in children than do less stringent control options. For example, the analysis estimates that using only containment of dust and debris generated during a RRP activity yields higher benefits than using all of the rule's work practices (containment, specialized cleaning, and cleaning verification). This is the opposite of what one might expect and of what is observed in the Dust Study for the 10 experiments that used the proposed rule cleaning and containment, since the benefits analysis implies that the combination of rule-style containment with rule-style cleaning and verification would result in more exposure than when such containment is combined with conventional cleaning. This is inconsistent with the Dust Study which shows that the largest decreases were observed in the 10 experiments where this final rule's practices of containment, specialized cleaning, and cleaning verification were used. Therefore, the anomalous results are likely to be artifacts of sparse underlying data and modeling assumptions. Although EPA summarizes some of the potential causes of these unexpected results in the Economic Analysis, at this time EPA is unclear as to precisely what is leading to these unexpected results. Because EPA has not determined why the benefits analyses contain anomalous results, EPA has limited confidence in the estimated benefits. EPA does not view the results as being sufficiently robust to represent the difference in magnitude of the benefits across regulatory alternatives. Nevertheless, EPA is confident that there are positive benefits.

B. Paperwork Reduction Act

The information collection requirements contained in this rule have been submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction

Act, 44 U.S.C. 3501 *et seq.* An Information Collection Request (ICR) document prepared by EPA, an amendment to an existing ICR and referred to as the ICR Final Rule Addendum (EPA ICR No. 1715.10, OMB Control Number 2070-0155) has been placed in the public docket for this rule (Ref. 47). The information collection requirements are not enforceable until OMB approves them.

The new information collection activities contained in this rule are designed to assist the Agency in meeting the core objectives of TSCA section 402, including ensuring the integrity of accreditation programs for training providers, providing for the certification of renovators, and determining whether work practice standards are being followed. EPA has carefully tailored the recordkeeping requirements so they will permit the Agency to achieve statutory objectives without imposing an undue burden on those firms that choose to be involved in renovation, repair, and painting activities.

Burden under the Paperwork Reduction Act means the total time, effort, or financial resources expended by persons to generate, maintain, retain, disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

Under this rule, the new information collection requirements may affect training providers and firms that perform renovation, repair, or painting for compensation. Although these firms have the option of choosing to engage in the covered activities, once a firm chooses to do so, the information collection activities contained in this rule become mandatory for that firm.

The ICR document provides a detailed presentation of the estimated burden and costs for 3 years of the program. The aggregate burden varies by year due to changes in the number of firms that will seek certification each year. The burden and cost to training providers and firms engaged in renovation, repair, and painting activities is summarized below.

It is estimated that approximately 170 training providers will incur burden to

notify EPA (or an authorizing State, Tribe, or Territory) before and after training courses. The average burden for training provider notifications is estimated at 20 to 100 hours per year, depending on the number of training courses provided. Total training provider burden is estimated to average 9,000 hours per year. There are approximately 211,000 firms estimated to become certified to engage in renovation, repair, or painting activities. The average certification burden is estimated to be 3.5 hours per firm in the year a firm is initially certified, and 0.5 hours in years that it is re-certified (which occurs every 5 years). Firms must also distribute lead hazard information to the owners and occupants of public or commercial buildings that contain child-occupied facilities and in target housing containing child-occupied facilities. Finally, firms must keep records of the work they perform; this recordkeeping is estimated to average approximately 5 hours per year per firm. Total burden for these certified firms is estimated to average 1,373,000 hours per year. Total respondent burden during the period covered by the ICR is estimated to average approximately 1,382,000 hours per year.

There are also government costs to administer the program. States, Tribes, and Territories are allowed, but are under no obligation, to apply for and receive authorization to administer these requirements. EPA will directly administer programs for States, Tribes, and Territories that do not become authorized. Because the number of States, Tribes, and Territories that will become authorized is not known, administrative costs are estimated assuming that EPA will administer the program everywhere. To the extent that other government entities become authorized, EPA's administrative costs will be lower.

An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations codified in Chapter 40 of the CFR, after appearing in the preamble of the final rule, are listed in 40 CFR part 9, are displayed either by publication in the **Federal Register** or by other appropriate means, such as on the related collection instrument or form, if applicable. When this ICR is approved by OMB, the Agency will publish a technical amendment to 40 CFR part 9 in the **Federal Register** to display the OMB control number for the approved

information collection requirements contained in this final rule.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of this rule on small entities, small entity is defined in accordance with section 601 of the RFA as: (1) A small business as defined by the Small Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

Pursuant to section 603 of the RFA, EPA prepared an initial regulatory flexibility analysis (IRFA) for the proposed rule and convened a Small Business Advocacy Review Panel to obtain advice and recommendations of representatives of the regulated small entities. A summary of the IRFA, a description of the Panel process, and a summary of the Panel's recommendations can be found in Unit VIII.C. of the preamble to the 2006 Proposal (Ref. 3). A detailed discussion of the Panel's advice and recommendations is found in the Panel Report (Ref. 48).

As required by section 604 of the RFA, we also prepared a final regulatory flexibility analysis (FRFA) for this final rule. The FRFA addresses the issues raised by public comments on the IRFA, which was part of the proposal of this rule. The FRFA is available for review in the docket and is summarized below (Ref. 49).

1. *Legal basis and objectives for the rule.* As discussed in Unit II.A. of this preamble, TSCA section 402(c)(2) directs EPA to study the extent to which persons engaged in renovation, repair, and painting activities are exposed to lead or create lead-based paint hazards regularly or occasionally. After concluding this study, TSCA section 402(c)(3) further directs EPA to revise its Lead-based Paint Activities Regulations under TSCA section 402(a)

to apply to renovation or remodeling activities that create lead-based paint hazards. Because EPA's study found that activities commonly performed during renovation and remodeling create lead-based paint hazards, EPA is revising the TSCA section 402(a) regulatory scheme to apply to individuals and firms engaged in renovation, repair, and painting activities. In so doing, EPA has also taken into consideration the environmental, economic, and social impact of this final rule as provided in TSCA section 2(c). The primary objective of the rule is to minimize exposure to lead-based paint hazards created during renovation, repair, and painting activities in housing where children under age 6 reside and in housing where a pregnant woman resides and in housing or other buildings frequented by children under age 6.

2. *Potentially affected small entities.* Small entities include small businesses, small organizations, and small governmental jurisdictions. The small entities that are potentially directly regulated by this rule include: small businesses (including contractors and property owners and managers); small nonprofits (certain day care centers and private schools); and small governments (school districts).

In determining the number of small businesses affected by the rule, the Agency applied U.S. Economic Census data to the SBA's definition of small business. However, applying the U.S. Economic Census data requires either under or overestimating the number of small businesses affected by the rule. For example, for many construction establishments, the SBA defines small businesses as having revenues of less than \$13 million. With respect to those establishments, the U.S. Economic Census data groups all establishments with revenues of \$10 million or more into one revenue bracket. On the one hand, using data for the entire industry would overestimate the number of small businesses affected by the rule and would defeat the purpose of estimating impacts on small business. It would also underestimate the rule's impact on small businesses because the impacts would be calculated using the revenues of large businesses in addition to small businesses. On the other hand, applying the closest, albeit lower, revenue bracket would underestimate the number of small businesses affected by the rule while at the same time overestimating the impacts. Similar issues arose in estimating the fraction of property owners and managers that are small businesses. EPA has concluded that a

substantial number of small businesses will be affected by the rule. Consequently, EPA has chosen to be more conservative in estimating the cost impacts of the rule by using the closest, albeit lower, revenue bracket for which Census data is available. For other sectors (nonprofits operating day care centers or private schools), EPA assumed that all affected firms are small, which may overestimate the number of small entities affected by the rule.

The vast majority of entities in the industries affected by this rule are small. Using EPA's estimates, the renovation, repair, and painting program will affect an average of approximately 189,000 small entities.

3. *Potential economic impacts on small entities.* EPA evaluated two factors in its analysis of the rule's requirements on small entities, the number of firms that would experience the impact, and the size of the impact. Average annual compliance costs as a percentage of average annual revenues were used to assess the potential average impacts of the rule on small businesses and small governments. This ratio is a good measure of entities' ability to afford the costs attributable to a regulatory requirement, because comparing compliance costs to revenues provides a reasonable indication of the magnitude of the regulatory burden relative to a commonly available measure of economic activity. Where regulatory costs represent a small fraction of a typical entity's revenues, the financial impacts of the regulation on such entities may be considered as not significant. For non-profit organizations, impacts were measured by comparing rule costs to annual expenditures. When expenditure data were not available, however, revenue information was used as a proxy for expenditures. It is appropriate to calculate the impact ratios using annualized costs, because these costs are more representative of the continuing costs entities face to comply with the rule.

EPA estimates that there are an average of 189,000 small entities that would be affected by the renovation, repair, and painting activities program. Of these, there are an estimated 165,000 small businesses with an average impact of 0.7%, 17,000 small non-profits with an average impact of 0.1%, and 6,000 small governments with an average impact of 0.004%. These estimates are based on an average cost of approximately \$35 per renovation.

4. *Relevant Federal rules.* The requirements in this rulemaking will fit within an existing framework of other

Federal regulations that address lead-based paint. The Pre-Renovation Education Rule, discussed in Unit II.A.2. of this preamble, requires renovators to distribute a lead hazard information pamphlet to owners and occupants before conducting a renovation in target housing. This rule has been carefully crafted to harmonize with the existing pre-renovation education requirements.

Disposal of waste from renovation projects that would be regulated by this rule is covered by the Resource Conservation and Recovery Act (RCRA) regulations for solid waste. This rule does not contain specific requirements for the disposal of waste from renovations.

HUD has extensive regulations that address the conduct of interim controls, as well as other lead-based paint activities, in federally assisted housing. Some of HUD's interim controls are regulated under this rule as renovations, depending upon whether the particular interim control measure disturbs more than the threshold amount of paint. In most cases, the HUD regulations are comparable to, or more stringent than this rule. In general, persons performing HUD-regulated interim controls must have taken a course in lead-safe work practices, which is also a requirement of this rule. However, this rule does not require dust clearance testing, a process required by HUD after interim control activities that disturb more than a minimal amount of lead-based paint.

Finally, OSHA's Lead Exposure in Construction standard covers potential worker exposures to lead during many construction activities, including renovation, repair, and painting activities. Although this standard may cover many of the same projects as this final rule, the requirements themselves do not overlap. The OSHA rule addresses the protection of the worker, this EPA rule principally addresses the protection of the building occupants, particularly children under age 6 and pregnant women.

5. *Skills needed for compliance.* This rule establishes requirements for training renovators, other renovation workers, and dust sampling technicians; certifying renovators, dust sampling technicians, and entities engaged in renovation, repair, and painting activities; accrediting providers of renovation and dust sampling technician training; and for renovation work practices. Renovators and dust sampling technicians would have to take a course to learn the proper techniques for accomplishing the tasks they will perform during renovations. These courses are intended to provide

them with the information they would need to comply with the rule based on the skills they already have. Renovators would then provide on-the-job training in work practices to any other renovation workers used on a particular renovation. They would also need to document the work they have done during renovations. This does not require any special skills. Renovation firms would be required to apply for certification to perform renovations; this process does not require any special skills other than the ability to complete the application. Training providers must be knowledgeable about delivering technical training. Training providers would be required to apply for accreditation to offer renovator and dust sampling technician courses. They would also be required to provide prior notification of such courses and provide information on the students trained after each such course. Completing the accreditation application and providing the required notification information does not require any special skills.

6. *Small Business Advocacy Review Panel.* Since the earliest stages of planning for this regulation under section 402(c)(3) of TSCA, EPA has been concerned with potential small entity impacts. EPA conducted outreach to small entities, and, in 1999, convened a Small Business Advocacy Review (SBAR) Panel to obtain advice and recommendations of representatives of the small entities that would potentially be subject to this regulation's requirements. At that time, EPA was planning an initial regulation that would apply to renovations in target housing, with requirements for public and commercial building renovations, including child-occupied facility renovations, to follow at a later date. The small entity representatives (SERs) chosen for consultation reflect that initial emphasis. They included maintenance and renovation contractors, painting and decorating contractors, multi-family housing owners and operators, training providers/consultants, and representatives from several national contractor associations, the National Multi-Housing Council, and the National Association of Home Builders. After considering the existing Lead-based Paint Activities Regulations, and taking into account preliminary stakeholder feedback, EPA identified eight key elements of a potential renovation and remodeling regulation for the SBAR Panel's consideration. These elements were:

- Applicability and scope.
- Firm certification.

- Individual training and certification.
- Accreditation of training courses.
- Work practice standards.
- Prohibited practices.
- Exterior clearance.
- Interior clearance.

EPA also developed several options for each of these key elements. Although the scope and applicability options specifically presented to the SBAR Panel covered only target housing, background information presented to the SERs and to the SBAR Panel members shows that EPA was also considering a regulation covering child-occupied facilities. The 2007 Supplemental Proposal (Ref. 15) extended the potentially regulated universe to include child-occupied facilities. When the 2007 Supplemental Proposal was issued, EPA conducted a targeted mailing campaign to specifically solicit input on the rule from child-occupied facilities, such as child care providers and kindergartens, in public or commercial buildings. More information on the SBAR Panel, its recommendations, and how EPA implemented them in the development of the program, is provided in Unit VIII.C.6. of the preamble to the 2006 Proposal (Ref. 3).

7. *Alternatives considered.* The following is a discussion of significant alternatives to the rule, originated by EPA or by commenters, that could affect the economic impacts of the rule on small entities. These alternatives would have applied to both small and large entities, but, given the large number of small entities in the industry, these alternatives would primarily affect small entities. For the reasons described below, these alternatives are not consistent with the objectives of the rule.

a. *Applicability and scope.* EPA considered a number of options for the scope and applicability of the rule: include all pre-1978 housing, all pre-1978 rental housing, all pre-1960 housing, and all pre-1960 rental housing. Although the scope and applicability options specifically presented to the SBAR Panel covered only target housing, background information presented to the SERs and to the SBAR Panel members shows that EPA was also considering a regulation covering child-occupied facilities.

The SBAR Panel recommended that EPA request public comment in the proposal on the option of limiting the housing stock affected by the rule to that constructed prior to 1960, as well as the option of covering all pre-1978 housing and other options that may help to reduce costs while achieving the

protection of public health. EPA asked for comment in the proposed rule on alternative scope options, including an option limited to buildings constructed prior to 1960. After considering the public comments, EPA has determined that limiting the rule to exclude buildings constructed on or after 1960 is not consistent with the stated objectives of the rule, in part because this would not protect children under the age of 6 and pregnant women.

b. *Staged approach.* EPA proposed a staged approach that would initially address renovations in pre-1960 target housing and child-occupied facilities, or where a child had an increased blood-lead level. EPA requested comment about whether to delay implementation for post-1960 target housing and child-occupied facilities for 1 year. Most commenters objected to the phased implementation, expressing concerns about adding complexity to implementation and about potential exposures to children in buildings built between 1960 and 1978 during the first year. After reviewing the comments, EPA determined the reduced burdens of a staged approach did not outweigh the complexity that it added to implementation.

c. *Exclude categories of contractors or renovation activities.* EPA requested comment on whether to exclude any categories of specialty contractors and whether certain renovation activities should be specifically included or excluded. In response, no commenter offered any data to show that any category of contractor or type of renovation activity should be exempt because they do not create lead-based paint hazards. All of the renovation activities in the Dust Study and the other studies in the record for the rule created lead-based paint hazards. EPA determined that it had no basis on which to exempt any category of contractor or type of renovation. However, some small jobs will be exempt from the requirements of the rule under the minor maintenance exception.

d. *Prohibited practices.* The current abatement regulations in 40 CFR part 745, subpart L prohibit the following work practices during abatement projects: Open-flame burning or torching, machine sanding or grinding, abrasive blasting or sandblasting, dry scraping of large areas, and operating a heat gun in excess of 1100 degrees Fahrenheit. EPA presented four options to the SBAR Panel on this topic: prohibit these practices during renovations; allow dry scraping and exterior flame-burning or torching; allow dry scraping and interior and

exterior flame-burning or torching; or allow all of these practices. The SBAR Panel recognized industry concerns over the feasibility of prohibiting these practices, especially when no cost-effective alternatives exist. The SBAR Panel was also concerned about the potential risks associated with these practices, but noted that reasonable training, performance, containment, and clean-up requirements may adequately address these risks.

EPA followed the SBAR Panel's recommendation and requested public comment on the cost, benefit, and feasibility of prohibiting certain work practices. In response to its request for comment in the proposed rule, the Agency received information on techniques including benign strippers, steam stripping, closed planing with vacuums, infrared removal, and chemical stripping. Therefore, EPA believes that there are cost-effective alternatives to these prohibited or restricted practices. In addition, the Dust Study (*Characterization of Dust Lead Levels after Renovation, Repair, and Painting Activities*) found that most practices prohibited or restricted under EPA's Lead-based Paint Activities Regulations produce large quantities of lead dust, and that the use of the proposed work practices were not effective at containing or removing dust-lead hazards from the work area.

EPA has concluded that these practices should be prohibited or restricted during renovation, repair, and painting activities that disturb lead-based paint because the work practices in the rule are not effective at containing the spread of leaded dust when these practices are used, or at cleaning up lead-based paint hazards created by these practices. Thus, the work practices are not effective at minimizing exposure to lead-based paint hazards created during renovation activities when these activities are used.

e. *HEPA vacuums.* The proposed rule required the use of a HEPA vacuum as part of the work practice standards for renovation activities. One commenter stated that EPA did not have sufficient evidence showing that HEPA vacuums are significantly better at removing lead dust than non-HEPA vacuums. EPA has determined that the weight of the evidence provided by the studies it reviewed demonstrates that the HEPA vacuums consistently removed significant quantities of lead-based paint dust and reduced lead loadings to lower levels than did other vacuums. While there may be some vacuums cleaners that are as effective as HEPA vacuums, EPA has not been able to define quantitatively the specific attributes of

those vacuums. That is, EPA is not able to identify what criteria should be used to identify vacuums that are equivalent to HEPA vacuums in performance. Thus, EPA does not believe that it can identify in the final rule what types of vacuums can be used as substitutes for HEPA-vacuums. Therefore, EPA has not adopted this alternative.

f. *Visual inspection in lieu of cleaning verification.* EPA requested comment on whether cleaning verification is necessary given the cleaning required by the rule. Some commenters contended that a visual inspection following cleaning after a renovation is sufficient to ensure the lead-based paint dust generated by a renovation has been sufficiently cleaned-up. EPA disagrees with those commenters who requested that the work practices in the final rule not include any verification beyond visual inspection. The weight of the evidence clearly demonstrates that visual inspection following cleaning after a renovation is insufficient at detecting dust-lead hazards, even at levels significantly above the regulatory hazard standards. Further, EPA disagrees with the implication that easily visible paint chips and splinters are necessarily the primary materials generated during a renovation. EPA studies, including the Dust Study, show that renovation activities generate dust as well as chips and splinters. Therefore, EPA has not adopted this alternative.

8. *Significant issues raised by comments on the Initial Regulatory Flexibility Analysis.* A commenter requested that the plumbing-heating-cooling industry be exempted from the rule, claiming that the rule is impractical for the industry. The commenter did not provide any supporting data as to why the rule is impractical for the plumbing-heating-cooling industry, or any data indicating that renovations conducted by plumbing, heating, or cooling contractors do not create lead hazards. By contrast, the Dust Study indicated that cutting open drywall (an activity often performed by plumbing, heating, and cooling contractors) can create a lead hazard. Therefore, EPA believes that plumbing, heating, and cooling contractors who disturb more than an exempt amount of lead-based paint can create lead hazards. EPA does not believe that there is a factual basis for exempting this, or any other, industry from the rule.

Another commenter stated that EPA's proposed rule gave little deference to HUD's rules, and thus is inconsistent with the Regulatory Flexibility Act's requirements to fit new rules within the

framework of existing Federal regulations. The commenter stated that EPA's rule needed to give greater deference to the framework established in HUD's rules (especially HUD's requirements for independent clearance examinations and its prohibition of dangerous work practices), and to clearly explain how the Renovation, Repair and Painting Rule will interface with HUD's rules to avoid confusion.

Regarding HUD's requirements for independent clearance examinations, EPA's final rule clarifies that dust clearance sampling is allowed in lieu of post-renovation cleaning verification in cases where another Federal, State, Territorial, Tribal, or local regulation requires dust clearance testing and requires the renovation firm to clean the work area until it passes clearance. This would apply to HUD-regulated renovations. Regarding the prohibition of dangerous work practices, EPA's final rule prohibits the use of the following work practices during regulated renovations: Open flame burning or torching of lead-based paint; the use of machines that remove lead-based paint through high speed operation such as sanding, grinding, power planing, needle gun, abrasive blasting, or sandblasting unless such machines are used with HEPA exhaust control; and operating a heat gun above 1100 degrees Fahrenheit. EPA believes that the provisions in the final rule provide an appropriate measure of consistency with other regulatory programs (including HUD's), and will cause minimal disruption for renovation firms.

One commenter contended that EPA said that "[n]one of the housing authorities identified in section 8.2.1 as operating public housing that does not receive HUD funding qualifies as a small government under the Regulatory Flexibility Act." According to the commenter, public housing authorities are government entities, and hundreds of them are located in and are part of communities with a population of less than 50,000.

EPA's small entity analysis was not claiming that no small governments operate housing authorities, but that they would not be significantly impacted by the rule. EPA's reasoning was as follows:

- The only public housing authorities that EPA could identify that do not receive HUD funds are operated by Massachusetts, New York, Hawaii, Connecticut, and New York City.
- Massachusetts, New York, Hawaii, Connecticut, and New York City have populations over 50,000 and thus do not qualify as small governments.

- To the best of EPA's knowledge, governments with populations under 50,000 that operate public housing authorities all receive HUD funds.

- Public housing that receives funding from HUD already must comply with HUD regulations regarding lead paint and so are not likely to incur significant additional costs due to this rule.

The commenter has offered no factual information to dispute this reasoning. Therefore, the Agency believes its conclusions regarding public housing authorities operated by small governments were appropriate.

A commenter stated that the proposed rule will have a significant impact on small businesses, and that EPA's own economic analysis of this rule finds that residential property managers and lessors of residential real estate will bear the largest share of costs in association with the rule. EPA disagrees with the commenter's claim that residential property managers and lessors of residential real estate will bear the largest share of costs in association with the rule. EPA analyzed small business impacts by estimating the average cost impact ratio for each industry, calculated as the average annual compliance cost as a percentage of average annual revenues. The average cost impact ratio for lessors of real estate is below the average cost impact ratio for all small businesses under the rule. And while the average cost impact ratio for residential property managers is above the average cost impact for all small businesses under the rule, small residential property managers make up approximately 3% of the small entities impacted by the rule. Therefore, it is not accurate to claim that residential property managers and lessors of residential real estate will bear the largest share of costs in association with the rule.

Another commenter stated that given the lack of evidence showing that HEPA vacuums are significantly better at removing lead dust from floors, and because HEPA vacuums are significantly more costly than non-HEPA units, EPA should modify its proposed rule to allow cleanup with either a HEPA or non-HEPA vacuum. According to the commenter, doing so would reduce the cost to small entities in the renovation and lead mitigation businesses without compromising the level of lead dust clearance achieved by the standard.

EPA disagrees that it should modify its proposed rule to allow cleanup with a non-HEPA vacuum. EPA has determined that the weight of the evidence provided by various studies

demonstrate that the HEPA vacuums consistently removed significant quantities of lead-based paint dust and reduced lead loadings to lower levels than did other vacuums. While there may be some vacuums that are as effective as HEPA vacuums, EPA has not been able to define quantitatively the specific attributes of those vacuums. That is, EPA is not able to identify what criteria should be used to identify vacuums that are equivalent to HEPA vacuums in performance. Thus, EPA does not believe that it can identify what types of vacuums can be used as substitutes for HEPA-vacuums. EPA also notes that non-HEPA vacuums that perform as well as HEPA vacuums may not be less expensive than HEPA vacuums. For these reasons, EPA has determined that modifying its proposed rule to allow cleanup with non-HEPA vacuums would compromise the level of lead dust clearance achieved by the standard, and might not result in meaningful cost reductions.

As required by section 212 of SBREFA, EPA also is preparing a Small Entity Compliance Guide to help small entities comply with this rule. Before the date that this rule's requirements take effect for training providers, renovation firms, and renovators, the guide will be available on EPA's website at <http://www.epa.gov/lead> or from the National Lead Information Center by calling 1-800-424-LEAD (5323).

D. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104-4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and Tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with "Federal mandates" that may result in expenditures to State, local, and Tribal governments, in the aggregate, or to the private sector, of \$100 million or more in any 1 year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least costly, most cost-effective or least burdensome alternative if the

Administrator publishes with the final rule an explanation why that alternative was not adopted. Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including Tribal governments, it must have developed under section 203 of UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

Under UMRA Title II, EPA has determined that this rule contains a Federal mandate that may result in expenditures that exceed the inflation-adjusted UMRA threshold of \$100 million by the private sector in any 1 year, but it will not result in such expenditures by State, local, and Tribal governments in the aggregate. Accordingly, EPA has prepared a written statement under section 202 of UMRA which has been placed in the public docket for this rulemaking and is summarized here.

1. *Authorizing legislation.* This rule is issued under the authority of TSCA sections 402(c)(3), 404, 406, and 407, 15 U.S.C. 2682(c)(3), 2684, 2686, and 2687.

2. *Cost-benefit analysis.* EPA has prepared an analysis of the costs and benefits associated with this rulemaking, a copy of which is available in the docket for this rulemaking (Ref. 24). The Economic Analysis presents the costs of the rule as well as various regulatory options and is summarized in Unit III.A. of this preamble. EPA has estimated that the total annualized costs of this rulemaking are approximately \$400 million per year using either a 3% or a 7% discount rate, and that benefits are approximately \$700 to \$1,700 million per year using a 3% discount rate and \$700 to \$1,800 million per year using a 7% discount.

3. *State, local, and Tribal government input.* EPA has sought input from State, local and Tribal government representatives throughout the development of the renovation, repair, and painting program. EPA's experience in administering the existing lead-based paint activities program under TSCA section 402(a) suggests that these governments will play a critical role in the successful implementation of a national program to reduce exposures to lead-based paint hazards associated with renovation, repair, and painting activities. Consequently, as discussed in

Unit III.C.2. of the preamble to the 2006 Proposal (Ref. 3), the Agency has met with State, local, and Tribal government officials on numerous occasions to discuss renovation issues.

4. *Least burdensome option.* EPA considered a wide variety of options for addressing the risks presented by renovation activities where lead-based paint is present. As part of the development of the renovation, repair, and painting program, EPA has considered different options for the scope of the rule, various combinations of training and certification requirements for individuals who perform renovations, various combinations of work practice requirements, and various methods for ensuring that no lead-based paint hazards are left behind by persons performing renovations. The Economic Analysis analyzed several different options for the scope of the rule. Additional information on the options considered is available in Unit VIII.C.6. of the preamble for the 2006 Proposal (Ref. 3), and in the Economic Analysis (Ref. 24). EPA has determined that the preferred option is the least burdensome option available that achieves the primary objective of this rule, which is to minimize exposure to lead-based paint hazards created during renovation, repair, and painting activities in housing where children under age 6 reside and where a pregnant woman resides and in housing or other buildings frequented by children under age 6.

This rule does not contain a significant Federal intergovernmental mandate as described by section 203 of UMRA. Based on the definition of "small government jurisdiction" in RFA section 601, no State governments can be considered small. Small Territorial or Tribal governments may apply for authorization to administer and enforce this program, which would entail costs, but these small jurisdictions are under no obligation to do so.

EPA has determined that this rule contains no regulatory requirements that might significantly or uniquely affect small governments. Small governments operate schools that are child-occupied facilities. EPA generally measures a significant impact under UMRA as being expenditures, in the aggregate, of more than 1% of small government revenues in any 1 year. As explained in Unit III.C.3., the rule is expected to result in small government impacts well under 1% of revenues. So EPA has determined that the rule does not significantly affect small governments. Nor does the rule uniquely affect small governments, as the rule is not targeted

at small governments, does not primarily affect small governments, and does not impose a different burden on small governments than on other entities that operate child-occupied facilities.

E. Federalism

Pursuant to Executive Order 13132, entitled *Federalism* (64 FR 43255, August 10, 1999), EPA has determined that this rule does not have “federalism implications,” because it will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. Thus, Executive Order 13132 does not apply to this rule. States would be able to apply for, and receive authorization to administer these requirements, but would be under no obligation to do so. In the absence of a State authorization, EPA will administer these requirements. Nevertheless, in the spirit of the objectives of this Executive Order, and consistent with EPA policy to promote communications between the Agency and State and local governments, EPA has consulted with representatives of State and local governments in developing the renovation, repair, and painting program. These consultations are as described in the preamble to the 2006 Proposal (Ref. 3).

F. Tribal Implications

As required by Executive Order 13175, entitled *Consultation and Coordination with Indian Tribal Governments* (59 FR 22951, November 9, 2000), EPA has determined that this rule does not have tribal implications because it will not have substantial direct effects on tribal governments, on the relationship between the Federal government and the Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes, as specified in the Order. Tribes would be able to apply for, and receive authorization to administer these requirements on Tribal lands, but Tribes would be under no obligation to do so. In the absence of a Tribal authorization, EPA will administer these requirements. While Tribes may operate child-occupied facilities covered by the rule such as kindergartens, pre-kindergartens, and day care facilities, EPA has determined that this rule would not have substantial direct effects on the Tribal governments that operate these facilities.

Thus, Executive Order 13175 does not apply to this rule. Although Executive Order 13175 does not apply to this rule, EPA consulted with Tribal officials and others by discussing potential renovation regulatory options for the renovation, repair, and painting program at several national lead program meetings hosted by EPA and other interested Federal agencies.

G. Children's Health Protection

Executive Order 13045, entitled *Protection of Children from Environmental Health Risks and Safety Risks* (62 FR 19885, April 23, 1997) applies to this rule because it is an “economically significant regulatory action” as defined by Executive Order 12866, and because the environmental health or safety risk addressed by this action may have a disproportionate effect on children. Accordingly, EPA has evaluated the environmental health or safety effects of renovation, repair, and painting projects on children. Various aspects of this evaluation are discussed in the preamble to the 2006 Proposal (Ref. 3).

The primary purpose of this rule is to minimize exposure to lead-based paint hazards created during renovation, repair, and painting activities in housing where children under age 6 reside and in housing or other buildings frequented by children under age 6. In the absence of this regulation, adequate work practices are not likely to be employed during renovation, repair, and painting activities. EPA's analysis indicates that there will be approximately 1.4 million children under age 6 affected by the rule. These children are projected to receive considerable benefits due to this regulation.

H. Energy Effects

This rule is not a “significant energy action” as defined in Executive Order 13211, entitled *Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use* (66 FR 28355, May 22, 2001) because it is not likely to have any adverse effect on the supply, distribution, or use of energy.

I. Technology Standards

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA), Public Law No. 104–113, 12(d) (15 U.S.C. 272 note), directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g.,

materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. The NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards. In the 2006 Proposal, EPA proposed to adopt a number of work practice requirements that could be considered technical standards for performing renovation projects in residences that contain lead-based paint. As discussed in Unit VIII.I. of the 2006 Proposal, EPA identified two potentially applicable voluntary consensus standards (Ref. 3 at 1626). ASTM International (formerly the American Society for Testing and Materials) has developed two potentially applicable documents: *Standard Practice for Clearance Examinations Following Lead Hazard Reduction Activities in Single-Family Dwellings and Child-Occupied Facilities* (Ref. 50), and “Standard Guide for Evaluation, Management, and Control of Lead Hazards in Facilities” (Ref. 51). With respect to the first document, EPA did not propose to require traditional clearance examinations, including dust sampling, following renovation projects. However, EPA did propose to require that a visual inspection for dust, debris, and residue be conducted after cleaning and before post-renovation cleaning verification is performed. The first ASTM document does contain information on conducting a visual inspection before collecting dust clearance samples. The second ASTM document is a comprehensive guide to identifying and controlling lead-based paint hazards. Some of the information in this document is relevant to the work practices required by the rule. Each of these ASTM documents represents state-of-the-art knowledge regarding the performance of these particular aspects of lead-based paint hazard evaluation and control practices and EPA continues to recommend the use of these documents where appropriate. However, because each of these documents is extremely detailed and encompasses many circumstances beyond the scope of this rulemaking, EPA determined that it would be impractical to incorporate these voluntary consensus standards into the rule.

In addition, this final rule contains performance standards and a process for recognizing test kits that may be used by certified renovators to determine whether components to be affected by a renovation contain lead-based paint.

EPA will recognize those kits that meet certain performance standards for limited false positives and negatives. EPA will also recognize only those kits that have been properly validated by a laboratory independent of the kit manufacturer. For most kits, this will mean participating in EPA's Environmental Technology Verification (ETV) program. With stakeholder input, EPA is adapting a voluntary consensus standard, ASTM's "Standard Practice for Evaluating the Performance Characteristics of Qualitative Chemical Spot Test Kits for Lead in Paint" (Ref. 28), for use as a testing protocol to determine whether a particular kit has met the performance standards established in this final rule.

J. Environmental Justice

Executive Order 12898, entitled *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (59 FR 7629, February 16, 1994) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

EPA has assessed the potential impact of this rule on minority and low-income populations. The results of this assessment are presented in the Economic Analysis, which is available in the public docket for this rulemaking (Ref. 24). As a result of this assessment, the Agency has determined that this final rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population.

VI. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General

of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is a "major rule" as defined by 5 U.S.C. 804(2). This rule is effective June 23, 2008.

List of Subjects in 40 CFR Part 745

Environmental protection, Child-occupied facility, Housing renovation, Lead, Lead-based paint, Renovation, Reporting and recordkeeping requirements.

Dated: March 31, 2008,

Steven L. Johnson,
Administrator.

■ Therefore, 40 CFR chapter I is amended as follows:

PART 745—[AMENDED]

■ 1. The authority citation for part 745 continues to read as follows:

Authority: 15 U.S.C. 2605, 2607, 2681-2692 and 42 U.S.C. 4852d.

■ 2. Section 745.80 is revised to read as follows:

§ 745.80 Purpose.

This subpart contains regulations developed under sections 402 and 406 of the Toxic Substances Control Act (15 U.S.C. 2682 and 2686) and applies to all renovations performed for compensation in target housing and child-occupied facilities. The purpose of this subpart is to ensure the following:

(a) Owners and occupants of target housing and child-occupied facilities receive information on lead-based paint hazards before these renovations begin; and

(b) Individuals performing renovations regulated in accordance with § 745.82 are properly trained; renovators and firms performing these renovations are certified; and the work practices in § 745.85 are followed during these renovations.

■ 3. Section 745.81 is revised to read as follows:

§ 745.81 Effective dates.

(a) *Training, certification and accreditation requirements and work practice standards.* The training, certification and accreditation requirements and work practice standards in this subpart are applicable in any State or Indian Tribal area that does not have a renovation program that is authorized under subpart Q of this

part. The training, certification and accreditation requirements and work practice standards in this subpart will become effective as follows:

(1) *Training programs.* Effective June 23, 2008, no training program may provide, offer, or claim to provide training or refresher training for EPA certification as a renovator or a dust sampling technician without accreditation from EPA under § 745.225. Training programs may apply for accreditation under § 745.225 beginning April 22, 2009.

(2) *Firms.* (i) Firms may apply for certification under § 745.89 beginning October 22, 2009.

(ii) On or after April 22, 2010, no firm may perform, offer, or claim to perform renovations without certification from EPA under § 745.89 in target housing or child-occupied facilities, unless the renovation qualifies for one of the exceptions identified in § 745.82(a) or (c).

(3) *Individuals.* On or after April 22, 2010, all renovations must be directed by renovators certified in accordance with § 745.90(a) and performed by certified renovators or individuals trained in accordance with § 745.90(b)(2) in target housing or child-occupied facilities, unless the renovation qualifies for one of the exceptions identified in § 745.82(a) or (c).

(4) *Work practices.* On or after April 22, 2010, all renovations must be performed in accordance with the work practice standards in § 745.85 and the associated recordkeeping requirements in § 745.86(b)(6) and (b)(7) in target housing or child-occupied facilities, unless the renovation qualifies for one of the exceptions identified in § 745.82(a) or (c).

(5) The suspension and revocation provisions in § 745.91 are effective April 22, 2010.

(b) *Renovation-specific pamphlet.* Before December 22, 2008, renovators or firms performing renovations in States and Indian Tribal areas without an authorized program may provide owners and occupants with either of the following EPA pamphlets: *Protect Your Family From Lead in Your Home* or *Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools*. After that date, *Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools* must be used exclusively.

(c) *Pre-Renovation Education Rule.* With the exception of the requirement to use the pamphlet entitled *Renovate Right: Important Lead Hazard Information for Families, Child Care*

Providers and Schools, the provisions of the Pre-Renovation Education Rule in this subpart have been in effect since June 1999.

■ 4. Section 745.82 is revised to read as follows:

§ 745.82 Applicability.

(a) This subpart applies to all renovations performed for compensation in target housing and child-occupied facilities, except for the following:

(1) Renovations in target housing or child-occupied facilities in which a written determination has been made by an inspector or risk assessor (certified pursuant to either Federal regulations at § 745.226 or a State or Tribal certification program authorized pursuant to § 745.324) that the components affected by the renovation are free of paint or other surface coatings that contain lead equal to or in excess of 1.0 milligrams/per square centimeter (mg/cm²) or 0.5% by weight, where the firm performing the renovation has obtained a copy of the determination.

(2) Renovations in target housing or child-occupied facilities in which a certified renovator, using an EPA recognized test kit as defined in § 745.83 and following the kit manufacturer's instructions, has tested each component affected by the renovation and determined that the components are free of paint or other surface coatings that contain lead equal to or in excess of 1.0 mg/cm² or 0.5% by weight. If the components make up an integrated whole, such as the individual stair treads and risers of a single staircase, the renovator is required to test only one of the individual components, unless the individual components appear to have been repainted or refinished separately.

(b) The information distribution requirements in § 745.84 do not apply to emergency renovations, which are renovation activities that were not planned but result from a sudden, unexpected event (such as non-routine failures of equipment) that, if not immediately attended to, presents a safety or public health hazard, or threatens equipment and/or property with significant damage. Interim controls performed in response to an elevated blood lead level in a resident child are also emergency renovations. Emergency renovations other than interim controls are also exempt from the warning sign, containment, waste handling, training, and certification requirements in §§ 745.85, 745.89, and 745.90 to the extent necessary to respond to the emergency. Emergency

renovations are not exempt from the cleaning requirements of § 745.85(a)(5), which must be performed by certified renovators or individuals trained in accordance with § 745.90(b)(2), the cleaning verification requirements of § 745.85(b), which must be performed by certified renovators, and the recordkeeping requirements of § 745.86(b)(6) and (b)(7).

(c) The training requirements in § 745.90 and the work practice standards for renovation activities in § 745.85 apply to all renovations covered by this subpart, except for renovations in target housing for which the firm performing the renovation has obtained a statement signed by the owner that the renovation will occur in the owner's residence, no child under age 6 resides there, no pregnant woman resides there, the housing is not a child-occupied facility, and the owner acknowledges that the renovation firm will not be required to use the work practices contained in EPA's renovation, repair, and painting rule. For the purposes of this section, a child resides in the primary residence of his or her custodial parents, legal guardians, and foster parents. A child also resides in the primary residence of an informal caretaker if the child lives and sleeps most of the time at the caretaker's residence.

■ 5. Section 745.83 is amended as follows:

■ a. Remove the definitions of "Emergency renovation operations" and "Multi-family housing."

■ b. Revise the definitions of "Pamphlet," "Renovation," and "Renovator."

■ c. Add 13 definitions in alphabetical order.

§ 745.83 Definitions.

* * * * *

Child-occupied facility means a building, or portion of a building, constructed prior to 1978, visited regularly by the same child, under 6 years of age, on at least two different days within any week (Sunday through Saturday period), provided that each day's visit lasts at least 3 hours and the combined weekly visits last at least 6 hours, and the combined annual visits last at least 60 hours. Child-occupied facilities may include, but are not limited to, day care centers, preschools and kindergarten classrooms. Child-occupied facilities may be located in target housing or in public or commercial buildings. With respect to common areas in public or commercial buildings that contain child-occupied facilities, the child-occupied facility encompasses only those common areas

that are routinely used by children under age 6, such as restrooms and cafeterias. Common areas that children under age 6 only pass through, such as hallways, stairways, and garages are not included. In addition, with respect to exteriors of public or commercial buildings that contain child-occupied facilities, the child-occupied facility encompasses only the exterior sides of the building that are immediately adjacent to the child-occupied facility or the common areas routinely used by children under age 6.

Cleaning verification card means a card developed and distributed, or otherwise approved, by EPA for the purpose of determining, through comparison of wet and dry disposable cleaning cloths with the card, whether post-renovation cleaning has been properly completed.

Component or building component means specific design or structural elements or fixtures of a building or residential dwelling that are distinguished from each other by form, function, and location. These include, but are not limited to, interior components such as: Ceilings, crown molding, walls, chair rails, doors, door trim, floors, fireplaces, radiators and other heating units, shelves, shelf supports, stair treads, stair risers, stair stringers, newel posts, railing caps, balustrades, windows and trim (including sashes, window heads, jambs, sills or stools and troughs), built in cabinets, columns, beams, bathroom vanities, counter tops, and air conditioners; and exterior components such as: Painted roofing, chimneys, flashing, gutters and downspouts, ceilings, soffits, fascias, rake boards, cornerboards, bulkheads, doors and door trim, fences, floors, joists, lattice work, railings and railing caps, siding, handrails, stair risers and treads, stair stringers, columns, balustrades, windowsills or stools and troughs, casings, sashes and wells, and air conditioners.

Dry disposable cleaning cloth means a commercially available dry, electrostatically charged, white disposable cloth designed to be used for cleaning hard surfaces such as uncarpeted floors or counter tops.

Firm means a company, partnership, corporation, sole proprietorship or individual doing business, association, or other business entity; a Federal, State, Tribal, or local government agency; or a nonprofit organization.

HEPA vacuum means a vacuum cleaner which has been designed with a high-efficiency particulate air (HEPA) filter as the last filtration stage. A HEPA filter is a filter that is capable of

capturing particles of 0.3 microns with 99.97% efficiency. The vacuum cleaner must be designed so that all the air drawn into the machine is expelled through the HEPA filter with none of the air leaking past it.

Interim controls means a set of measures designed to temporarily reduce human exposure or likely exposure to lead-based paint hazards, including specialized cleaning, repairs, maintenance, painting, temporary containment, ongoing monitoring of lead-based paint hazards or potential hazards, and the establishment and operation of management and resident education programs.

Minor repair and maintenance activities are activities, including minor heating, ventilation or air conditioning work, electrical work, and plumbing, that disrupt 6 square feet or less of painted surface per room for interior activities or 20 square feet or less of painted surface for exterior activities where none of the work practices prohibited or restricted by § 745.85(a)(3) are used and where the work does not involve window replacement or demolition of painted surface areas. When removing painted components, or portions of painted components, the entire surface area removed is the amount of painted surface disturbed. Jobs, other than emergency renovations, performed in the same room within the same 30 days must be considered the same job for the purpose of determining whether the job is a minor repair and maintenance activity.

Pamphlet means the EPA pamphlet titled *Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools* developed under section 406(a) of TSCA for use in complying with section 406(b) of TSCA, or any State or Tribal pamphlet approved by EPA pursuant to 40 CFR 745.326 that is developed for the same purpose. This includes reproductions of the pamphlet when copied in full and without revision or deletion of material from the pamphlet (except for the addition or revision of State or local sources of information). Before December 22, 2008, the term "pamphlet" also means any pamphlet developed by EPA under section 406(a) of TSCA or any State or Tribal pamphlet approved by EPA pursuant to § 745.326.

Recognized test kit means a commercially available kit recognized by EPA under § 745.88 as being capable of allowing a user to determine the presence of lead at levels equal to or in excess of 1.0 milligrams per square centimeter, or more than 0.5% lead by

weight, in a paint chip, paint powder, or painted surface.

Renovation means the modification of any existing structure, or portion thereof, that results in the disturbance of painted surfaces, unless that activity is performed as part of an abatement as defined by this part (40 CFR 745.223). The term renovation includes (but is not limited to): The removal, modification or repair of painted surfaces or painted components (e.g., modification of painted doors, surface restoration, window repair, surface preparation activity (such as sanding, scraping, or other such activities that may generate paint dust)); the removal of building components (e.g., walls, ceilings, plumbing, windows); weatherization projects (e.g., cutting holes in painted surfaces to install blown-in insulation or to gain access to attics, planing thresholds to install weather-stripping), and interim controls that disturb painted surfaces. A renovation performed for the purpose of converting a building, or part of a building, into target housing or a child-occupied facility is a renovation under this subpart. The term renovation does not include minor repair and maintenance activities.

Renovator means an individual who either performs or directs workers who perform renovations. A certified renovator is a renovator who has successfully completed a renovator course accredited by EPA or an EPA-authorized State or Tribal program.

Training hour means at least 50 minutes of actual learning, including, but not limited to, time devoted to lecture, learning activities, small group activities, demonstrations, evaluations, and hands-on experience.

Wet disposable cleaning cloth means a commercially available, pre-moistened white disposable cloth designed to be used for cleaning hard surfaces such as uncarpeted floors or counter tops.

Wet mopping system means a device with the following characteristics: A long handle, a mop head designed to be used with disposable absorbent cleaning pads, a reservoir for cleaning solution, and a built-in mechanism for distributing or spraying the cleaning solution onto a floor, or a method of equivalent efficacy.

Work area means the area that the certified renovator establishes to contain the dust and debris generated by a renovation.

§ 745.84 [Removed]

■ 6. Section 745.84 is removed.

§ 745.85 [Redesignated as § 745.84]

■ 7. Section 745.85 is redesignated as § 745.84.

■ 8. Newly designated § 745.84 is amended as follows:

■ a. Revise the introductory text of paragraph (a) and revise paragraph (a)(2)(i).

■ b. Revise the introductory text of paragraph (b) and revise paragraphs (b)(2) and (b)(4).

■ c. Redesignate paragraph (c) as paragraph (d).

■ d. Add a new paragraph (c).

■ e. Revise the introductory text of newly designated paragraph (d).

§ 745.84 Information distribution requirements.

(a) *Renovations in dwelling units.* No more than 60 days before beginning renovation activities in any residential dwelling unit of target housing, the firm performing the renovation must:

* * * * *

(2) * * * * *
(i) Obtain, from the adult occupant, a written acknowledgment that the occupant has received the pamphlet; or certify in writing that a pamphlet has been delivered to the dwelling and that the firm performing the renovation has been unsuccessful in obtaining a written acknowledgment from an adult occupant. Such certification must include the address of the unit undergoing renovation, the date and method of delivery of the pamphlet, names of the persons delivering the pamphlet, reason for lack of acknowledgment (e.g., occupant refuses to sign, no adult occupant available), the signature of a representative of the firm performing the renovation, and the date of signature.

* * * * *

(b) *Renovations in common areas.* No more than 60 days before beginning renovation activities in common areas of multi-unit target housing, the firm performing the renovation must:

* * * * *

(2) *Comply with one of the following.*

(i) Notify in writing, or ensure written notification of, each affected unit and make the pamphlet available upon request prior to the start of renovation. Such notification shall be accomplished by distributing written notice to each affected unit. The notice shall describe the general nature and locations of the planned renovation activities; the expected starting and ending dates; and a statement of how the occupant can obtain the pamphlet, at no charge, from the firm performing the renovation, or

(ii) While the renovation is ongoing, post informational signs describing the

general nature and locations of the renovation and the anticipated completion date. These signs must be posted in areas where they are likely to be seen by the occupants of all of the affected units. The signs must be accompanied by a posted copy of the pamphlet or information on how interested occupants can review a copy of the pamphlet or obtain a copy from the renovation firm at no cost to occupants.

* * * * *

(4) If the scope, locations, or expected starting and ending dates of the planned renovation activities change after the initial notification, and the firm provided written initial notification to each affected unit, the firm performing the renovation must provide further written notification to the owners and occupants providing revised information on the ongoing or planned activities. This subsequent notification must be provided before the firm performing the renovation initiates work beyond that which was described in the original notice.

(c) *Renovations in child-occupied facilities.* No more than 60 days before beginning renovation activities in any child-occupied facility, the firm performing the renovation must:

(1)(i) Provide the owner of the building with the pamphlet, and comply with one of the following:

(A) Obtain, from the owner, a written acknowledgment that the owner has received the pamphlet.

(B) Obtain a certificate of mailing at least 7 days prior to the renovation.

(ii) If the child-occupied facility is not the owner of the building, provide an adult representative of the child-occupied facility with the pamphlet, and comply with one of the following:

(A) Obtain, from the adult representative, a written acknowledgment that the adult representative has received the pamphlet; or certify in writing that a pamphlet has been delivered to the facility and that the firm performing the renovation has been unsuccessful in obtaining a written acknowledgment from an adult representative. Such certification must include the address of the child-occupied facility undergoing renovation, the date and method of delivery of the pamphlet, names of the persons delivering the pamphlet, reason for lack of acknowledgment (e.g., representative refuses to sign), the signature of a representative of the firm performing the renovation, and the date of signature.

(B) Obtain a certificate of mailing at least 7 days prior to the renovation.

(2) Provide the parents and guardians of children using the child-occupied facility with the pamphlet and information describing the general nature and locations of the renovation and the anticipated completion date by complying with one of the following:

(i) Mail or hand-deliver the pamphlet and the renovation information to each parent or guardian of a child using the child-occupied facility.

(ii) While the renovation is ongoing, post informational signs describing the general nature and locations of the renovation and the anticipated completion date. These signs must be posted in areas where they can be seen by the parents or guardians of the children frequenting the child-occupied facility. The signs must be accompanied by a posted copy of the pamphlet or information on how interested parents or guardians can review a copy of the pamphlet or obtain a copy from the renovation firm at no cost to the parents or guardians.

(3) The renovation firm must prepare, sign, and date a statement describing the steps performed to notify all parents and guardians of the intended renovation activities and to provide the pamphlet.

(d) *Written acknowledgment.* The written acknowledgments required by paragraphs (a)(1)(i), (a)(2)(i), (b)(1)(i), (c)(1)(i)(A), and (c)(1)(ii)(A) of this section must:

* * * * *

■ 9. Section 745.85 is added to subpart E to read as follows:

§ 745.85 Work practice standards.

(a) *Standards for renovation activities.* Renovations must be performed by certified firms using certified renovators as directed in § 745.89. The responsibilities of certified firms are set forth in § 745.89(d) and the responsibilities of certified renovators are set forth in § 745.90(b).

(1) *Occupant protection.* Firms must post signs clearly defining the work area and warning occupants and other persons not involved in renovation activities to remain outside of the work area. To the extent practicable, these signs must be in the primary language of the occupants. These signs must be posted before beginning the renovation and must remain in place and readable until the renovation and the post-renovation cleaning verification have been completed. If warning signs have been posted in accordance with 24 CFR 35.1345(b)(2) or 29 CFR 1926.62(m), additional signs are not required by this section.

(2) *Containing the work area.* Before beginning the renovation, the firm must isolate the work area so that no dust or

debris leaves the work area while the renovation is being performed. In addition, the firm must maintain the integrity of the containment by ensuring that any plastic or other impermeable materials are not torn or displaced, and taking any other steps necessary to ensure that no dust or debris leaves the work area while the renovation is being performed. The firm must also ensure that containment is installed in such a manner that it does not interfere with occupant and worker egress in an emergency.

(i) *Interior renovations.* The firm must:

(A) Remove all objects from the work area, including furniture, rugs, and window coverings, or cover them with plastic sheeting or other impermeable material with all seams and edges taped or otherwise sealed.

(B) Close and cover all ducts opening in the work area with taped-down plastic sheeting or other impermeable material.

(C) Close windows and doors in the work area. Doors must be covered with plastic sheeting or other impermeable material. Doors used as an entrance to the work area must be covered with plastic sheeting or other impermeable material in a manner that allows workers to pass through while confining dust and debris to the work area.

(D) Cover the floor surface, including installed carpet, with taped-down plastic sheeting or other impermeable material in the work area 6 feet beyond the perimeter of surfaces undergoing renovation or a sufficient distance to contain the dust, whichever is greater.

(E) Use precautions to ensure that all personnel, tools, and other items, including the exteriors of containers of waste, are free of dust and debris before leaving the work area.

(ii) *Exterior renovations.* The firm must:

(A) Close all doors and windows within 20 feet of the renovation. On multi-story buildings, close all doors and windows within 20 feet of the renovation on the same floor as the renovation, and close all doors and windows on all floors below that are the same horizontal distance from the renovation.

(B) Ensure that doors within the work area that will be used while the job is being performed are covered with plastic sheeting or other impermeable material in a manner that allows workers to pass through while confining dust and debris to the work area.

(C) Cover the ground with plastic sheeting or other disposable impermeable material extending 10 feet beyond the perimeter of surfaces

undergoing renovation or a sufficient distance to collect falling paint debris, whichever is greater, unless the property line prevents 10 feet of such ground covering.

(D) In certain situations, the renovation firm must take extra precautions in containing the work area to ensure that dust and debris from the renovation does not contaminate other buildings or other areas of the property or migrate to adjacent properties.

(3) *Prohibited and restricted practices.* The work practices listed below shall be prohibited or restricted during a renovation as follows:

(i) Open-flame burning or torching of lead-based paint is prohibited.

(ii) The use of machines that remove lead-based paint through high speed operation such as sanding, grinding, power planing, needle gun, abrasive blasting, or sandblasting, is prohibited unless such machines are used with HEPA exhaust control.

(iii) Operating a heat gun on lead-based paint is permitted only at temperatures below 1100 degrees Fahrenheit.

(4) *Waste from renovations*—(i) Waste from renovation activities must be contained to prevent releases of dust and debris before the waste is removed from the work area for storage or disposal. If a chute is used to remove waste from the work area, it must be covered.

(ii) At the conclusion of each work day and at the conclusion of the renovation, waste that has been collected from renovation activities must be stored under containment, in an enclosure, or behind a barrier that prevents release of dust and debris out of the work area and prevents access to dust and debris.

(iii) When the firm transports waste from renovation activities, the firm must contain the waste to prevent release of dust and debris.

(5) *Cleaning the work area.* After the renovation has been completed, the firm must clean the work area until no dust, debris or residue remains.

(i) *Interior and exterior renovations.* The firm must:

(A) Collect all paint chips and debris and, without dispersing any of it, seal this material in a heavy-duty bag.

(B) Remove the protective sheeting. Mist the sheeting before folding it, fold the dirty side inward, and either tape shut to seal or seal in heavy-duty bags. Sheeting used to isolate contaminated rooms from non-contaminated rooms must remain in place until after the cleaning and removal of other sheeting. Dispose of the sheeting as waste.

(ii) *Additional cleaning for interior renovations.* The firm must clean all objects and surfaces in the work area and within 2 feet of the work area in the following manner, cleaning from higher to lower:

(A) *Walls.* Clean walls starting at the ceiling and working down to the floor by either vacuuming with a HEPA vacuum or wiping with a damp cloth.

(B) *Remaining surfaces.* Thoroughly vacuum all remaining surfaces and objects in the work area, including furniture and fixtures, with a HEPA vacuum. The HEPA vacuum must be equipped with a beater bar when vacuuming carpets and rugs.

(C) Wipe all remaining surfaces and objects in the work area, except for carpeted or upholstered surfaces, with a damp cloth. Mop uncarpeted floors thoroughly, using a mopping method that keeps the wash water separate from the rinse water, such as the 2-bucket mopping method, or using a wet mopping system.

(b) *Standards for post-renovation cleaning verification*—(1) *Interiors.* (i) A certified renovator must perform a visual inspection to determine whether dust, debris or residue is still present. If dust, debris or residue is present, these conditions must be removed by re-cleaning and another visual inspection must be performed.

(ii) After a successful visual inspection, a certified renovator must:

(A) Verify that each windowsill in the work area has been adequately cleaned, using the following procedure.

(1) Wipe the windowsill with a wet disposable cleaning cloth that is damp to the touch. If the cloth matches or is lighter than the cleaning verification card, the windowsill has been adequately cleaned.

(2) If the cloth does not match and is darker than the cleaning verification card, re-clean the windowsill as directed in paragraphs (a)(5)(ii)(B) and (a)(5)(ii)(C) of this section, then either use a new cloth or fold the used cloth in such a way that an unused surface is exposed, and wipe the surface again. If the cloth matches or is lighter than the cleaning verification card, that windowsill has been adequately cleaned.

(3) If the cloth does not match and is darker than the cleaning verification card, wait for 1 hour or until the surface has dried completely, whichever is longer.

(4) After waiting for the windowsill to dry, wipe the windowsill with a dry disposable cleaning cloth. After this wipe, the windowsill has been adequately cleaned.

(B) Wipe uncarpeted floors and countertops within the work area with a wet disposable cleaning cloth. Floors must be wiped using an application device with a long handle and a head to which the cloth is attached. The cloth must remain damp at all times while it is being used to wipe the surface for post-renovation cleaning verification. If the surface within the work area is greater than 40 square feet, the surface within the work area must be divided into roughly equal sections that are each less than 40 square feet. Wipe each such section separately with a new wet disposable cleaning cloth. If the cloth used to wipe each section of the surface within the work area matches the cleaning verification card, the surface has been adequately cleaned.

(1) If the cloth used to wipe a particular surface section does not match the cleaning verification card, re-clean that section of the surface as directed in paragraphs (a)(5)(ii)(B) and (a)(5)(ii)(C) of this section, then use a new wet disposable cleaning cloth to wipe that section again. If the cloth matches the cleaning verification card, that section of the surface has been adequately cleaned.

(2) If the cloth used to wipe a particular surface section does not match the cleaning verification card after the surface has been re-cleaned, wait for 1 hour or until the entire surface within the work area has dried completely, whichever is longer.

(3) After waiting for the entire surface within the work area to dry, wipe each section of the surface that has not yet achieved post-renovation cleaning verification with a dry disposable cleaning cloth. After this wipe, that section of the surface has been adequately cleaned.

(iii) When the work area passes the post-renovation cleaning verification, remove the warning signs.

(2) *Exteriors.* A certified renovator must perform a visual inspection to determine whether dust, debris or residue is still present on surfaces in and below the work area, including windowsills and the ground. If dust, debris or residue is present, these conditions must be eliminated and another visual inspection must be performed. When the area passes the visual inspection, remove the warning signs.

(c) *Optional dust clearance testing.* Cleaning verification need not be performed if the contract between the renovation firm and the person contracting for the renovation or another Federal, State, Territorial, Tribal, or local law or regulation requires:

(1) The renovation firm to perform dust clearance sampling at the conclusion of a renovation covered by this subpart.

(2) The dust clearance samples are required to be collected by a certified inspector, risk assessor or dust sampling technician.

(3) The renovation firm is required to re-clean the work area until the dust clearance sample results are below the clearance standards in § 745.227(e)(8) or any applicable State, Territorial, Tribal, or local standard.

(d) *Activities conducted after post-renovation cleaning verification.* Activities that do not disturb paint, such as applying paint to walls that have already been prepared, are not regulated by this subpart if they are conducted after post-renovation cleaning verification has been performed.

■ 10. Section 745.86 is revised to read as follows:

§ 745.86 Recordkeeping and reporting requirements.

(a) Firms performing renovations must retain and, if requested, make available to EPA all records necessary to demonstrate compliance with this subpart for a period of 3 years following completion of the renovation. This 3-year retention requirement does not supersede longer obligations required by other provisions for retaining the same documentation, including any applicable State or Tribal laws or regulations.

(b) Records that must be retained pursuant to paragraph (a) of this section shall include (where applicable):

(1) Reports certifying that a determination had been made by an inspector (certified pursuant to either Federal regulations at § 745.226 or an EPA-authorized State or Tribal certification program) that lead-based paint is not present on the components affected by the renovation, as described in § 745.82(b)(1).

(2) Signed and dated acknowledgments of receipt as described in § 745.84(a)(1)(i), (a)(2)(i), (b)(1)(i), (c)(1)(i)(A), and (c)(1)(ii)(A).

(3) Certifications of attempted delivery as described in § 745.84(a)(2)(i) and (c)(1)(ii)(A).

(4) Certificates of mailing as described in § 745.84(a)(1)(ii), (a)(2)(ii), (b)(1)(ii), (c)(1)(i)(B), and (c)(1)(ii)(B).

(5) Records of notification activities performed regarding common area renovations, as described in § 745.84(b)(3) and (b)(4), and renovations in child-occupied facilities, as described in § 745.84(c)(2).

(6) Any signed and dated statements received from owner-occupants

documenting that the requirements of § 745.85 do not apply. These statements must include a declaration that the renovation will occur in the owner's residence, a declaration that no children under age 6 reside there, a declaration that no pregnant woman resides there, a declaration that the housing is not a child-occupied facility, the address of the unit undergoing renovation, the owner's name, an acknowledgment by the owner that the work practices to be used during the renovation will not necessarily include all of the lead-safe work practices contained in EPA's renovation, repair, and painting rule, the signature of the owner, and the date of signature. These statements must be written in the same language as the text of the renovation contract, if any.

(7) Documentation of compliance with the requirements of § 745.85, including documentation that a certified renovator was assigned to the project, that the certified renovator provided on-the-job training for workers used on the project, that the certified renovator performed or directed workers who performed all of the tasks described in § 745.85(a), and that the certified renovator performed the post-renovation cleaning verification described in § 745.85(b). If the renovation firm was unable to comply with all of the requirements of this rule due to an emergency as defined in § 745.82, the firm must document the nature of the emergency and the provisions of the rule that were not followed. This documentation must include a copy of the certified renovator's training certificate, and a certification by the certified renovator assigned to the project that:

(i) Training was provided to workers (topics must be identified for each worker).

(ii) Warning signs were posted at the entrances to the work area.

(iii) If test kits were used, that the specified brand of kits was used at the specified locations and that the results were as specified.

(iv) The work area was contained by:

(A) Removing or covering all objects in the work area (interiors).

(B) Closing and covering all HVAC ducts in the work area (interiors).

(C) Closing all windows in the work area (interiors) or closing all windows in and within 20 feet of the work area (exteriors).

(D) Closing and sealing all doors in the work area (interiors) or closing and sealing all doors in and within 20 feet of the work area (exteriors).

(E) Covering doors in the work area that were being used to allow passage but prevent spread of dust.

(F) Covering the floor surface, including installed carpet, with taped-down plastic sheeting or other impermeable material in the work area 6 feet beyond the perimeter of surfaces undergoing renovation or a sufficient distance to contain the dust, whichever is greater (interiors) or covering the ground with plastic sheeting or other disposable impermeable material anchored to the building extending 10 feet beyond the perimeter of surfaces undergoing renovation or a sufficient distance to collect falling paint debris, whichever is greater, unless the property line prevents 10 feet of such ground covering, weighted down by heavy objects (exteriors).

(G) Installing (if necessary) vertical containment to prevent migration of dust and debris to adjacent property (exteriors).

(v) Waste was contained on-site and while being transported off-site.

(vi) The work area was properly cleaned after the renovation by:

(A) Picking up all chips and debris, misting protective sheeting, folding it dirty side inward, and taping it for removal.

(B) Cleaning the work area surfaces and objects using a HEPA vacuum and/or wet cloths or mops (interiors).

(vii) The certified renovator performed the post-renovation cleaning verification (the results of which must be briefly described, including the number of wet and dry cloths used).

(c) When test kits are used, the renovation firm must, within 30 days of the completion of the renovation, provide identifying information as to the manufacturer and model of the test kits used, a description of the components that were tested including their locations, and the test kit results to the person who contracted for the renovation.

(d) If dust clearance sampling is performed in lieu of cleaning verification as permitted by § 745.85(c), the renovation firm must provide, within 30 days of the completion of the renovation, a copy of the dust sampling report to the person who contracted for the renovation.

■ 11. Section 745.87 is amended by revising paragraph (e) to read as follows:

§ 745.87 Enforcement and inspections.

* * * * *

(e) Lead-based paint is assumed to be present at renovations covered by this subpart. EPA may conduct inspections and issue subpoenas pursuant to the provisions of TSCA section 11 (15 U.S.C. 2610) to ensure compliance with this subpart.

■ 12. Section 745.88 is revised to read as follows:

§ 745.88 Recognized test kits.

(a) Effective June 23, 2008, EPA recognizes the test kits that have been determined by National Institute of Standards and Technology research to meet the negative response criteria described in paragraph (c)(1) of this section. This recognition will last until EPA publicizes its recognition of the first test kit that meets both the negative response and positive response criteria in paragraph (c) of this section.

(b) No other test kits will be recognized until they are tested through EPA's Environmental Technology Verification Program or other equivalent EPA approved testing program.

(1) Effective September 1, 2008, to initiate the testing process, a test kit manufacturer must submit a sufficient number of kits, along with the instructions for using the kits, to EPA. The test kit manufacturer should first visit the following website for information on where to apply: <http://www.epa.gov/etv/howtoapply.html>.

(2) After the kit has been tested through the Environmental Technology Verification Program or other equivalent approved EPA testing program, EPA will review the report to determine whether the required criteria have been met.

(3) Before September 1, 2010, test kits must meet only the negative response criteria in paragraph (c)(1) of this section. The recognition of kits that meet only this criteria will last until EPA publicizes its recognition of the first test kits that meets both of the criteria in paragraph (c) of this section.

(4) After September 1, 2010, test kits must meet both of the criteria in paragraph (c) of this section.

(5) If the report demonstrates that the kit meets the required criteria, EPA will issue a notice of recognition to the kit manufacturer, provide them with the report, and post the information on EPA's website.

(6) If the report demonstrates that the kit does not meet the required criteria, EPA will notify the kit manufacturer and provide them with the report.

(c) *Response criteria*—(1) *Negative response criteria*. For paint containing lead at or above the regulated level, 1.0 mg/cm² or 0.5% by weight, a demonstrated probability (with 95% confidence) of a negative response less than or equal to 5% of the time.

(2) *Positive response criteria*. For paint containing lead below the regulated level, 1.0 mg/cm² or 0.5% by weight, a demonstrated probability (with 95% confidence) of a positive

response less than or equal to 10% of the time.

■ 13. Section 745.89 is added to subpart E to read as follows:

§ 745.89 Firm certification.

(a) *Initial certification*. (1) Firms that perform renovations for compensation must apply to EPA for certification to perform renovations or dust sampling. To apply, a firm must submit to EPA a completed "Application for Firms," signed by an authorized agent of the firm, and pay at least the correct amount of fees. If a firm pays more than the correct amount of fees, EPA will reimburse the firm for the excess amount.

(2) After EPA receives a firm's application, EPA will take one of the following actions within 90 days of the date the application is received:

(i) EPA will approve a firm's application if EPA determines that it is complete and that the environmental compliance history of the firm, its principals, or its key employees does not show an unwillingness or inability to maintain compliance with environmental statutes or regulations. An application is complete if it contains all of the information requested on the form and includes at least the correct amount of fees. When EPA approves a firm's application, EPA will issue the firm a certificate with an expiration date not more than 5 years from the date the application is approved. EPA certification allows the firm to perform renovations covered by this section in any State or Indian Tribal area that does not have a renovation program that is authorized under subpart Q of this part.

(ii) EPA will request a firm to supplement its application if EPA determines that the application is incomplete. If EPA requests a firm to supplement its application, the firm must submit the requested information or pay the additional fees within 30 days of the date of the request.

(iii) EPA will not approve a firm's application if the firm does not supplement its application in accordance with paragraph (a)(2)(ii) of this section or if EPA determines that the environmental compliance history of the firm, its principals, or its key employees demonstrates an unwillingness or inability to maintain compliance with environmental statutes or regulations. EPA will send the firm a letter giving the reason for not approving the application. EPA will not refund the application fees. A firm may reapply for certification at any time by filing a new, complete application that includes the correct amount of fees.

(b) *Re-certification*. To maintain its certification, a firm must be re-certified by EPA every 5 years.

(1) *Timely and complete application*. To be re-certified, a firm must submit a complete application for re-certification. A complete application for re-certification includes a completed "Application for Firms" which contains all of the information requested by the form and is signed by an authorized agent of the firm, noting on the form that it is submitted as a re-certification. A complete application must also include at least the correct amount of fees. If a firm pays more than the correct amount of fees, EPA will reimburse the firm for the excess amount.

(i) An application for re-certification is timely if it is postmarked 90 days or more before the date the firm's current certification expires. If the firm's application is complete and timely, the firm's current certification will remain in effect until its expiration date or until EPA has made a final decision to approve or disapprove the re-certification application, whichever is later.

(ii) If the firm submits a complete re-certification application less than 90 days before its current certification expires, and EPA does not approve the application before the expiration date, the firm's current certification will expire and the firm will not be able to conduct renovations until EPA approves its re-certification application.

(iii) If the firm fails to obtain recertification before the firm's current certification expires, the firm must not perform renovations or dust sampling until it is certified anew pursuant to paragraph (a) of this section.

(2) *EPA action on an application*. After EPA receives a firm's application for re-certification, EPA will review the application and take one of the following actions within 90 days of receipt:

(i) EPA will approve a firm's application if EPA determines that it is timely and complete and that the environmental compliance history of the firm, its principals, or its key employees does not show an unwillingness or inability to maintain compliance with environmental statutes or regulations. When EPA approves a firm's application for re-certification, EPA will issue the firm a new certificate with an expiration date 5 years from the date that the firm's current certification expires. EPA certification allows the firm to perform renovations or dust sampling covered by this section in any State or Indian Tribal area that does not have a renovation program that is authorized under subpart Q of this part.

(ii) EPA will request a firm to supplement its application if EPA determines that the application is incomplete.

(iii) EPA will not approve a firm's application if it is not received or is not complete as of the date that the firm's current certification expires, or if EPA determines that the environmental compliance history of the firm, its principals, or its key employees demonstrates an unwillingness or inability to maintain compliance with environmental statutes or regulations. EPA will send the firm a letter giving the reason for not approving the application. EPA will not refund the application fees. A firm may reapply for certification at any time by filing a new application and paying the correct amount of fees.

(c) *Amendment of certification.* A firm must amend its certification within 90 days of the date a change occurs to information included in the firm's most recent application. If the firm fails to amend its certification within 90 days of the date the change occurs, the firm may not perform renovations or dust sampling until its certification is amended.

(1) To amend a certification, a firm must submit a completed "Application for Firms," signed by an authorized agent of the firm, noting on the form that it is submitted as an amendment and indicating the information that has changed. The firm must also pay at least the correct amount of fees.

(2) If additional information is needed to process the amendment, or the firm did not pay the correct amount of fees, EPA will request the firm to submit the necessary information or fees. The firm's certification is not amended until the firm complies with the request.

(3) Amending a certification does not affect the certification expiration date.

(d) *Firm responsibilities.* Firms performing renovations must ensure that:

(1) All individuals performing renovation activities on behalf of the firm are either certified renovators or have been trained by a certified renovator in accordance with § 745.90.

(2) A certified renovator is assigned to each renovation performed by the firm and discharges all of the certified renovator responsibilities identified in § 745.90.

(3) All renovations performed by the firm are performed in accordance with the work practice standards in § 745.85.

(4) The pre-renovation education requirements of § 745.84 have been performed.

(5) The recordkeeping requirements of § 745.86 are met.

■ 14. Section 745.90 is added to subpart E to read as follows:

§ 745.90 Renovator certification and dust sampling technician certification.

(a) *Renovator certification and dust sampling technician certification.* (1) To become a certified renovator or certified dust sampling technician, an individual must successfully complete the appropriate course accredited by EPA under § 745.225 or by a State or Tribal program that is authorized under subpart Q of this part. The course completion certificate serves as proof of certification. EPA renovator certification allows the certified individual to perform renovations covered by this section in any State or Indian Tribal area that does not have a renovation program that is authorized under subpart Q of this part. EPA dust sampling technician certification allows the certified individual to perform dust clearance sampling under § 745.85(c) in any State or Indian Tribal area that does not have a renovation program that is authorized under subpart Q of this part.

(2) Individuals who have successfully completed an accredited abatement worker or supervisor course, or individuals who have successfully completed an EPA, HUD, or EPA/HUD model renovation training course may take an accredited refresher renovator training course in lieu of the initial renovator training course to become a certified renovator.

(3) Individuals who have successfully completed an accredited lead-based paint inspector or risk assessor course may take an accredited refresher dust sampling technician course in lieu of the initial training to become a certified dust sampling technician.

(4) To maintain renovator certification or dust sampling technician certification, an individual must complete a renovator or dust sampling technician refresher course accredited by EPA under § 745.225 or by a State or Tribal program that is authorized under subpart Q of this part within 5 years of the date the individual completed the initial course described in paragraph (a)(1) of this section. If the individual does not complete a refresher course within this time, the individual must re-take the initial course to become certified again.

(b) *Renovator responsibilities.* Certified renovators are responsible for ensuring compliance with § 745.85 at all renovations to which they are assigned. A certified renovator:

(1) Must perform all of the tasks described in § 745.85(b) and must either perform or direct workers who perform all of the tasks described in § 745.85(a).

(2) Must provide training to workers on the work practices they will be using in performing their assigned tasks.

(3) Must be physically present at the work site when the signs required by § 745.85(a)(1) are posted, while the work area containment required by § 745.85(a)(2) is being established, and while the work area cleaning required by § 745.85(a)(5) is performed.

(4) Must regularly direct work being performed by other individuals to ensure that the work practices are being followed, including maintaining the integrity of the containment barriers and ensuring that dust or debris does not spread beyond the work area.

(5) Must be available, either on-site or by telephone, at all times that renovations are being conducted.

(6) When requested by the party contracting for renovation services, must use an acceptable test kit to determine whether components to be affected by the renovation contain lead-based paint.

(7) Must have with them at the work site copies of their initial course completion certificate and their most recent refresher course completion certificate.

(8) Must prepare the records required by § 745.86(b)(7).

(c) *Dust sampling technician responsibilities.* When performing optional dust clearance sampling under § 745.85(c), a certified dust sampling technician:

(1) Must collect dust samples in accordance with § 745.227(e)(8), must send the collected samples to a laboratory recognized by EPA under TSCA section 405(b), and must compare the results to the clearance levels in accordance with § 745.227(e)(8).

(2) Must have with them at the work site copies of their initial course completion certificate and their most recent refresher course completion certificate.

■ 15. Section 745.91 is added to subpart E to read as follows:

§ 745.91 Suspending, revoking, or modifying an individual's or firm's certification.

(a)(1) *Grounds for suspending, revoking, or modifying an individual's certification.* EPA may suspend, revoke, or modify an individual's certification if the individual fails to comply with Federal lead-based paint statutes or regulations. EPA may also suspend, revoke, or modify a certified renovator's certification if the renovator fails to ensure that all assigned renovations comply with § 745.85. In addition to an administrative or judicial finding of violation, execution of a consent

agreement in settlement of an enforcement action constitutes, for purposes of this section, evidence of a failure to comply with relevant statutes or regulations.

(2) *Grounds for suspending, revoking, or modifying a firm's certification.* EPA may suspend, revoke, or modify a firm's certification if the firm:

(i) Submits false or misleading information to EPA in its application for certification or re-certification.

(ii) Fails to maintain or falsifies records required in § 745.86.

(iii) Fails to comply, or an individual performing a renovation on behalf of the firm fails to comply, with Federal lead-based paint statutes or regulations. In addition to an administrative or judicial finding of violation, execution of a consent agreement in settlement of an enforcement action constitutes, for purposes of this section, evidence of a failure to comply with relevant statutes or regulations.

(b) *Process for suspending, revoking, or modifying certification.* (1) Prior to taking action to suspend, revoke, or modify an individual's or firm's certification, EPA will notify the affected entity in writing of the following:

(i) The legal and factual basis for the proposed suspension, revocation, or modification.

(ii) The anticipated commencement date and duration of the suspension, revocation, or modification.

(iii) Actions, if any, which the affected entity may take to avoid suspension, revocation, or modification, or to receive certification in the future.

(iv) The opportunity and method for requesting a hearing prior to final suspension, revocation, or modification.

(2) If an individual or firm requests a hearing, EPA will:

(i) Provide the affected entity an opportunity to offer written statements in response to EPA's assertions of the legal and factual basis for its proposed action.

(ii) Appoint an impartial official of EPA as Presiding Officer to conduct the hearing.

(3) The Presiding Officer will:

(i) Conduct a fair, orderly, and impartial hearing within 90 days of the request for a hearing.

(ii) Consider all relevant evidence, explanation, comment, and argument submitted.

(iii) Notify the affected entity in writing within 90 days of completion of the hearing of his or her decision and order. Such an order is a final agency action which may be subject to judicial review. The order must contain the commencement date and duration of the suspension, revocation, or modification.

(4) If EPA determines that the public health, interest, or welfare warrants immediate action to suspend the certification of any individual or firm prior to the opportunity for a hearing, it will:

(i) Notify the affected entity in accordance with paragraph (b)(1)(i) through (b)(1)(iii) of this section, explaining why it is necessary to suspend the entity's certification before an opportunity for a hearing.

(ii) Notify the affected entity of its right to request a hearing on the immediate suspension within 15 days of the suspension taking place and the procedures for the conduct of such a hearing.

(5) Any notice, decision, or order issued by EPA under this section, any transcript or other verbatim record of oral testimony, and any documents filed by a certified individual or firm in a hearing under this section will be available to the public, except as otherwise provided by section 14 of TSCA or by part 2 of this title. Any such hearing at which oral testimony is presented will be open to the public, except that the Presiding Officer may exclude the public to the extent necessary to allow presentation of information which may be entitled to confidential treatment under section 14 of TSCA or part 2 of this title.

(6) EPA will maintain a publicly available list of entities whose certification has been suspended, revoked, modified, or reinstated.

(7) Unless the decision and order issued under paragraph (b)(3)(iii) of this section specify otherwise:

(i) An individual whose certification has been suspended must take a refresher training course (renovator or dust sampling technician) in order to make his or her certification current.

(ii) An individual whose certification has been revoked must take an initial renovator or dust sampling technician course in order to become certified again.

(iii) A firm whose certification has been revoked must reapply for certification after the revocation ends in order to become certified again. If the firm's certification has been suspended and the suspension ends less than 5 years after the firm was initially certified or re-certified, the firm does not need to do anything to re-activate its certification.

■ 16. Section 745.220 is amended by revising paragraph (a) to read as follows:

§ 745.220 Scope and applicability.

(a) This subpart contains procedures and requirements for the accreditation of training programs for lead-based

paint activities and renovations, procedures and requirements for the certification of individuals and firms engaged in lead-based paint activities, and work practice standards for performing such activities. This subpart also requires that, except as discussed below, all lead-based paint activities, as defined in this subpart, be performed by certified individuals and firms.

* * * * *

■ 17. Section 745.225 is amended as follows:

■ a. Revise paragraph (a).

■ b. Revise the introductory text of paragraph (b), revise paragraph (b)(1)(ii), and add paragraph (b)(1)(iv)(C).

■ c. Revise the introductory text of paragraph (c), add paragraphs (c)(6)(vi), (c)(6)(vii), (c)(8)(vi), and (c)(8)(vii), and revise paragraphs (c)(8)(iv) and (c)(10).

■ d. Remove the phrase "lead-based paint activities" and add in its place the phrase "renovator, dust sampling technician, or lead-based paint activities" wherever it appears in paragraph (c)(13).

■ e. Add paragraph (c)(14)(ii)(D)(6).

■ f. Add paragraphs (d)(6) and (d)(7).

■ g. Revise the introductory text of paragraph (e).

■ h. Remove the word "activities" wherever it appears in paragraph (e)(1).

■ i. Revise paragraph (e)(2).

§ 745.225 Accreditation of training programs; target housing and child-occupied facilities.

(a) *Scope.* (1) A training program may seek accreditation to offer courses in any of the following disciplines: Inspector, risk assessor, supervisor, project designer, abatement worker, renovator, and dust sampling technician. A training program may also seek accreditation to offer refresher courses for each of the above listed disciplines.

(2) Training programs may first apply to EPA for accreditation of their lead-based paint activities courses or refresher courses pursuant to this section on or after August 31, 1998. Training programs may first apply to EPA for accreditation of their renovator or dust sampling technician courses or refresher courses pursuant to this section on or after April 22, 2009.

(3) A training program must not provide, offer, or claim to provide EPA-accredited lead-based paint activities courses without applying for and receiving accreditation from EPA as required under paragraph (b) of this section on or after March 1, 1999. A training program must not provide, offer, or claim to provide EPA-accredited renovator or dust sampling technician courses without applying for

and receiving accreditation from EPA as required under paragraph (b) of this section on or after June 23, 2008.

(b) *Application process.* The following are procedures a training program must follow to receive EPA accreditation to offer lead-based paint activities courses, renovator courses, or dust sampling technician courses:

(1) * * *

(ii) A list of courses for which it is applying for accreditation. For the purposes of this section, courses taught in different languages are considered different courses, and each must independently meet the accreditation requirements.

* * * * *

(iv) * * *

(C) When applying for accreditation of a course in a language other than English, a signed statement from a qualified, independent translator that they had compared the course to the English language version and found the translation to be accurate.

* * * * *

(c) *Requirements for the accreditation of training programs.* For a training program to obtain accreditation from EPA to offer lead-based paint activities courses, renovator courses, or dust sampling technician courses, the program must meet the following requirements:

* * * * *

(6) * * *

(vi) The renovator course must last a minimum of 8 training hours, with a minimum of 2 hours devoted to hands-on training activities. The minimum curriculum requirements for the renovator course are contained in paragraph (d)(6) of this section. Hands-on training activities must cover renovation methods that minimize the creation of dust and lead-based paint hazards, interior and exterior containment and cleanup methods, and post-renovation cleaning verification.

(vii) The dust sampling technician course must last a minimum of 8 training hours, with a minimum of 2 hours devoted to hands-on training activities. The minimum curriculum requirements for the dust sampling technician course are contained in paragraph (d)(7) of this section. Hands-on training activities must cover dust sampling methodologies.

* * * * *

(8) * * *

(iv) For initial inspector, risk assessor, project designer, supervisor, or abatement worker course completion certificates, the expiration date of

interim certification, which is 6 months from the date of course completion.

* * * * *

(vi) The language in which the course was taught.

(vii) For renovator and dust sampling technician course completion certificates, a photograph of the individual.

* * * * *

(10) Courses offered by the training program must teach the work practice standards contained in § 745.85 or § 745.227, as applicable, in such a manner that trainees are provided with the knowledge needed to perform the renovations or lead-based paint activities they will be responsible for conducting.

* * * * *

(14) * * *

(ii) * * *

(D) * * *

(6) A digital photograph of the student.

(d) * * *

(6) *Renovator.* (i) Role and responsibility of a renovator.

(ii) Background information on lead and its adverse health effects.

(iii) Background information on EPA, HUD, OSHA, and other Federal, State, and local regulations and guidance that pertains to lead-based paint and renovation activities.

(iv) Procedures for using acceptable test kits to determine whether paint is lead-based paint.

(v) Renovation methods to minimize the creation of dust and lead-based paint hazards.

(vi) Interior and exterior containment and cleanup methods.

(vii) Methods to ensure that the renovation has been properly completed, including cleaning verification, and clearance testing.

(viii) Waste handling and disposal.

(ix) Providing on-the-job training to other workers.

(x) Record preparation.

(7) *Dust sampling technician.* (i) Role and responsibility of a dust sampling technician.

(ii) Background information on lead and its adverse health effects.

(iii) Background information on Federal, State, and local regulations and guidance that pertains to lead-based paint and renovation activities.

(iv) Dust sampling methodologies.

(v) Clearance standards and testing.

(vi) Report preparation.

* * * * *

(e) *Requirements for the accreditation of refresher training programs.* A training program may seek accreditation to offer refresher training courses in any

of the following disciplines: Inspector, risk assessor, supervisor, project designer, abatement worker, renovator, and dust sampling technician. To obtain EPA accreditation to offer refresher training, a training program must meet the following minimum requirements:

* * * * *

(2) Refresher courses for inspector, risk assessor, supervisor, and abatement worker must last a minimum of 8 training hours. Refresher courses for project designer, renovator, and dust sampling technician must last a minimum of 4 training hours.

* * * * *

■ 18. Section 745.320 is amended by revising paragraph (c) to read as follows:

§ 745.320 Scope and purpose.

* * * * *

(c) A State or Indian Tribe may seek authorization to administer and enforce all of the provisions of subpart E of this part, just the pre-renovation education provisions of subpart E of this part, or just the training, certification, accreditation, and work practice provisions of subpart E of this part. The provisions of §§ 745.324 and 745.326 apply for the purposes of such program authorizations.

* * * * *

■ 19. Section 745.324 is amended as follows:

■ a. Revise paragraph (a)(1).

■ b. Remove the phrase “lead-based paint training accreditation and certification” from the second sentence of paragraph (b)(1)(iii).

■ c. Revise paragraph (b)(2)(ii).

■ d. Revise paragraphs (e)(2)(i) and (e)(4).

■ e. Revise paragraph (f)(2).

■ f. Revise paragraph (i)(8).

§ 745.324 Authorization of State or Tribal programs.

(a) *Application content and procedures.* (1) Any State or Indian Tribe that seeks authorization from EPA to administer and enforce the provisions of subpart E or subpart L of this part must submit an application to the Administrator in accordance with this paragraph.

* * * * *

(b) * * *

(2) * * *

(ii) An analysis of the State or Tribal program that compares the program to the Federal program in subpart E or subpart L of this part, or both. This analysis must demonstrate how the program is, in the State's or Indian Tribe's assessment, at least as protective as the elements in the Federal program at subpart E or subpart L of this part, or

both. EPA will use this analysis to evaluate the protectiveness of the State or Tribal program in making its determination pursuant to paragraph (e)(2)(i) of this section.

* * * * *

(e) * * *

(2) * * *

(i) The State or Tribal program is at least as protective of human health and the environment as the corresponding Federal program under subpart E or subpart L of this part, or both; and

* * * * *

(4) If the State or Indian Tribe applies for authorization of State or Tribal programs under both subpart E and subpart L, EPA may, as appropriate, authorize one program and disapprove the other.

* * * * *

(f) * * *

(2) If a State or Indian Tribe does not have an authorized program to administer and enforce the pre-renovation education requirements of subpart E of this part by August 31, 1998, the Administrator will, by such date, enforce those provisions of subpart E of this part as the Federal program for that State or Indian Country. If a State or Indian Tribe does not have an authorized program to administer and enforce the training, certification and accreditation requirements and work practice standards of subpart E of this part by April 22, 2009, the Administrator will, by such date, enforce those provisions of subpart E of this part as the Federal program for that State or Indian Country.

* * * * *

(j) * * *

(8) By the date of such order, the Administrator will establish and enforce the provisions of subpart E or subpart L of this part, or both, as the Federal program for that State or Indian Country.

■ 20. Section 745.326 is revised to read as follows:

§ 745.326 Renovation: State and Tribal program requirements.

(a) *Program elements.* To receive authorization from EPA, a State or Tribal program must contain the following program elements:

(1) For pre-renovation education programs, procedures and requirements for the distribution of lead hazard information to owners and occupants of target housing and child-occupied facilities before renovations for compensation.

(2) For renovation training, certification, accreditation, and work practice standards programs:

(i) Procedures and requirements for the accreditation of renovation and dust sampling technician training programs.

(ii) Procedures and requirements for the certification of renovators and dust sampling technicians.

(iii) Procedures and requirements for the certification of individuals and/or firms.

(iv) Requirements that all renovations be conducted by appropriately certified individuals and/or firms.

(v) Work practice standards for the conduct of renovations.

(3) For all renovation programs, development of the appropriate infrastructure or government capacity to effectively carry out a State or Tribal program.

(b) *Pre-renovation education.* To be considered at least as protective as the Federal program, the State or Tribal program must:

(1) Establish clear standards for identifying renovation activities that trigger the information distribution requirements.

(2) Establish procedures for distributing the lead hazard information to owners and occupants of housing and child-occupied facilities prior to renovation activities.

(3) Require that the information to be distributed include either the pamphlet titled *Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools*, developed by EPA under section 406(a) of TSCA, or an alternate pamphlet or package of lead hazard information that has been submitted by the State or Tribe, reviewed by EPA, and approved by EPA for that State or Tribe. Such information must contain renovation-specific information similar to that in *Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools*, must meet the content requirements prescribed by section 406(a) of TSCA, and must be in a format that is readable to the diverse audience of housing and child-occupied facility owners and occupants in that State or Tribe.

(i) A State or Tribe with a pre-renovation education program approved before June 23, 2008, must demonstrate that it meets the requirements of this section no later than the first report that it submits pursuant to § 745.324(h) on or after April 22, 2009.

(ii) A State or Tribe with an application for approval of a pre-renovation education program submitted but not approved before June 23, 2008, must demonstrate that it meets the requirements of this section either by amending its application or in the first report that it submits pursuant

to § 745.324(h) of this part on or after April 22, 2009.

(iii) A State or Indian Tribe submitting its application for approval of a pre-renovation education program on or after June 23, 2008, must demonstrate in its application that it meets the requirements of this section.

(c) *Accreditation of training programs.* To be considered at least as protective as the Federal program, the State or Tribal program must meet the requirements of either paragraph (c)(1) or (c)(2) of this section:

(1) The State or Tribal program must establish accreditation procedures and requirements, including:

(i) Procedures and requirements for the accreditation of training programs, including, but not limited to:

(A) Training curriculum requirements.

(B) Training hour requirements.

(C) Hands-on training requirements.

(D) Trainee competency and proficiency requirements.

(E) Requirements for training program quality control.

(ii) Procedures and requirements for the re-accreditation of training programs.

(iii) Procedures for the oversight of training programs.

(iv) Procedures and standards for the suspension, revocation, or modification of training program accreditations; or

(2) The State or Tribal program must establish procedures and requirements for the acceptance of renovation training offered by training providers accredited by EPA or a State or Tribal program authorized by EPA under this subpart.

(d) *Certification of renovators.* To be considered at least as protective as the Federal program, the State or Tribal program must:

(1) Establish procedures and requirements for individual certification that ensure that certified renovators are trained by an accredited training program.

(2) Establish procedures and requirements for re-certification.

(3) Establish procedures for the suspension, revocation, or modification of certifications.

(e) *Work practice standards for renovations.* To be considered at least as protective as the Federal program, the State or Tribal program must establish standards that ensure that renovations are conducted reliably, effectively, and safely. At a minimum, the State or Tribal program must contain the following requirements:

(1) Renovations must be conducted only by certified contractors.

(2) Renovations are conducted using lead-safe work practices that are at least

Apéndice 2:

Requisitos del Departamento de Vivienda y
Urbanismo de los Estados Unidos (HUD)

Requisitos adicionales de empresas de renovación y renovadores certificados por la EPA sobre la Regla del Departamento de Vivienda y Urbanismo sobre viviendas sin plomo

Por lo común, la Regla del Departamento de Vivienda y Urbanismo de los Estados Unidos sobre viviendas sin plomo (HUD LSHR, por sus siglas en inglés; que corresponde al Código de Regulación Federal 24, Parte 35, subpartes B a M del HUD) se aplica a trabajos efectuados en las unidades de viviendas de interés que reciben ayuda para la vivienda de parte del HUD, por ejemplo, asistencia con fines de rehabilitación o adquisición.

De conformidad con la regla de la vivienda sin plomo, quienes participan en el programa (jurisdicción gubernamental, organizaciones comunitarias sin fines de lucro o propietarios que aceptan fondos del HUD) asumen la responsabilidad de cumplir con la regla de la vivienda sin plomo y pasan a denominarse partes designadas (DP, por sus siglas en inglés). Entre las empresas de renovación se cuentan contratistas comerciales, organizaciones sin fines de lucro o partes designadas que usan a sus propios empleados para ejecutar la renovación. Con el fin de mantener una buena relación con el cliente, las empresas de renovación certificadas deben aclarar:

- 1) Si el trabajo requiere control de peligros por plomo (tales como reducción, control provisional de peligros por plomo o mantenimiento continuo de pintura a base de plomo), y
- 2) Si la vivienda recibe ayuda financiera. Si es así, el renovador debe pedir al cliente que averigüe si se trata de asistencia federal.

La mayoría de los clientes sabrá agradecer estas consultas, para así no infringir las reglas del HUD o de la EPA. Visite el sitio www.hud.gov/offices/lead/enforcement/lshr.cfm para obtener más información al respecto.

La información siguiente y el contenido de la tabla permiten explicar los requisitos básicos del reglamento del HUD que debe cumplir un renovador sin experiencia previa en trabajos con fondos del HUD. En el HUD el término “rehabilitación” se utiliza para describir el trabajo de renovación residencial. Cuando éste se paga con fondos del HUD, es frecuente que el financiamiento se canalice desde el HUD hacia las ciudades, los estados y otros partícipes del programa, y que el tratamiento de superficies con pintura a base de plomo se convierta en una rutina del trabajo. Los requisitos específicos del HUD dependen de la cantidad de ayuda federal que recibirá el proyecto para rehabilitación:

- 1) Hasta \$5,000 por unidad: Método de “no causar daño”. Los requisitos de seguridad con el plomo sólo contemplan las superficies que serán alteradas. Los partícipes del programa pueden escoger entre someter estas superficies a pruebas para determinar si contienen pintura a base de plomo o suponer que efectivamente es así. En los trabajos que alteran las superficies con pintura a base de plomo, o que se cree que contienen plomo, mediante las prácticas seguras para trabajar con el plomo y al final del trabajo se realiza una aprobación de la obra (a menos que se trate de un proyecto muy pequeño a escala “de minimis”), con el propósito de confirmar la ausencia de peligros por polvo con plomo en el área de trabajo. Para ejecutar este trabajo, basta con una capacitación según los requisitos de la regla RRP de la EPA.
- 2) Más \$5,000 y hasta \$25,000 por unidad: Identificación y control de peligros por plomo. Identifique todos los peligros por plomo en las unidades afectadas y en las áreas comunes que sirven a dichas unidades mediante una evaluación de riesgos por pintura a base de plomo. Contenga los peligros con controles provisionales. Los participantes pueden omitir la evaluación de riesgos y suponer que están presentes todos los riesgos potenciales por plomo para posteriormente emplear los tratamientos estándar que permitan abordarlos. Además de una capacitación que cumpla con los requisitos de la regla RRP de la EPA, los renovadores y trabajadores deben contar con una capacitación sobre controles provisionales aprobada por el HUD (tal como el programa RRP de HUD/EPA).
- 3) Superior a \$25,000 por unidad: Identificación y reducción de peligros por plomo. Identifique todos los peligros por plomo en la propiedad mediante una evaluación de riesgos y luego redúzcalos. Los participantes pueden omitir la evaluación de riesgos y suponer que están presentes todos los potenciales

Requisitos adicionales de empresas de renovación y renovadores certificados por la EPA sobre la Regla del Departamento de Vivienda y Urbanismo sobre viviendas sin plomo

riesgos por plomo para reducirlos. Este enfoque requiere que la reducción sea efectuada por contratistas certificados en reducción.

Estos métodos también consideran los requisitos básicos del HUD descritos en las presentaciones del módulo 2. Allí se demuestra con claridad la importancia de que un renovador averigüe con el cliente si el proyecto cuenta con ayuda federal para la vivienda.

La tabla siguiente resume las diferencias que existen entre la regla del HUD sobre viviendas sin plomo y el reglamento de Renovación, Reparación y Pintura (RRP) de la Agencia de Protección Ambiental (EPA), así como los reglamentos de la EPA correspondientes al Código de Regulación Federal 40, Parte 745 y los cambios en los proyectos del HUD sobre viviendas sin plomo. Después de la tabla hay una explicación de la misma:

Diferencias entre el reglamento del HUD sobre viviendas sin plomo y el reglamento RRP de la EPA

Etapas del trabajo	Requisito	LSHR del HUD	RRP de la EPA	Cambios en los proyectos LSHR para cumplir la regla RRP
Planificación a instalación	Determinación de la presencia de pintura a base de plomo (LBP, por sus siglas en inglés).	No se pueden emplear juegos de pruebas reconocidos por la EPA para concluir que la pintura no es LBP. Sólo un inspector o un asesor de riesgos con certificación en LBP puede determinar si hay LBP.	Los renovadores certificados usan un juego de pruebas reconocido por la EPA para determinar si se aplica o no la regla RRP.	Ninguno.

Requisitos adicionales de empresas de renovación y renovadores certificados por la EPA sobre la Regla del Departamento de Vivienda y Urbanismo sobre viviendas sin plomo

Etapas del trabajo	Requisito	LSHR del HUD	RRP de la EPA	Cambios en los proyectos LSHR para cumplir la regla RRP
	Capacitación	El HUD no certifica a renovadores o empresas. Todos los trabajadores y supervisores deben completar un programa sobre prácticas seguras para trabajar con el plomo aprobado por el HUD, salvo que los renovadores no certificados sólo necesiten una capacitación en el trabajo al estar supervisados por un supervisor certificado en reducción de LBP que también sea un renovador certificado.	EPA o los estados autorizados por EPA certifican a las empresas de renovación y a los proveedores de capacitación acreditados que certifican a los renovadores. Sólo al renovador certificado se le exige cursar capacitación en sala de clases. Los trabajadores deben recibir una capacitación en el trabajo dictada por el renovador certificado.	Las empresas de renovación deben estar certificadas. Debe haber por lo menos un renovador certificado en la obra o que esté disponible mientras se ejecutan los trabajos. (El renovador certificado puede ser un supervisor certificado en reducción de LBP que, además, haya finalizado el curso de cuatro horas de actualización en RPP.)
	Educación previa a la renovación	El HUD exige el cumplimiento de los reglamentos de la EPA, incluida la regla de la EPA sobre entrega de información antes de una renovación. La EPA requiere que los renovadores distribuyan el folleto <i>Proteja a su familia del plomo de la casa</i> (regla sobre difusión en torno al plomo) producido por EPA, HUD y la Comisión de Seguridad de Productos del Consumidor.	Los renovadores deben entregar el folleto <i>Renovar correctamente: Información importante para familias, proveedores de cuidado infantil y escuelas acerca del peligro del plomo</i> . (Este requisito entró en vigencia el 22 de diciembre de 2008).	Ninguno.

Requisitos adicionales de empresas de renovación y renovadores certificados por la EPA sobre la Regla del Departamento de Vivienda y Urbanismo sobre viviendas sin plomo

Etapas del trabajo	Requisito	LSHR del HUD	RRP de la EPA	Cambios en los proyectos LSHR para cumplir la regla RRP
Mientras trabaja	Control de peligros de LBP	Según el tipo y la cantidad de la ayuda del HUD, este departamento exige el tratamiento de los peligros por plomo mediante controles provisionales o mantenimiento continuo de pinturas a base de plomo.	Por lo general, la EPA requiere que las renovaciones en las viviendas de interés se realicen con prácticas seguras para trabajar con el plomo.	Ninguno.
	Prácticas de trabajo prohibidas	El HUD prohíbe seis prácticas de trabajo. Entre ellas, las tres prácticas de trabajo prohibidas por la EPA, además de: pistolas de aire caliente que carbonizan la pintura, raspado o lijado en seco a más de 1 pie de una toma de corriente eléctrica y uso de decapantes volátiles en áreas con poca ventilación.	La EPA prohíbe tres prácticas de trabajo (quemar con llama o soplete, pistolas de aire caliente a más de 1100 grados F, retiro de máquinas sin accesorios de aspiración HEPA).	Ninguno.
	Umbral mínimo de alteración de pintura en interiores que desencadenan actividades relacionadas con plomo.	Los umbrales “ <i>de minimis</i> ” del HUD (2 pies cuadrados por habitación ó 10% de un tipo de componente pequeño) son menores que los umbrales de la EPA para prácticas seguras para trabajar con el plomo. Además, el HUD emplea este mismo umbral para fines de aprobación y notificación a los ocupantes.	El umbral (6 pies cuadrados por habitación) de la EPA para actividades de reparación menor y mantenimiento es más alto que el umbral “ <i>de minimis</i> ” del HUD.	Ninguno.

Requisitos adicionales de empresas de renovación y renovadores certificados por la EPA sobre la Regla del Departamento de Vivienda y Urbanismo sobre viviendas sin plomo

Etapas del trabajo	Requisito	LSHR del HUD	RRP de la EPA	Cambios en los proyectos LSHR para cumplir la regla RRP
Finalización del trabajo	Pruebas de confirmación	El HUD exige que un tercero independiente realice un examen de aprobación, en lugar del procedimiento de verificación de limpieza del renovador certificado.	La EPA permite la verificación de limpieza de un renovador o un examen de aprobación. La verificación de limpieza no implica muestreo ni análisis de laboratorio del polvo.	Ninguno.
	Notificación a los ocupantes	El HUD exige que la parte designada distribuya avisos a los ocupantes en un plazo de 15 días tras las actividades de evaluación y control de peligros por plomo en la unidad que utilizan (y en las áreas comunes, si corresponde).	La EPA no requiere una notificación a residentes que no son los propietarios después de una renovación.	Ninguno.

Requisitos adicionales de empresas de renovación y renovadores certificados por la EPA sobre la Regla del Departamento de Vivienda y Urbanismo sobre viviendas sin plomo

A. Traspaso de las responsabilidades del renovador a la parte designada en virtud de la regla del HUD sobre viviendas sin plomo:

1. De conformidad con la regla de viviendas sin plomo, la parte designada generalmente asume la responsabilidad de someter la pintura a pruebas realizadas por un inspector de plomo o un evaluador de riesgos debidamente certificado, o da por hecho la presencia de pintura a base de plomo. Por tanto, cuando se aplica la regla del HUD, el renovador certificado no puede emplear un juego de pruebas para pinturas, a fin de determinar que una pintura no es a base de plomo. Nota: Es posible que en algunos estados existan reglamentos sobre conflictos de intereses que prohíban a los renovadores efectuar pruebas en pinturas con las que vayan a trabajar.
2. Cuando se aplica la regla del HUD sobre viviendas sin plomo, la parte designada debe contar con una persona calificada e independiente de la empresa de renovación para que realice un examen de aprobación de plomo. El renovador certificado no realiza una verificación de limpieza. A continuación encontrará más información acerca de las pruebas de aprobación.

B. Requisitos adicionales del HUD para el renovador:

1. Requisitos de capacitación para trabajadores y supervisores que ejecutan controles provisionarios.

Para cumplir con los requisitos de ambas reglas:

- a. Si un supervisor (según los términos del HUD) o un renovador certificado (según los términos de la EPA) cuenta con certificación como supervisor de reducción de pintura a base de plomo o ha aprobado de manera satisfactoria un curso acreditado de supervisión o ejecución de reducciones, deberá tomar un curso de perfeccionamiento en RRP de 4 horas de duración.
- b. En el caso de trabajadores que no sean supervisores o renovadores certificados:
 - Si su supervisor en este proyecto es un supervisor certificado en reducción de pinturas a base de plomo que ha aprobado el curso de perfeccionamiento en RRP de 4 horas de duración, los trabajadores deberán recibir de parte de dicho supervisor una capacitación en el trabajo sobre prácticas seguras para trabajar con el plomo.
 - De lo contrario, los trabajadores deben aprobar satisfactoriamente un curso en RRP de un día de duración u otro curso sobre prácticas seguras para trabajar con el plomo que esté aprobado para este fin por el HUD, previa consulta con la EPA. El HUD ha aprobado el curso de RRP de un día de duración, el curso de renovación, remodelación y reparación de un día de duración de HUD y EPA, publicado anteriormente y otros cursos de un día de duración que figuran en el sitio Web del HUD www.hud.gov/offices/lead.
- c. Si el trabajo está siendo ejecutado en una jurisdicción estatal o tribal autorizada por la EPA para realizar un programa de capacitación y certificación en RRP, el Estado o la Tribu deberá acreditar el curso de RRP de un día de duración y el curso de perfeccionamiento en RRP de medio día de duración. El HUD aprobará los cursos de RRP de un día de duración que estén acreditados por los Estados o las Tribus con autorización de la EPA.
- d. No basta únicamente con el curso de actualización en RRP de 4 horas de duración para cumplir con los requisitos de capacitación de la EPA o el HUD.

2. La empresa de renovación certificada y el renovador certificado deben tomar precauciones destinadas a proteger a los residentes de posibles envenenamientos por plomo, de forma adicional a las medidas dispuestas en la regla RRP de la EPA.

- a. Los renovadores deben utilizar prácticas seguras para trabajar con el plomo en aquellos trabajos exentos de la regla RRP que reúnan las siguientes condiciones:

Requisitos adicionales de empresas de renovación y renovadores certificados por la EPA sobre la Regla del Departamento de Vivienda y Urbanismo sobre viviendas sin plomo

- Alteración de 2 a 6 pies cuadrados de pintura por habitación, es decir, el umbral *de minimis* de la regla de vivienda sin plomo y el umbral para actividades de reparación menor y mantenimiento de la regla RRP, respectivamente.

Nota: Cambio de ventanas, cambio de marcos de ventana y demolición de superficies pintadas alteran una cantidad de pintura superior al umbral *de minimis* de la regla de vivienda sin plomo.

- Alteración de más de 10% de un tipo de componente con superficie pequeña (como antepechos de la ventana, zócalos y molduras).

Nota: Los umbrales de pies cuadrados y porcentaje citados anteriormente rigen para todos los trabajos efectuados en un período de treinta días.

- Dentro de una vivienda de interés donde el ocupante propietario firma una declaración conforme a la regla RRP sosteniendo que no se requieren prácticas seguras para trabajar con el plomo.

Nota: El HUD no permite que un propietario renuncie en ningún momento a la aplicación de prácticas seguras para trabajar con el plomo, sea un propietario ocupante o sólo arrendador, a pesar de que la EPA sí acepta que un propietario ocupante firme una declaración indicando que no se requieren prácticas seguras para trabajar con el plomo.

b. Sin usar las 3 prácticas laborales que el HUD prohíbe en forma adicional:

- Pistolas de aire caliente que carbonizan la pintura, incluso si funcionan a menos de 1100 grados F.
- Raspado o lijado en seco, salvo el raspado en seco de manera conjunta con pistolas de aire caliente o a 1 pie como máximo de una toma de corriente eléctrica.
- Uso de decapantes de pintura volátiles en áreas con poca ventilación.

c. Al adoptar medidas adicionales para proteger a los ocupantes mientras se efectúan actividades de reducción de peligros en interiores: Traslado temporal de los ocupantes antes y durante las actividades de reducción de peligros en interiores hasta una vivienda apta, decente, segura y de accesibilidad similar carente de peligros por pintura a base de plomo. No se requiere el traslado temporal en el caso de proyectos breves donde:

- El trabajo esté contenido y finalice en un período de 8 horas en jornada diurna, sin crear otros peligros para la seguridad, salud o el ambiente, o
- el trabajo finalice en un plazo de 5 días naturales y donde tras cada día de trabajo se efectúe una limpieza del polvo y los escombros visibles en la obra en un área de 10 pies alrededor del área de contención y donde los ocupantes cuenten con acceso seguro a las áreas de descanso y a las instalaciones del baño y la cocina.

C. Responsabilidades adicionales de la parte designada que pueden afectar al renovador

En los trabajos regidos por la regla del HUD sobre viviendas sin plomo, la empresa de renovación certificada y el renovador certificado deben conocer los demás requisitos impuestos a la parte designada que pueden afectar la función que desempeñan en el proyecto.

1. La parte designada debe entregar dos notificaciones a los ocupantes cuando la cantidad de trabajo supere el umbral *de minimis* del HUD:

- AVISO DE EVALUACIÓN O PRESUNCIÓN:** Esta notificación informa a los ocupantes que la pintura ha sido evaluada para determinar si corresponde a LBP o que se ha aceptado el supuesto de que la pintura es LBP. La parte designada debe avisar a los ocupantes en un plazo de 15 días naturales, a partir del recibo del informe de evaluación o de haber ocurrido la adopción del supuesto. El renovador

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debe consultar al cliente si se envió este aviso. El propietario puede entregarle al renovador una copia de esta notificación para que sepa dónde se encuentra la pintura LBP.

- b. **AVISO DE ACTIVIDAD DE REDUCCIÓN DE PELIGROS:** Esta notificación describe el trabajo de reducción de peligros finalizado e informa a los ocupantes cómo pueden solicitar más información al respecto. La parte designada debe avisar a los ocupantes en un plazo de 15 días calendario a partir de la finalización del trabajo de reducción de peligros. El renovador puede recibir una copia de esta notificación o se le puede pedir que prepare o distribuya el aviso para el propietario como parte del trabajo del renovador para el propietario.

2 . Según el tipo y la cantidad de la ayuda para la vivienda que se otorgue, el HUD suele exigir tratamiento para los peligros de LBP identificados. Entre los tratamientos se cuentan la reducción de peligros por LBP, los controles provisionales o el mantenimiento continuo de LBP. El renovador debe averiguar si su contrato con el propietario requiere las tareas de tratamiento de peligros por plomo que se enumeran a continuación. De ser así, todos los trabajadores y supervisores deben contar con la capacitación y las calificaciones adecuadas. Por lo general, los controles provisionales contemplan las siguientes actividades, que se exigen cuando la cantidad de trabajo supera el umbral *de minimis* del HUD; si los trabajos son inferiores al umbral *de minimis*, se debe reparar la pintura deteriorada, pero sin necesidad de aplicar prácticas seguras para trabajar con el plomo, a pesar de que el HUD recomienda enfáticamente su utilización.

- a. Se debe estabilizar la pintura LBP que esté deteriorada. Esto significa que también se deben corregir aquellos defectos físicos del sustrato de una superficie de pintura o de un componente que causan el deterioro de la superficie o del componente.
- b. Las superficies de fricción corroídas deben ser tratadas cuando exista peligro por polvo con plomo cercano.
- c. Los puntos de fricción deben ser eliminados o tratados para que la pintura LBP no quede sometida a abrasiones.
- d. Se deben tratar las superficies cuando existan daños u otros deterioros en la pintura de una superficie de impacto como consecuencia de un componente de construcción relacionado (como la manilla de una puerta que golpea el muro o una puerta que ejerce fricción contra el marco).
- e. La pintura LBP debe quedar protegida contra impactos.
- f. Las superficies con LBP deben estar fuera del alcance de niños de menos de seis años de edad que podrían tratar de morderlas, en caso de existir indicios de que ya ha ocurrido tal situación.
- g. Las superficies horizontales irregulares, picadas o porosas deben ser cubiertas por una cubierta o un revestimiento uniforme y lavable.

3 . En determinados tipos de ayuda del HUD, cuando esté presente un menor cuyo nivel de plomo en la sangre corresponda al de una intervención ambiental, la parte designada deberá tomar medidas adicionales para evaluar la situación y responder ante los potenciales peligros por plomo. El nivel de plomo en la sangre de intervención ambiental corresponde a una lectura de 20 microgramos por decilitro (20 µg/dL) en niños menores de seis años de edad o dos lecturas de 15-19 µg/dL tomadas con al menos tres meses de diferencia. En determinados tipos de ayuda del HUD (asistencia de alquiler para inquilinos, asistencia de alquiler para proyectos, vivienda pública y viviendas multifamiliares de propiedad del HUD), el propietario o la parte designada pueden solicitar al renovador que efectúe el trabajo en la unidad abordando los peligros por plomo específicos identificados en la evaluación de riesgos de la investigación ambiental. Quienes participen en dichas labores deben contar con la capacitación y las calificaciones adecuadas.

4 . La parte designada debe disponer de una tercera parte independiente del renovador que realice un examen de aprobación en caso de que la cantidad de trabajo supere el umbral *de minimis* del HUD:

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- a. Un examen de aprobación incluye una evaluación visual al finalizar el trabajo de renovación en pinturas deterioradas, polvo, escombros, cáscaras de pintura u otros residuos; un muestreo del polvo de los pisos interiores y de los antepechos y canales de las ventanas; el envío de dichas muestras a un laboratorio para un análisis de plomo; la interpretación de los resultados del laboratorio y la preparación de un informe de aprobación. La EPA también permite que se utilice un examen de aprobación en reemplazo de una verificación de limpieza, en caso de que el examen de aprobación sea requerido por las leyes federales, estatales, tribales o locales o por el contrato. La unidad, o el lugar en que esté contenido el trabajo, junto con el área de trabajo y un área adyacente al área de contención, deben pasar el examen de aprobación y no deben presentar ningún peligro por plomo. Si no se pasa la aprobación en el paso de evaluación visual o en el paso de pruebas de polvo, se debe repetir la limpieza en las secciones no aprobadas del área de trabajo. La sección rechazada del área de trabajo corresponde al área específica sometida a pruebas, al igual que cualquier otra área que no haya sido probada y cualquier otra área que se represente en el área de muestreo. Por ejemplo:
- Sólo se tomaron muestras de un dormitorio, porque iba a representar a todos los dormitorios dentro de la vivienda. No pasó la prueba. Por tanto, se deben volver a limpiar y analizar todos los dormitorios de la unidad.
 - En un edificio grande de apartamentos multifamiliar, si se realizan pruebas en un porcentaje de las unidades, en conformidad con las directrices del HUD, y alguna no es aprobada, entonces se deben volver a limpiar y aprobar todas las unidades, con excepción de aquellas que se aprobaron. (Si existen pautas de que sólo ciertos tipos de componentes no son aprobados, entonces sólo se deben volver a limpiar y aprobar esos tipos de componentes, tanto en las unidades rechazadas como en las unidades no sometidas a pruebas.)
- b. La persona que efectúe el examen de aprobación debe ser:
- Un inspector certificado en pinturas a base de plomo, un evaluador de riesgos, un revisor de aprobaciones o un técnico en muestreo de polvo, según el tipo de actividad que se esté realizando. (Esta persona debe estar certificada por el Estado o la EPA, dependiendo de si la vivienda se encuentra en un estado autorizado por la EPA para certificar a personas en la disciplina del plomo.)
 - Una persona independiente de la organización que realiza la reducción de peligros o las actividades de mantenimiento. La excepción es cuando la parte designada puede usar a un empleado interno calificado para ejecutar la aprobación, aunque sean otros empleados internos quienes realizaron la renovación. Sin embargo, un mismo empleado interno no puede encargarse a la vez de la renovación y la aprobación.

D. Cómo averiguar cuáles son los requisitos para pintura a base de plomo que se aplican a los trabajos planificados en propiedades beneficiarias de ayuda para la vivienda del HUD, tales como asistencia para rehabilitación o adquisición:

Es importante saber si el trabajo cuenta con ayuda federal para la vivienda, porque el incumplimiento de los requisitos para pinturas a base de plomo podría afectar la continuidad de ese apoyo. En todos los trabajos la empresa de renovación debe aclarar lo siguiente:

- Si la vivienda recibe ayuda financiera, y
- Si el trabajo está sujeto a algún requisito para pinturas a base de plomo debido a la ayuda que se recibe.

La empresa de renovación debe adoptar las siguientes medidas:

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1. Consultar con el propietario si la propiedad o la familia recibe algún tipo de ayuda para la vivienda, como préstamos con bajos intereses concedidos por algún organismo local, estatal o federal. De ser así:
 - a. Debe averiguar el nombre de ese organismo, el nombre de la persona de contacto, la dirección y el número de teléfono. (Revise la lista de tipos de organismos a continuación).
 - b. Obtenga una descripción básica del tipo de ayuda que recibe la propiedad.

Nota: Debe explicar al propietario que necesitará información acerca del trabajo y que también deberá verificar si existen requisitos especiales.

2. Si tiene alguna duda sobre los requisitos federales o estatales para pinturas a base de plomo que se aplican al trabajo, comuníquese con el organismo público que administra la ayuda otorgada y comente el proyecto con el especialista del programa o el especialista en rehabilitaciones que se encarga de la propiedad. Por ejemplo:
 - a. ¿Se considera el proyecto como una reducción de plomo? Si es así, ¿cuáles son los requisitos de reducción que impone el organismo?
 - b. Si el proyecto no corresponde a una reducción, ¿cuáles son los requisitos para pinturas a base de plomo que establece el organismo para ese proyecto y cómo se deben integrar al informe del proyecto?

Entre los tipos de organismos públicos que administran ayudas para la vivienda, como asistencia para rehabilitación o compra, se cuentan:

- Agencia, corporación o autoridad del estado para la vivienda
- Agencia, corporación o autoridad del estado para el desarrollo comunitario
- Agencia del estado para financiamiento de vivienda
- Autoridad, corporación o autoridad de la ciudad o el estado para la vivienda
- Agencia, corporación o autoridad de la ciudad o el estado para el desarrollo comunitario
- Centro de Servicios del Departamento de Agricultura de los Estados Unidos (USDA, por sus siglas en inglés): Programas de Vivienda Rural

Apéndice 3:

Renovar correctamente: Información importante para familias, proveedores de cuidado infantil y escuelas acerca del peligro del plomo

Remodelar correctamente

Información importante sobre los
riesgos causados por el plomo para
familias, proveedores de cuidado
infantil y escuelas



¡Es la ley!

La ley federal requiere que los individuos reciban cierta información antes de remodelar seis pies cuadrados o más de superficies pintadas por habitación en áreas interiores o veinte pies cuadrados o más en áreas exteriores en viviendas, instalaciones de cuidado infantil y escuelas construidas antes de 1978.

- Propietarios de casas e inquilinos: los renovadores deben darle este folleto antes de empezar a trabajar.
- Instalaciones de cuidado infantil, incluyendo las aulas de escuelas preescolares y de kindergarten, y las familias de niños menores de seis años que asisten a esas instalaciones: los renovadores deben proveer una copia de este folleto a las instalaciones de cuidado infantil e información general de la remodelación a las familias de los niños que asisten a esas instalaciones.

También, empezando en abril de 2010, la ley federal requerirá que contratistas que alteran la pintura a base de plomo en casas, instalaciones de cuidado infantil y escuelas, construidas antes de 1978 sean acreditados y sigan prácticas de trabajo específicas para evitar la contaminación por el plomo. Por lo tanto empezando en abril de 2010, pida ver la certificación de su contratista.

¿Remodelando, reparando o pintando?



- ¿Está siendo remodelada, reparada o pintada su casa, su edificio, o la instalación de cuidado infantil o escuela a la que asisten sus hijos?
- ¿Fue su casa, su edificio, o la instalación de cuidado infantil o escuela a la que asisten sus hijos menores de seis años, construida antes de 1978?

Si la respuesta a estas preguntas es SI, hay unas cuantas cosas importantes que usted necesita saber acerca de la pintura a base de plomo.

Este folleto proporciona datos básicos sobre el plomo e información acerca de seguridad del plomo cuando se está haciendo trabajo en su casa, su edificio o la instalación de cuidado infantil o escuela a la que asisten sus hijos.

La realidad acerca del plomo

- El plomo puede afectar al cerebro y sistema nervioso en desarrollo de los niños, causando un Coeficiente Intelectual (CI) reducido, discapacidades de aprendizaje y problemas de comportamiento. El plomo también es dañino para los adultos.
 - El plomo en el polvo es la forma más común en que las personas son expuestas al plomo. El plomo puede entrar al cuerpo por diferentes mecanismos como ser el por el plomo en la tierra o por la pintura descascarada o desconchada. El polvo de plomo es frecuentemente invisible.
 - La pintura a base de plomo se usó en más de 38 millones de casas hasta que fue prohibida para uso residencial en 1978.
 - Los proyectos que alteran la pintura a base de plomo pueden crear polvo y poner en peligro a usted y a su familia. No permita que esto le suceda. Siga las prácticas descritas en este folleto para protegerse usted y su familia.
-

¿Quién debería leer este folleto?

Este folleto es para usted si usted:

- Reside en una casa construida antes de 1978,
- Es propietario u opera una instalación de cuidado infantil, incluyendo aulas preescolares y de kindergarten, construida antes de 1978, o
- Tiene un niño menor de seis años que asiste a una instalación de cuidado infantil construida antes de 1978.

Usted aprenderá:

- Datos básicos acerca del plomo y su salud,
- Cómo elegir a un contratista, si usted es el dueño de una propiedad,
- Lo que los inquilinos, y padres/tutores de un niño en una instalación de cuidado infantil o escuela deberían considerar,
- Cómo prepararse para el trabajo de renovación o reparación,
- Qué buscar durante el trabajo y después de que el trabajo esté completado,
- Dónde obtener más información acerca del plomo.

Este folleto no es para:

- Proyectos de eliminación. La eliminación es un conjunto de actividades dirigidas específicamente a eliminar el plomo o los riesgos del plomo. La EPA (Agencia de Protección Ambiental por sus siglas en inglés) tiene normas para la certificación y capacitación de profesionales en el campo de eliminación de plomo. Si su meta es eliminar el plomo o los riesgos del plomo, comuníquese con el National Lead Information Center (Centro Nacional de Información del Plomo) al **1-800-424-LEAD (5323)** para mayor información.
- Proyectos “Hágalo usted mismo”. Si usted mismo planea hacer trabajos de remodelación, este documento es un buen inicio, pero usted necesitará más información para finalizar el trabajo con seguridad. Llame al Nacional Lead Information Center (Centro Nacional de Información sobre el Plomo) al **1-800-424-LEAD (5323)** y pida más información sobre cómo trabajar con seguridad en una casa con pintura a base de plomo.
- Educación del contratista. Los contratistas que quieran información acerca de cómo trabajar de una manera segura con el plomo deberán comunicarse con el Centro Nacional de Información sobre el Plomo al **1-800-424-LEAD (5323)** para información sobre cursos y recursos sobre prácticas de trabajo seguras con el plomo.



El plomo y su salud

El plomo es especialmente peligroso para niños menores de seis años de edad.

El plomo puede afectar al cerebro y sistema nervioso en desarrollo de los niños, causando:

- CI reducido y discapacidades de aprendizaje.
- Problemas de comportamiento.

Aun los niños que parecen saludables pueden tener niveles de plomo peligrosos en sus cuerpos.

El plomo también es dañino para los adultos.

En los adultos, niveles bajos de plomo pueden presentar muchos peligros, incluyendo:

- Presión de sangre alta e hipertensión.
- Las mujeres embarazadas expuestas al plomo pueden transferir el plomo a sus fetos.



El plomo se introduce en el cuerpo cuando es tragado o inhalado.

- Las personas, especialmente los niños, pueden tragar polvo de plomo cuando comen, juegan, o hacen otras actividades en las cuales se llevan la mano a la boca.
- Las personas también pueden respirar polvo o gases de plomo si alteran la pintura a base de plomo.
- Las personas que liján, raspan, queman, cepillan o aplican aire comprimido o alteran la pintura a base de plomo de alguna otra manera, se arriesgan a una exposición dañina al plomo.

¿Qué debo hacer si estoy preocupado por la exposición de mi familia al plomo?

- Llame a su departamento de salud local para asesoría sobre cómo reducir y eliminar exposiciones al plomo dentro y fuera de su casa, instalación de cuidado infantil o escuela.
- Siempre use prácticas de trabajo seguras contra el plomo cuando la renovación o reparación alterarán la pintura a base de plomo.
- Una prueba de sangre es la única manera de averiguar si usted o un miembro de su familia ya tienen envenenamiento con plomo. Llame a su médico o a su departamento de salud local para tramitar una prueba de sangre.

Para mayor información acerca de los efectos a la salud por la exposición al plomo, visite el sitio Web del plomo de la EPA en www.epa.gov/lead/pubs/leadinfo.htm o llame a al **1-800-424-LEAD (5323)**.

Hay otras cosas que usted puede hacer diariamente para proteger a su familia.

- Limpie regularmente los pisos, los marcos de las ventanas y otras superficies.
- Lave con frecuencia las manos, biberones, chupetes/chupones, y juguetes de los niños.
- Asegúrese de que los niños coman una dieta saludable y nutritiva, consistente con las normas dietéticas del USDA (Departamento de Agricultura de los Estados Unidos), que ayuda a proteger a los niños de los efectos del plomo.
- Limpie los zapatos antes de entrar en la casa.

¿De dónde viene el plomo?

El polvo es el problema principal. La forma más común de que el plomo entre en el cuerpo es por el polvo. El polvo de plomo viene de la pintura a base de plomo, deteriorada o en proceso de deterioración y de tierra contaminada con plomo que llega a ser dejada en la casa por los zapatos y otros objetos. Este polvo puede acumularse hasta llegar a niveles peligrosos. Entonces, actividades normales donde se acostumbra llevar la mano a la boca, como jugar y comer (especialmente en niños pequeños), causan que el polvo de las superficies como los pisos y los marcos de las ventanas entren al cuerpo.

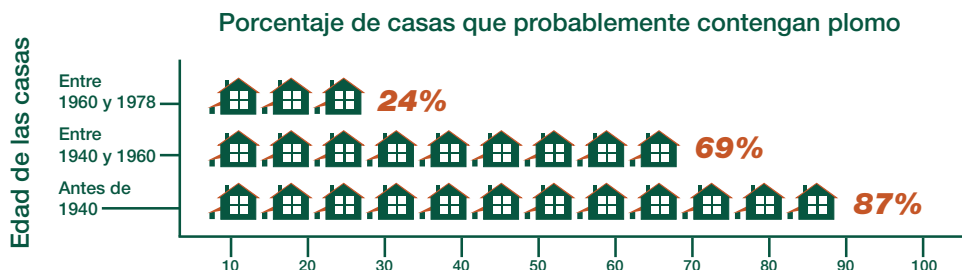
La remodelación de la casa crea polvo. Las actividades comunes de remodelación como lijar, cortar y demoler pueden crear polvo, partículas y esquilas de plomo.

Las prácticas apropiadas de trabajo lo protegen del polvo. La clave para protegerse usted mismo y a su familia durante una remodelación, reparación o trabajo de pintura es usar prácticas de trabajo seguras para el plomo tales como contener el polvo dentro del área de trabajo, usando métodos de trabajo que minimicen el polvo y llevando a cabo una limpieza cuidadosa, como se describe en este folleto.

Otras fuentes de plomo. Recuerde, el plomo también puede venir de la tierra de afuera, su agua, o artículos domésticos (tales como cerámica vidriada con plomo y cristal de plomo). Comuníquese con el Centro Nacional de Información sobre el Plomo (National Lead Information Center) al **1-800-424-LEAD (5323)** para mayor información sobre estas fuentes.



Revisando su casa por pintura a base de plomo



Las casas, instalaciones de cuidado infantil y escuelas de más edad tienen más probabilidad de contener pintura a base de plomo. Las casas pueden ser casas unifamiliares o departamentos. Pueden ser privadas, asistidas por el gobierno o viviendas públicas. Las escuelas consisten de aulas preescolares y de kindergarten. Pueden ser urbanas, suburbanas, o rurales.

Usted tiene las siguientes opciones:

Usted puede decidir el asumir que su casa, instalación de cuidado infantil, o escuela contiene plomo. Especialmente en las casas y edificios más antiguos, usted puede simplemente querer asumir que la pintura a base de plomo está presente y seguir las prácticas seguras de trabajo con plomo descritas en este folleto durante la remodelación, reparación, o trabajo de pintura.

Usted con su contratista pueden también hacer pruebas para el plomo usando un equipo de prueba de plomo. Los equipos de prueba deben estar aprobados por la EPA y están disponibles en las ferreterías. Incluyen instrucciones detalladas para su uso.

Usted puede contratar a un profesional acreditado para verificar si hay pintura a base de plomo. Estos profesionales son asesores o inspectores de riesgo acreditados, y pueden determinar si su casa tiene plomo o riesgos de plomo.

- Un inspector acreditado o asesor de riesgo puede llevar a cabo una inspección para decirle si su casa, o una porción de su casa, tiene pintura a base de plomo y dónde está ubicada. Esto le dirá las áreas de su casa donde las prácticas seguras de trabajo con plomo son necesarias.
- Un asesor de riesgo acreditado puede llevar a cabo una evaluación de riesgo e informarle si su casa actualmente tiene algún riesgo de tener plomo causado por la pintura con plomo, polvo o tierra. El asesor de riesgo también puede decirle qué acciones tomar para tratar cualquier riesgo.
- Si necesita ayuda para encontrar a un asesor o inspector de riesgo acreditado, llame al Centro Nacional de Información sobre el Plomo al **1-800-424-LEAD (5323)**.

Para dueños de propiedades

Usted tiene la mayor responsabilidad por la seguridad de su familia, inquilinos, o niños bajo su cuidado. Esto significa prepararse apropiadamente para la remodelación y mantener a las personas fuera del área de trabajo (ver página 8). También significa asegurarse de que el contratista use prácticas seguras de trabajo con el plomo.

Empezando en abril de 2010, la ley federal requerirá que los contratistas que lleven a cabo proyectos de remodelación, reparación y pintura que alteren la pintura con base de plomo en casas, instalaciones de cuidado infantil y escuelas construidas antes de 1978 estén acreditados y sigan prácticas de trabajo específicas para evitar la contaminación con plomo.

Hasta que se requiera que los contratistas estén acreditados, asegúrese de que su contratista pueda explicar claramente los detalles del trabajo y cómo el contratista minimizará los riesgos de plomo durante el trabajo.

- Pregunte al contratista si está capacitado para llevar a cabo prácticas seguras de trabajo con plomo y pida ver una copia de su certificado de capacitación.
- Pregúnteles qué métodos seguros para el plomo usarán para configurar y llevar a cabo el trabajo en su casa, instalación de cuidado infantil o escuela.
- Pregunte si el contratista está consciente de las reglas de la remodelación con plomo. Por ejemplo, se requiere que los contratistas le proporcionen con una copia de este folleto antes de empezar el trabajo. En el reverso de este folleto se encuentra una muestra de un formulario de notificación antes de la remodelación. Los contratistas pueden usar este formulario para hacer más fácil la documentación de cumplimiento.
- Pida referencias de al menos tres trabajos recientes de casas construidas antes de 1978, y hable con cada uno personalmente.

Siempre asegúrese de que el contrato sea claro acerca de cómo se configurará el trabajo, se llevará a cabo y se limpiará.

- Comparta los resultados de cualquier prueba previa de plomo con el contratista.
- Aún antes de que se requiera que los contratistas estén acreditados usted debe especificar en el contrato que sigan las prácticas descritas en las páginas 9 y 10 de este folleto.
- El contrato debe especificar qué partes de su casa forman parte del área de trabajo y especificar que prácticas seguras de trabajo con plomo deberán usarse en esas áreas. Recuerde, su contratista debe confinar el polvo y escombros al área de trabajo y debe minimizar el esparcir ese polvo a otras áreas de la casa.
- El contrato también debe especificar que el contratista limpie el área de trabajo, verifique que haya sido limpiada adecuadamente, y vuelva a limpiarla si es necesario.

Una vez que estas prácticas sean requeridas, si usted piensa que un trabajador no está haciendo lo que debe hacer o está haciendo algo que no es seguro, usted debe:

- Dirigir al contratista a cumplir con los requerimientos del contrato,
- Llamar a su departamento de salud o construcción, o
- Llamar a la línea directa de la EPA **1-800-424 LEAD (5323)**.

Para inquilinos, y familias de niños menores de seis años en instalaciones de cuidado infantil y escuelas

Usted juega un papel importante en asegurarse del mayor nivel de seguridad para su familia.

Esto significa prepararse apropiadamente para la renovación y mantenerse fuera del área de trabajo (ver página 8).

Empezando en abril de 2010, la ley federal requerirá que los contratistas que lleven a cabo proyectos de remodelación, reparación y pintura que alteren la pintura a base de plomo en casas, instalaciones de cuidado infantil y escuelas, construidas antes de 1978 estén acreditados y sigan prácticas laborales específicas para evitar la contaminación por el plomo.

La ley requerirá que cualquier persona contratada para remodelar, reparar o hacer trabajo de preparación en una propiedad construida antes de 1978 siga los pasos descritos en las páginas 9 y 10 a menos que el área donde el trabajo será hecho no contenga pintura con base de plomo.

Una vez que estas prácticas sean requeridas, si usted piensa que un trabajador no está haciendo lo que debe hacer o está haciendo algo que no es seguro, usted debe:

- Comunicarse con su propietario o dueño de casa,
- Llamar a su departamento de salud o construcción, o
- Llame a la línea directa de la EPA al **1-800-424 LEAD (5323)**.

Si está usted preocupado acerca de los riesgos del plomo que quedaron después de que el trabajo haya sido concluido, puede verificar el trabajo usted mismo (ver página 10).



Regla sobre seguridad en la vivienda con pintura a base de plomo

Si su propiedad recibe asistencia de vivienda del HUD (Departamento de Vivienda y Desarrollo Urbano de los Estados Unidos) (o de una agencia estatal o local que use fondos de HUD), usted debe seguir los requerimientos más rigurosos de la Regla de HUD sobre seguridad en la vivienda con pintura a base de plomo (HUD's Lead-safe Housing Rule) y los que se describen en este folleto.

Preparándose para una remodelación

Las áreas de trabajo no deben ser accesibles a los ocupantes mientras ocurre el trabajo. Los cuartos o áreas donde el trabajo se está haciendo pueden ser bloqueados o sellados con hojas de plástico para contener cualquier polvo que se genere. El área contenida no estará disponible para usted hasta que el trabajo en ese cuarto o área esté completo, limpiado totalmente, y el contaminante haya sido quitado. Usted no tendrá acceso a algunas áreas y debe planear de acuerdo a eso.

Usted puede necesitar:

- Una recámara, baño y arreglos de cocina alternos si el trabajo está ocurriendo en esas áreas de su casa.
- Un lugar seguro para las mascotas porque ellas también pueden ser envenenadas por el plomo y pueden llevar polvo de plomo a otras áreas de la casa.
- Un pasillo separado para el contratista desde el área de trabajo hacia afuera, para traer materiales dentro y fuera de la casa. Idealmente, no debe de ser a través de la misma entrada que usa su familia.
- Un lugar para almacenar sus muebles. Puede que tenga que mover sus muebles y pertenencias del área donde se está llevando a cabo el trabajo. Los artículos que no puedan moverse, como gabinetes, deben ser envueltos en plástico grueso.
- Apagar los sistemas de calefacción y aire acondicionado a presión mientras se hace el trabajo. Esto evita que el polvo se esparza a través de las rejillas de ventilación desde el área de trabajo al resto de su casa. Considere cómo esto puede afectar sus disposiciones de vivienda.

Usted puede aún querer mudarse de su casa temporalmente mientras todo o parte del trabajo siga en continuación.

Pueda que las instalaciones de cuidado infantil y escuelas quieran considerar acceso alternativo para los niños a las instalaciones necesarias.



Durante el trabajo

Empezando en abril de 2010, la ley federal requerirá que los contratistas que sean contratados para llevar a cabo proyectos de remodelación, reparación y pintura en casas, instalaciones de cuidado infantil y escuelas construidas antes de 1978, que alteren la pintura a base de plomo, estén acreditados y sigan prácticas de trabajo específicas para evitar la contaminación con plomo.

Aún antes de que los contratistas estén requeridos a estar acreditados y seguir ciertas prácticas laborales específicas, el contratista deberá seguir los siguientes tres simples procedimientos:

1. **Contener el área de trabajo.** El área debe estar contenida para que el polvo y escombros no escapen de esa área. Deben ponerse letreros de advertencia, plástico grueso y cinta según sea apropiado para:
 - Cubrir los pisos y cualquier mueble que no pueda ser movido.
 - Sellar puertas y rejillas de ventilación del sistema de calefacción y enfriamiento.

Estas ayudarán a prevenir a que el polvo o los escombros salgan del área de trabajo.

2. **Minimizar el polvo.** No hay forma de eliminar el polvo, pero algunos métodos hacen menos polvo que otros. Por ejemplo, usar agua para rociar las áreas antes del lijar o raspar; cortar con una cuchilla u hoja la pintura que se haya secado sobre cualquier componente y luego jalar y separar los componentes en lugar de romperlos, son técnicas que generan menos polvo que las alternativas. Algunos métodos generan grandes cantidades de polvo contaminado con plomo y no deben usarse. Éstos son:

- Quemar con llama abierta o usando una antorcha o soplete.
- Lijar, moler, cepillar, usar un martillo escareador de agujas, o usar limpiadores de alta presión y equipo que no tengan una cubierta con accesorio de aspiración HEPA (filtro de aire de alta eficiencia para partículas suspendidas).
- Usar una pistola de calor a temperaturas mayores de 1100° F.

3. **Limpiar a fondo.** El área de trabajo debe ser limpiada diariamente para mantenerla tan limpia como sea posible. Cuando todo el trabajo esté hecho, el área debe ser limpiada usando métodos especiales de limpieza antes de quitar cualquier plástico que aisle el área de trabajo del resto de la casa. Los métodos especiales de limpieza deben incluir:

- Usar una aspiradora HEPA (filtro de aire de alta eficiencia para partículas suspendidas) para limpiar el polvo y escombros sobre todas las superficies, seguido por
- Trapeado húmedo y enjuagar con bastante agua.

Cuando se haya terminado la limpieza final, mire a su alrededor. No debe quedar polvo, pedazos de pintura, o escombros en el área de trabajo. Si usted ve algo de polvo, cáscaras de pintura o escombros, el área debe ser limpiada nuevamente.



Para dueños de propiedades: Después de que el trabajo esté terminado

Cuando todo el trabajo esté terminado, usted querrá saber si su casa, instalación de cuidado infantil o escuela ha sido limpiada apropiadamente. He aquí algunas maneras de verificar.

Aún antes de que se requiera que los contratistas estén acreditados y sigan prácticas de trabajo específicas, usted debería:

Preguntar acerca de la verificación final de limpieza de su contratista.

Recuerde, el polvo de plomo es frecuentemente invisible a simple vista. Puede estar presente aún si usted no puede verlo. El contratista debe usar paños limpiadores desechables para limpiar el suelo del área de trabajo y compararlos con una tarjeta de verificación de limpieza para determinar si el área de trabajo se limpió adecuadamente.

Para ordenar una tarjeta de verificación de limpieza e instrucciones detalladas visite el sitio Web de la EPA en www.epa.gov/lead o comuníquese con el Centro Nacional de Información sobre el Plomo al **1-800-424-LEAD (5323)** o visite su sitio Web al www.epa.gov/lead/nlic.htm.

Usted también puede elegir hacer una prueba de polvo de plomo. Dichas pruebas se llevan a cabo utilizando un papel absorbente especial que se pasa por la superficie para recolectar una muestra de polvo. Estas muestras se mandan a un laboratorio de análisis para detectar si hay polvo de plomo presente.

- Usted puede especificar en su contrato que se haga una prueba de polvo de plomo. En ese caso, asegúrese de aclarar quién hará la prueba.
- La prueba debe ser hecha por un profesional del plomo.

Si usted elige hacer la prueba, algunos laboratorios de análisis de plomo reconocidos por la EPA le enviarán un equipo que le permite recolectar muestras y enviarlas de regreso a laboratorio para análisis.

Comuníquese con el Centro Nacional de Información sobre el Plomo al **1-800-424-LEAD (5323)** para listas de profesionales calificados y laboratorios de análisis de plomo reconocidos por la EPA.

Si su casa, instalación de cuidado infantil o escuela no pasan la prueba del polvo, el área debe ser limpiada nuevamente y se debe hacer la prueba de polvo de plomo otra vez. Cuando el proyecto se haga por contrato, es una buena idea especificar en el contrato que el contratista es responsable por volver a limpiar si la casa, instalación de cuidado infantil, o escuela no pasan la prueba.



Para mayor información

Pueda que usted necesite información adicional sobre cómo proteger a sus niños y a sí mismo mientras se está haciendo un trabajo en su casa, su edificio o instalación de cuidado infantil.

■ El **Centro Nacional de Información sobre el Plomo** al **1-800-424-LEAD (5323)** o www.epa.gov/lead/nlic.htm pueden decirle cómo ponerse en contacto con sus programas estatales, locales y/o tribales u obtener información general acerca de la prevención de envenenamiento por el plomo.

- Los programas estatales y tribales de prevención de envenenamiento por el plomo o de protección del medio ambiente pueden proporcionar información acerca de las normas del plomo y fuentes potenciales de ayuda financiera para reducir los riesgos del plomo. Si su gobierno estatal o local tiene requerimientos más estrictos que aquellos descritos en este folleto, usted debe seguir esos requerimientos.
- Los oficiales del código de construcción local pueden informarle acerca de los reglamentos que aplican al trabajo de renovación que usted está planeando.
- Los departamentos estatales, del condado, y locales de salud pueden proporcionarle información acerca de los programas locales, incluyendo asistencia para niños envenenados con plomo y consejo sobre maneras de hacer que su casa sea revisada por plomo.



■ El **Centro Nacional de Información sobre el Plomo** puede también proporcionar una variedad de materiales de recursos, incluyendo las siguientes guías acerca de las prácticas laborales seguras para trabajar con la pintura a base de plomo. Muchos de estos materiales están también disponibles en www.epa.gov/lead/pubs/brochure.htm.

- La seguridad con la pintura de plomo, Una guía práctica para la pintura, el mantenimiento y las renovaciones en las viviendas (Lead Paint Safety, A Field Guide for Painting, Home Maintenance, and Renovation Work) (Disponible en español e inglés)
- Proteja a su familia contra el plomo en el hogar (Protect Your Family From Lead in Your Home) (Disponible en español e inglés)
- Lead in Your Home: A Parent's Reference Guide (no disponible en español)



Para los afectados del oído, llame al Servicio Federal de Transmisión de Información (Federal Information Relay Service) al 1-800-877-8339 para tener acceso a cualquiera de los números de teléfono en este folleto.

Contactos de la EPA

Oficinas Regionales de la EPA

La EPA trata los riesgos del plomo residencial a través de varias reglamentaciones diferentes. La EPA requiere capacitación y certificación para llevar a cabo reducción, educación acerca de los riesgos asociados con las renovaciones, revelación acerca de los riesgos conocidos acerca de la pintura a base de plomo y plomo en las viviendas, y fija los estándares del riesgo de la pintura a base de plomo.

Su Oficina Regional de la EPA puede proporcionar la mayor información con respecto a la seguridad del plomo y los programas de protección del plomo en www.epa.gov/lead.

Región 1

(Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, Vermont)
Regional Lead Contact
U.S. EPA Region 1
Suite 1100
One Congress Street
Boston, MA 02114-2023
(888) 372-7341

Región 2

(Nueva Jersey, Nueva York, Puerto Rico, Islas Vírgenes)
Regional Lead Contact
U.S. EPA Region 2
2890 Woodbridge Avenue
Building 205, Mail Stop 225
Edison, NJ 08837-3679
(732) 321-6671

Región 3

(Delaware, Maryland, Pennsylvania, Virginia, Washington, DC, West Virginia)
Regional Lead Contact
U.S. EPA Region 3
1650 Arch Street
Philadelphia, PA 19103-2029
(215) 814-5000

Región 4

(Alabama, Florida, Georgia, Kentucky, Mississippi, Carolina del Norte, Carolina del Sur, Tennessee)
Regional Lead Contact
U.S. EPA Region 4
61 Forsyth Street, SW
Atlanta, GA 30303-8960
(404) 562-9900

Región 5

(Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin)
Regional Lead Contact
U.S. EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3507
(312) 886-6003

Región 6

(Arkansas, Louisiana, Nuevo México, Oklahoma, Texas)
Regional Lead Contact
U.S. EPA Region 6
1445 Ross Avenue,
12th Floor
Dallas, TX 75202-2733
(214) 665-6444

Región 7

(Iowa, Kansas, Missouri, Nebraska)
Regional Lead Contact
U.S. EPA Region 7
901 N. 5th Street
Kansas City, KS 66101
(913) 551-7003

Región 8

(Colorado, Montana, Dakota del Norte, Dakota del Sur, Utah, Wyoming)
Regional Lead Contact
U.S. EPA Region 8
1595 Wynkoop Street
Denver, CO 80202
(303) 312-6312

Región 9

(Arizona, California, Hawaii, Nevada)
Regional Lead Contact
U.S. Region 9
75 Hawthorne Street
San Francisco, CA 94105
(415) 947-8021

Región 10

(Alaska, Idaho, Oregon, Washington)
Regional Lead Contact
U.S. EPA Region 10
1200 Sixth Avenue
Seattle, WA 98101-1128
(206) 553-1200

Otras agencias federales

CPSC (Comisión para la Seguridad de los Productos de Consumo)

La Comisión para la Seguridad de los Productos de Consumo (CPSC por sus siglas en inglés) protege al público del riesgo irrazonable de lesión o muerte de 15,000 tipos de productos de consumo bajo la jurisdicción de la agencia. La CPSC advierte al público y los sectores privados reducir la exposición al plomo y aumentar la conciencia del consumidor. Comuníquese con la CPSC para mayor información con respecto a los reglamentos y seguridad del producto de consumo.

CPSC (Comisión para la Seguridad de los Productos de Consumo)

4330 East West Highway
Bethesda, MD 20814
Línea Directa 1-(800) 638-2772
www.cpsc.gov

CDC (Los Centros para el Control y Prevención de Enfermedades) División de Prevención de Envenenamiento por Plomo en la Infancia

Los Centros para el Control y Prevención de Enfermedades (CDC por sus siglas en inglés) asisten a los programas estatales y locales de prevención de envenenamiento por el plomo en la infancia para proporcionar una base científica para decisiones de políticas, y para asegurar que los problemas de salud se traten en decisiones acerca de la vivienda y el ambiente. Comuníquese con el Programa de Prevención de Envenenamiento por el Plomo en la Infancia de CDC para materiales adicionales y enlaces sobre el tema del plomo.

CDC Childhood Lead Poisoning Prevention Branch

4770 Buford Highway, MS F-40
Atlanta, GA 30341
(770) 488-3300
www.cdc.gov/nceh/lead

HUD (Departamento de Vivienda y Desarrollo Urbano) Oficina de Casas Saludables y Control del Riesgo de Plomo

El Departamento de Vivienda y Desarrollo Urbano (HUD por sus siglas en inglés) proporciona fondos a los gobiernos estatales y locales para desarrollar formas accesibles para reducir los riesgos de la pintura a base de plomo en las viviendas de propiedad privada de bajos ingresos. Además la oficina respalda la regla sobre la notificación de la presencia de pintura a base de plomo y/o peligros de la pintura a base de plomo en las viviendas, y los reglamentos de seguridad del plomo del HUD en viviendas asistidas por HUD, proporciona alcance público y asistencia técnica, y lleva a cabo estudios técnicos para ayudar a proteger a los niños y sus familias de riesgos de salud y seguridad en la casa. Comuníquese con la Oficina de Casas Saludables y Control del Riesgo del Plomo de HUD para información sobre los reglamentos del plomo, esfuerzos de alcance público, e investigación sobre el control del riesgo del plomo y programas de subvenciones de alcance público.

U.S. Department of Housing and Urban Development (Departamento de Vivienda y Desarrollo Urbano de los EE.UU.)

Office of Healthy Homes and Lead Hazard Control (Oficina de Casas Saludables y Control del Riesgo de Plomo)
451 Seventh Street, SW, Room 8236
Washington, DC 20410-3000
Línea Directa de Reglamentos de Plomo del HUD
(202) 402-7698
www.hud.gov/offices/lead/



Muestra del formulario actual de notificación antes de la remodelación

Vigente hasta abril de 2010.

Confirmación de recibo del folleto acerca del plomo

- ☐ He recibido una copia del folleto “Remodelar correctamente: Información importante sobre los riesgos causados por el plomo para familias, proveedores de cuidado infantil y escuelas” informándome del peligro potencial por la exposición al riesgo del plomo que podría ser causado por la actividad de remodelación que se llevará a cabo en mi unidad de vivienda. Recibí este folleto antes de que el trabajo empiece.

Nombre del destinatario en letra de imprenta	Fecha

Firma del destinatario

Opción de auto-certificación (solamente para viviendas ocupadas por inquilinos) - Si el folleto acerca del plomo fue entregado pero no se pudo obtener la firma de un inquilino, usted puede marcar la casilla apropiada abajo.

- ☐ **Rehusó firmar** - Certifico que he hecho un esfuerzo de buena fe para entregar el folleto, “Remodelar correctamente: Información importante sobre los riesgos causados por el plomo para familias, proveedores de cuidado infantil y escuelas”, a la vivienda en alquiler listada abajo en la fecha y hora indicadas y que el ocupante se negó a firmar la confirmación de recibo. Además certifico que he dejado una copia del folleto en la unidad con el ocupante.
- ☐ **No estaba disponible para firmar** - Certifico que he hecho un esfuerzo de buena fe para entregar el folleto: “Remodelar correctamente: Información importante sobre los riesgos causados por el plomo para familias, proveedores de cuidado infantil y escuelas”, a la unidad en alquiler listada abajo y que el ocupante no estaba disponible para firmar la confirmación de recibo. Además certifico que he dejado una copia del folleto en la unidad deslizándola bajo la puerta.

Nombre de la persona certificando en letra de imprenta	Intento de entrega fecha y hora entrega del folleto acerca del plomo

Firma de la persona certificando la entrega del folleto acerca del plomo

Dirección de la unidad

Nota con respecto a la opción de enviar por correo - Como alternativa a entregar en persona, usted puede enviar por correo el folleto acerca del plomo al propietario y/o inquilino. El folleto debe ser enviado por correo al menos 7 días antes de la renovación (Documento con un certificado de envío por correo de la oficina postal).



Muestra del formulario de notificación antes de la remodelación, que se hará disponible en el futuro

Este formulario de muestra puede ser usado por firmas de remodelación para documentar cumplimiento con los reglamentos federales sobre la educación pre-renovación y sobre la remodelación, reparación, y pintura.

Confirmación del ocupante

Recibo del folleto

- ☐ He recibido una copia del folleto “Remodelar correctamente: Información importante sobre los riesgos causados por el plomo para familias, proveedores de cuidado infantil y escuelas” informándome del peligro potencial de la exposición al riesgo del plomo que podría ser causado por la actividad de remodelación que se llevará a cabo en mi unidad de vivienda. Recibí este folleto antes de que el trabajo empiece.

Reconocimiento de la opción de exclusión del propietario-ocupante

- ☐ (A) Confirmo que soy propietario y vivo en esta propiedad, que ningún niño menor de 6 años reside aquí, que ninguna mujer embarazada reside aquí, y que esta propiedad no es una instalación ocupada por niños.

Nota: Un niño reside en la residencia primaria de sus padres de custodia, tutores legales, padres sustitutos o cuidador primario si el niño vive y duerme la mayoría del tiempo en la residencia del cuidador primario.

Nota: Una instalación ocupada por niños es un edificio construido antes de 1978, el cual es visitado regularmente por el mismo niño, menor de seis años de edad, en al menos dos diferentes días dentro de cualquier semana, por lo menos tres horas cada día, con tal de que las visitas sumen un total de al menos 60 horas anuales.

Si la Casilla A es marcada, marque ya sea la Casilla B o la Casilla C, pero no ambas.

- ☐ (B) Solicito que la firma de renovación use prácticas laborales seguras de trabajo con la pintura a base de plomo requeridas por la Regla de Renovación, Reparación y Pintura de la EPA; o
- ☐ (C) Entiendo que no se requerirá que la firma desempeñando la renovación use las prácticas laborales seguras para trabajar con la pintura a base de plomo requeridas por la Regla de Remodelación, Reparación y Pintura de la EPA.

Nombre del propietario-ocupante con letra de imprenta

Firma del propietario-ocupante

Fecha de la firma

Opción de auto certificación del renovador (solamente para viviendas ocupadas por inquilinos) - Instrucciones al renovador: Si el folleto “Remodelar correctamente: Información importante sobre los riesgos causados por el plomo para familias, proveedores de cuidado infantil y escuelas” fue entregado pero la firma de un inquilino no pudo obtenerse, usted puede marcar la casilla apropiada abajo.

- ☐ **Declinado** - Certifico que he hecho un esfuerzo de buena fe para entregar el folleto “Remodelar correctamente: Información importante sobre los riesgos causados por el plomo para familias, proveedores de cuidado infantil y escuelas” a la unidad de vivienda en alquiler listada abajo en la fecha y hora indicadas y que el ocupante declinó firmar la confirmación del recibo. También certifico que he dejado una copia del folleto en la unidad con el ocupante.
- ☐ **No disponible para firmar** - Certifico que he hecho un esfuerzo de buena fe para entregar el folleto “Remodelar correctamente: Información importante sobre los riesgos causados por el plomo para familias, proveedores de cuidado infantil y escuelas” a la unidad de vivienda listada abajo y que el ocupante no estaba disponible para firmar la confirmación del recibo. Además certifico que he dejado una copia del folleto en la unidad deslizándola bajo la puerta o por (llene como fue dejado el folleto).

Nombre de la persona certificando la entrega en letra de imprenta

Fecha del intento de entrega

Firma de la persona certificando la entrega del folleto acerca del plomo

Dirección de la unidad

Nota con respecto a la opción de enviar por correo - Como alternativa a entregar en persona, usted puede enviar por correo el folleto acerca del plomo al propietario y/o inquilino. El folleto debe enviarse por correo al menos siete días antes de la renovación. El envío por correo debe estar documentado por un certificado de envío por correo de la oficina postal.

Nota: Este formulario no entra en vigencia hasta abril de 2010.

Apéndice 4:

Guía de cumplimiento destinada a entidades
pequeñas para renovar correctamente



United States
Environmental
Protection Agency
Office of Pollution Prevention and Toxics

EPA-740-K-09-001
Diciembre de 2008

Guía de cumplimiento de entidades pequeñas para renovar correctamente Programa de la EPA para Pintado, Renovación, Reparación de Pintura a base de Plomo

Un manual para contratistas,
administradores de viviendas y
personal de mantenimiento que
trabajan en viviendas, centros
de cuidado infantil y escuelas
construidas antes de 1978



¿Quién debe leer este manual?

- Toda persona que sea dueño o administrador de viviendas o centros ocupados por niños construidos antes de 1978.
- Contratistas que realizan actividades que puedan alterar superficies pintadas en viviendas y centros ocupados por niños construidos antes de 1978 (incluidas ciertas reparaciones y mantenimiento, así como actividades de preparación de pintado).

Acerca de este manual

Este manual resume los requisitos de la Regulación del Programa de Pintado, Renovación y Reparación de Pinturas a base de Plomo de la Agencia de Protección Ambiental (EPA por sus siglas en inglés), cuya intención es la de proteger contra los riesgos causados por las pinturas a base de plomo asociados con las actividades de renovación, reparación y pintado. La regulación requiere que los trabajadores reciban capacitación sobre cómo emplear normas laborales para trabajar de una manera segura con el plomo y exige que las compañías de renovaciones obtengan una certificación de la EPA; estos requisitos entrarán en vigor el 22 de abril de 2010.

Para garantizar el cumplimiento, también debe leer la regulación completa sobre la cual se basa este programa. Aunque la EPA ha resumido las disposiciones de la regulación en esta guía, los requisitos legales aplicables al trabajo de renovación están regulados por la Regulación sobre el Plomo de 2008 de la EPA. Existe una copia en inglés de la regulación disponible en el sitio Web de la EPA, www.epa.gov/lead/pubs/renovation.htm. (Para información básica en español, visite <http://www.epa.gov/lead/pubs/leadinfoesp.htm>).

Se ha elaborado un folleto titulado *Remodelar correctamente: información importante sobre los riesgos causados por el plomo para familias, proveedores de cuidado infantil y escuelas* (EPA-740-F-08-002) en conjunción con la regulación, con el fin de distribuirlo a las personas afectadas por el trabajo que altere la pintura a base de plomo. (Ver la página 17 para más información sobre cómo obtener copias de la regulación, del folleto *Remodelar correctamente* y de otros materiales relacionados).

Es posible que existan otros requisitos locales o estatales diferentes de o más estrictos que los federales en su estado. Por ejemplo, la legislación federal permite a la EPA a autorizar a los estados a administrar sus propios programas en vez del programa federal sobre el plomo. Incluso en los estados en los que no exista un programa autorizado sobre el plomo, un estado puede dictar sus propias regulaciones que pueden ser diferentes o ir más allá de los requisitos federales. Para más información sobre las regulaciones aplicables en su estado, comuníquese con el Centro Nacional de Información sobre el Plomo, llamando al 1-800-424-LEAD (5323).

Su opinión es importante. Por favor, revise este manual y comuníquese con el Centro Nacional de Información sobre el Plomo, llamando al 1-800-424-LEAD (5323) si tiene comentarios referentes a su utilidad y legibilidad, y si piensa que se necesitan mejoras.

Este documento ha sido publicado por la Agencia de Protección Ambiental (EPA por sus siglas en inglés) como el manual oficial de cumplimiento para pequeñas empresas, según lo requerido por la Ley de Aplicación Regulatoria Justa para Pequeñas Empresas de 1996 (SBREFA, por sus siglas en inglés). Antes de comenzar a utilizarlo, debe saber que la información en este documento fue compilada y publicada en junio de 2008. La EPA está mejorando y actualizando continuamente sus regulaciones, políticas, programas de cumplimiento e iniciativas de alcance. Para más información sobre si la EPA ha revisado o suplementado la información en esta guía, llame al Centro Nacional de Información sobre el Plomo, llamando al 1-800-424-LEAD (5323).

¿Qué es el Programa de Pintura, Renovación y Reparación de Pintura a base de Plomo (RRP)?

- El Programa de Pintura, Renovación y Reparación de Pintura a base de Plomo es un programa federal regulador que afecta a contratistas, administradores de propiedad y otras personas que alteran superficies pintadas.
- Se aplica a viviendas residenciales, apartamentos y centros ocupados por niños tales como escuelas y centros de cuidado infantil construidos antes de 1978.
- Incluye requisitos de educación anteriores a la renovación, así como capacitación, acreditación y requisitos de normas laborales.
 - Los requisitos de educación anteriores a la renovación ya están en vigencia:
 - Los contratistas, administradores de propiedad y otras personas que realizan renovaciones a cambio de remuneración en viviendas residenciales, apartamentos y centros ocupados por niños construidos antes de 1978 deben distribuir un folleto informativo sobre el plomo antes de comenzar el trabajo de renovación.
 - Los requisitos de capacitación, acreditación y normas laborales entrarán en vigor el 22 de abril de 2010:
 - Las empresas deben tener una acreditación, sus empleados deben haber recibido capacitación sobre el empleo de normas laborales para trabajar de una manera segura con el plomo y deben seguirse estas normas para minimizar la exposición de los ocupantes a los riesgos causados por el plomo.
- En un sentido amplio, se define como "renovación" toda actividad que altere las superficies pintadas, incluyendo la mayoría de las actividades de reparación, remodelado y mantenimiento, incluida la sustitución de ventanas.
- El programa incluye los requisitos que implementen tanto la Sección 402(c) como la 406(b) de la Ley de Control de Sustancias Tóxicas (TSCA). (www.epa.gov/lead/pubs/titleten.html) (en inglés)
- Las reglamentaciones de la EPA sobre el plomo se encuentran en 40 CFR Parte 745, Subparte E.

¿Cómo puede ayudarme este manual?

- El comprender los requisitos del programa sobre el plomo puede ayudarle a proteger a sus clientes contra los riesgos causados por el plomo y por lo tanto, puede reportarle más negocio a usted.
- Este manual presenta pasos sencillos a tomar para cumplir con lo estipulado en el programa de la EPA sobre el plomo. También incluye modos en los que puede incorporar estos pasos fácilmente en su trabajo.
- Distribuir el folleto sobre el plomo e incorporar las normas laborales requeridas en su lugar de trabajo contribuirá a proteger a sus clientes y ocupantes contra los riesgos causados por la pintura a base de plomo.

¿Quién debe cumplir los requisitos de la regulación sobre el plomo de 2008?

En general, toda persona que reciba remuneración por realizar trabajo que altere la pintura en viviendas y centros ocupados por niños construidos antes de 1978, lo cual puede incluir, entre otros:

- Propietarios/administradores de propiedad residencial de alquiler
- Contratistas generales
- Contratistas especializados, incluidos los:
 - Pintores
 - Plomeros
 - Carpinteros
 - Electricistas



¿Qué actividades están sujetas al Programa de Pintura, Renovación y Reparación de Pintura a base de Plomo?

En general, toda actividad que altere la pintura en viviendas y centros ocupados por niños construidos antes de 1978, incluyendo:

- Remodelación y reparaciones/mantenimiento
- Trabajo eléctrico
- Plomería
- Pintura
- Carpintería
- Sustitución de ventanas



¿Qué viviendas o actividades quedan excluidas y no están sujetas a la regulación?

- Viviendas construidas en 1978 o después.
- Viviendas para personas de edad avanzada o discapacitadas, a menos que haya niños menores de 6 años que residan o vayan a residir allí.
- Viviendas sin dormitorios designados (apartamentos “estudio”, dormitorios, estudiantiles, etc.).
- Viviendas o componentes declarados sin plomo por un inspector acreditado o asesor de riesgos.
- Actividades de reparación y mantenimiento menores que alteren 6 pies cuadrados o menos de superficie de pintura por cuarto en interiores, o 20 pies cuadrados o menos en superficies exteriores de una vivienda o edificio.
- *Nota:* las actividades de reparación y mantenimiento menores no incluyen la sustitución de ventanas y los proyectos que conlleven demolición o normas prohibidas.



¿Qué me exige el programa que haga?

Requisitos de educación anteriores a la renovación - En vigencia ahora.

- En la vivienda, debe:
 - Distribuir el folleto de la EPA sobre el plomo al propietario y a los ocupantes antes de comenzar la renovación.
- En un centro ocupado por niños, debe:
 - Distribuir el folleto sobre el plomo al propietario del edificio o a un representante adulto del centro ocupado por niños antes de comenzar la renovación.
- Para trabajo en áreas comunes de viviendas multifamiliares o centros ocupados por niños, debe:
 - Distribuir avisos de renovación a los inquilinos o padres/tutores legales de los niños que asisten al centro infantil. O debe publicar rótulos informativos sobre la renovación o el trabajo de reparación.
- Los rótulos informativos deben:
 - Estar puestos en lugares donde puedan verse con facilidad;
 - Describir el tipo, lugares y fechas de la renovación; y
 - Estar acompañados por el folleto sobre el plomo o por información sobre cómo los padres y tutores legales pueden obtener una copia gratuita del mismo (ver la página 31 para información sobre cómo obtener copias).
- Obtener confirmación de haber recibido el folleto sobre el plomo (ver la página 23) del propietario, representante adulto u ocupantes (según corresponda), o un certificado de haberlo enviado por correo de la oficina de correos.
- Retener registros por un periodo de tres años.
- *Nota:* Los requisitos de educación anteriores a la renovación no son aplicables a renovaciones de emergencia. Las renovaciones de emergencia incluyen controles temporales realizados como respuesta a un niño residente con un nivel elevado de plomo en la sangre.

Requisitos de capacitación, acreditación y normas laborales– En vigor a partir del 22 de abril de 2010.

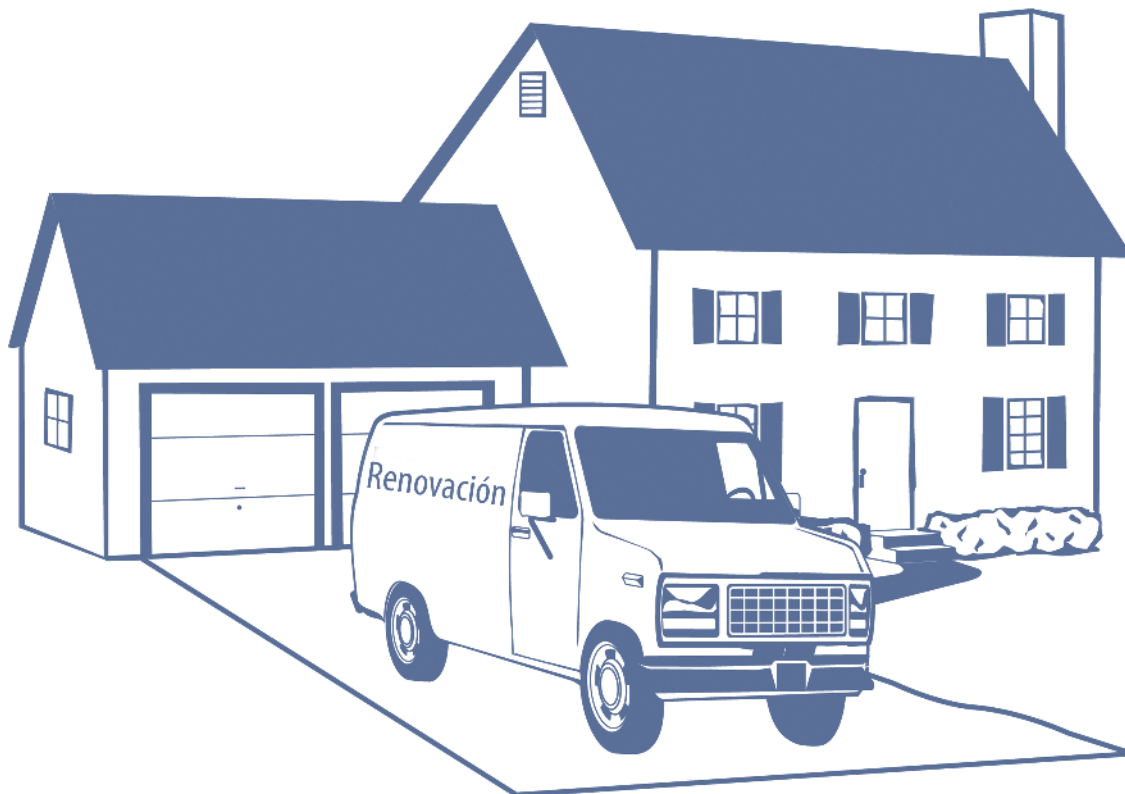
- Las empresas deben poseer una acreditación.
- Los renovadores deben haber recibido capacitación.
- Deben seguirse normas laborales para trabajar de una manera segura con el plomo. Por ejemplo:
 - Contención del área de trabajo para evitar que salgan polvo y desechos del área.
 - Prohibición de ciertas normas laborales como quemar a fuego abierto y la utilización de herramientas eléctricas sin control de ventilación HEPA.
 - Limpieza profunda seguida por un proceso de verificación para minimizar la exposición a riesgos causados por la pintura a base de plomo.
- Los requisitos de capacitación, acreditación y normas laborales no son aplicables cuando la empresa obtenga una declaración del propietario de que se cumplen todas las siguientes condiciones:
 - La renovación se realizará en la residencia del propietario;
 - No reside en ese lugar ningún niño menor de 6 años;
 - No reside en ese lugar ninguna mujer embarazada;
 - La vivienda no es un centro ocupado por niños; y
 - El propietario reconoce que la empresa de renovación no tendrá el deber de emplear las normas laborales estipuladas en la regulación.

¿Cuándo son completamente aplicables esos requisitos a mi caso?

- Abril de 2009:
 - Los proveedores de capacitación pueden comenzar a solicitar la acreditación.
 - Una vez que los proveedores hayan recibido la acreditación, pueden ofrecer cursos de capacitación que permitirán a los renovadores recibir su acreditación.
- Octubre de 2009 - Las empresas de renovación pueden comenzar a solicitar la acreditación de la EPA.
- Abril de 2010 - El programa entra en pleno vigor. Deben seguirse las normas laborales estipuladas en el mismo.

¿Cómo puede una empresa recibir acreditación?

A partir de octubre de 2009, las empresas pueden solicitar la acreditación de la EPA para realizar renovaciones o muestras de polvo. Para solicitarla, una empresa debe enviar a la EPA una “Solicitud para Empresas” completamente rellena, firmada por un agente autorizado de la empresa, y pagar las tarifas correspondientes. Para obtener una copia de la “Solicitud para Empresas”, comuníquese con NLIC llamando al 1-800-424-LEAD (5323) o visite www.epa.gov/lead/pubs/renovation.htm.



¿Qué responsabilidades tiene una empresa acreditada?

Las empresas que realizan renovaciones deben garantizar que:

1. Todas las personas que realizan actividades que alteren superficies pintadas en nombre de la empresa deben ser renovadores acreditados o haber recibido capacitación de un renovador acreditado.
2. Un renovador acreditado esté asignado a cada renovación y realice todas las responsabilidades de los renovadores acreditados.
3. Todas las renovaciones realizadas por la empresa se llevan a cabo de acuerdo con el estándar de normas laborales del Programa de Pintura, Renovación y Reparación de Pintura a base de Plomo (ver el diagrama en la página 9 para detalles sobre el estándar de normas laborales).
4. Se cumplan los requisitos de educación anteriores a la renovación del Programa de Pintura, Renovación y Reparación de Pintura a base de Plomo.
5. Se cumplan los requisitos de registro del programa.

¿Cómo puede un renovador recibir su acreditación?

Para recibir su acreditación, un renovador debe haber completado con éxito un curso inicial de capacitación de renovador, de ocho horas de duración, ofrecido por un proveedor de capacitación acreditado (los proveedores de capacitación están acreditados por la EPA o por un programa estatal o tribal autorizado). El certificado de haber completado el curso sirve de evidencia de acreditación. Los proveedores de capacitación pueden solicitar la acreditación de capacitación de renovador y técnico de muestras de polvo a partir de abril de 2009. Una vez que hayan recibido su acreditación, los capacitadores pueden comenzar a brindar la capacitación de acreditación.

¿Existen requisitos simplificados para contratistas que hayan recibido anteriormente capacitación sobre el plomo?

Sí, las personas que hayan completado con éxito un curso de reducción de plomo acreditado para trabajadores o supervisores, o aquellas personas que hayan completado con éxito un curso de capacitación de renovación modelo de la EPA, del Departamento de Vivienda y Desarrollo Urbano (HUD por sus siglas en inglés) o de la EPA/HUD, solamente necesitan tomar un curso de actualización de capacitación de renovación de cuatro horas de duración en lugar del curso inicial de capacitación de renovador de ocho horas para conseguir su acreditación.

¿Cuáles son las responsabilidades de un renovador acreditado?

Los renovadores acreditados tienen la responsabilidad de garantizar el cumplimiento general de los requisitos de las normas laborales para trabajar de una manera segura con el plomo, del Programa de Pintura, Renovación y Reparación de Pintura a base de Plomo en las renovaciones que tienen a su cargo. Un renovador acreditado (ver el diagrama en la página 9 para detalles sobre el estándar de normas laborales):

1. Debe utilizar un kit de pruebas aceptable para la EPA, cuando así sea solicitado por la parte que contrata los servicios de renovación, para determinar si los componentes que resultarán afectados por la renovación contienen pintura a base de plomo (la EPA anunciará qué kits de prueba son aceptables antes de abril de 2010. Por favor, visite nuestro sitio Web al www.epa.gov/lead) (en inglés).
2. Debe proporcionar capacitación en el trabajo a trabajadores sobre las normas laborales que emplearán para realizar las tareas asignadas.
3. Debe estar presente físicamente en el lugar de trabajo cuando se coloquen rótulos de advertencia, cuando se contenga el área de trabajo y cuando se realice la limpieza del área de trabajo.

4. Debe dirigir con regularidad el trabajo que realizan otras personas para garantizar que se empleen las normas laborales correctas, incluido el mantenimiento de la integridad de las barreras de contención y el asegurar que el polvo o escombros no se esparzan más allá del área de trabajo.
5. Debe estar disponible, en persona o por teléfono, en todo momento durante las renovaciones.
6. Debe realizar la verificación de limpieza del proyecto.
7. Debe tener consigo en el lugar de trabajo copias del certificado de haber completado el curso inicial y su certificado de haber completado el curso más reciente.
8. Debe preparar la documentación requerida.

¿Cuánto tiempo duran las acreditaciones de empresa y renovador?

Para mantener su acreditación, los renovadores y las empresas deben ser reacreditados por la EPA cada cinco años. Una empresa debe enviar a la EPA una “Solicitud para Empresas” completamente rellena, firmada por un agente de la empresa, y pagar las tarifas correspondientes. Los renovadores deben completar con éxito un curso de actualización de capacitación proporcionado por un proveedor de capacitación acreditado.

¿Cuáles son los requisitos de documentación?

- Deben guardarse todos los documentos por un periodo de tres años después de haber completado la renovación.
- Los documentos que deben guardarse incluyen:
 - Informes que certifiquen que no existe pintura a base de plomo.
 - Informes relacionados con la distribución del folleto sobre el plomo.
 - Cualquier declaración firmada y fechada recibida del propietario u ocupantes que documente que los requisitos no son aplicables (por ejemplo, que no hay niños menores de 6 años o mujeres embarazadas que residan en la vivienda y que no se trata de un centro ocupado por niños).
 - Documentación de conformidad con los requisitos del Programa de Pintura, Renovación y Reparación de Pintura a base de Plomo (la EPA ha preparado un formulario de muestra, que se encuentra disponible en www.epa.gov/lead/pubs/samplechecklist.pdf) (en inglés).

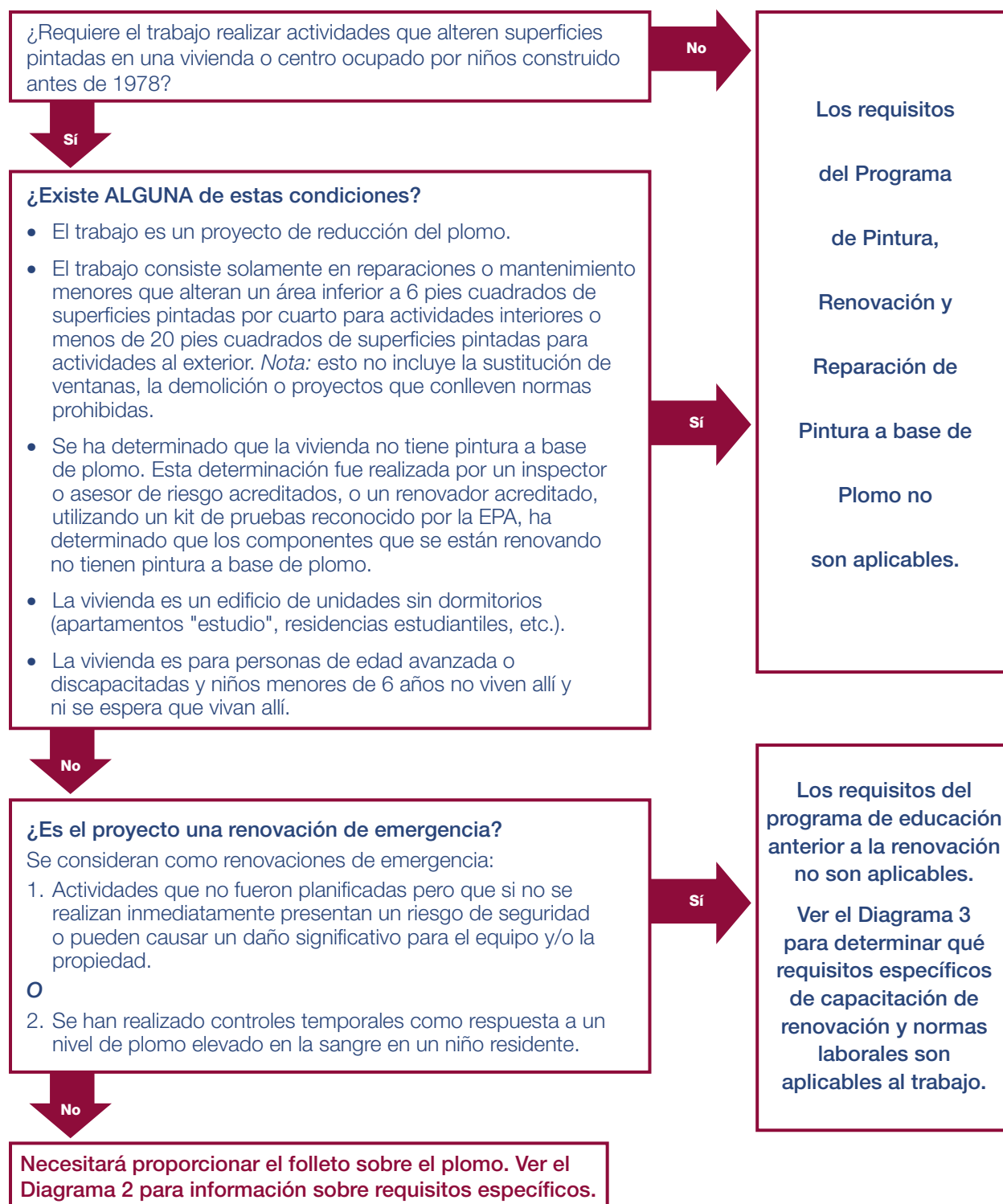
¿Cuáles son las normas laborales requeridas?

Los diagramas en las siguientes páginas le ayudarán a determinar si su proyecto está sujeto a los requisitos del Programa de Pintura, Renovación y Reparación de Pintura a base de Plomo y de ser así, a los requisitos específicos para su proyecto en particular. Los diagramas y otra información incluida en esta guía, no son considerados como sustitutos de la capacitación oficial.

Puntos claves de la regulación del programa de la EPA sobre el plomo

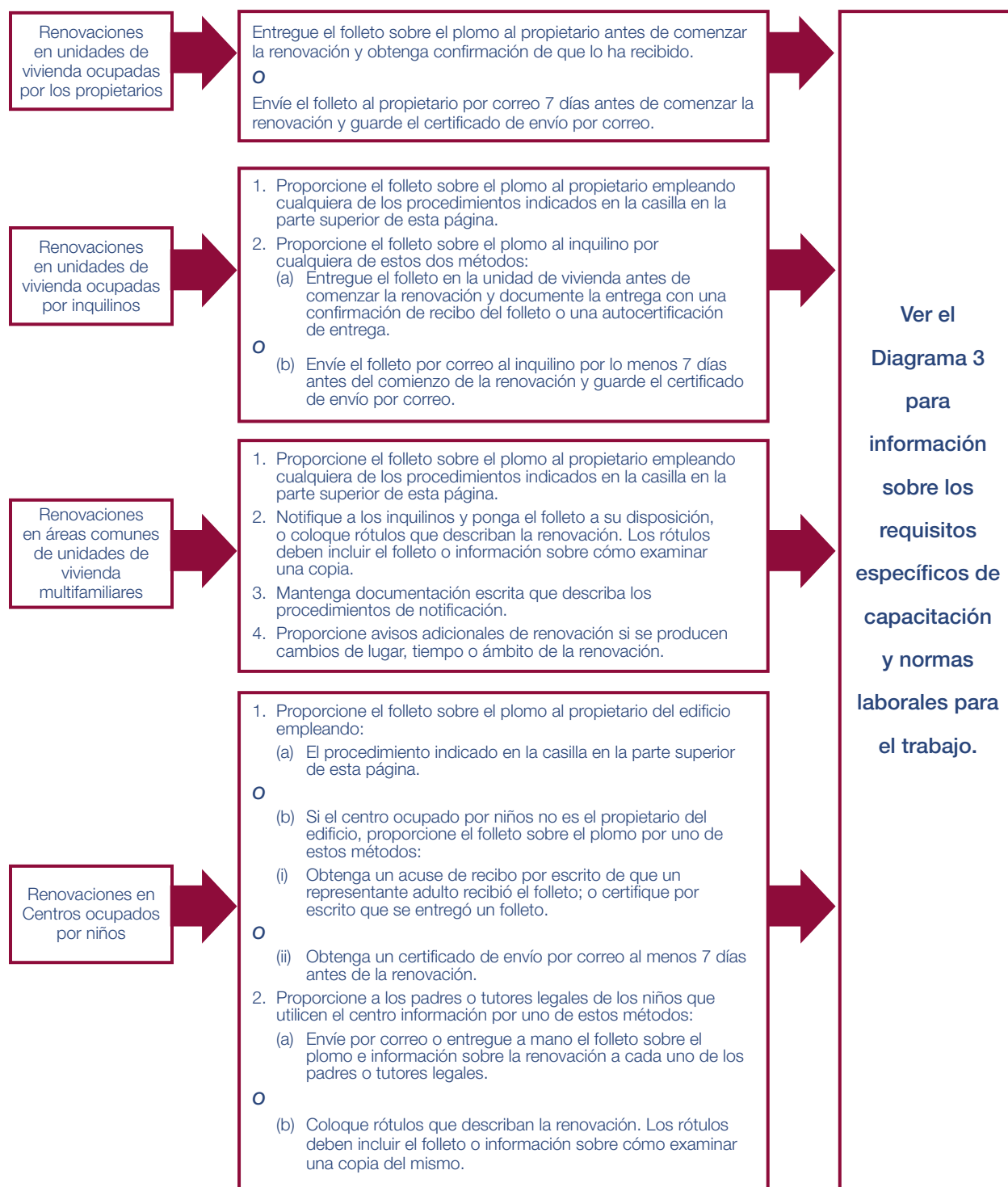
¿Son aplicables los requisitos a la renovación?

Si va a recibir dinero por realizar trabajo que altere superficies pintadas en una vivienda, edificio de apartamentos o centro ocupado por niños construido antes de 1978, responda a las preguntas a continuación para determinar si el programa de la EPA sobre el plomo le exige que distribuya el folleto sobre el plomo y/o si necesitará cumplir con los requisitos de capacitación, acreditación y normas laborales cuando realice el trabajo.

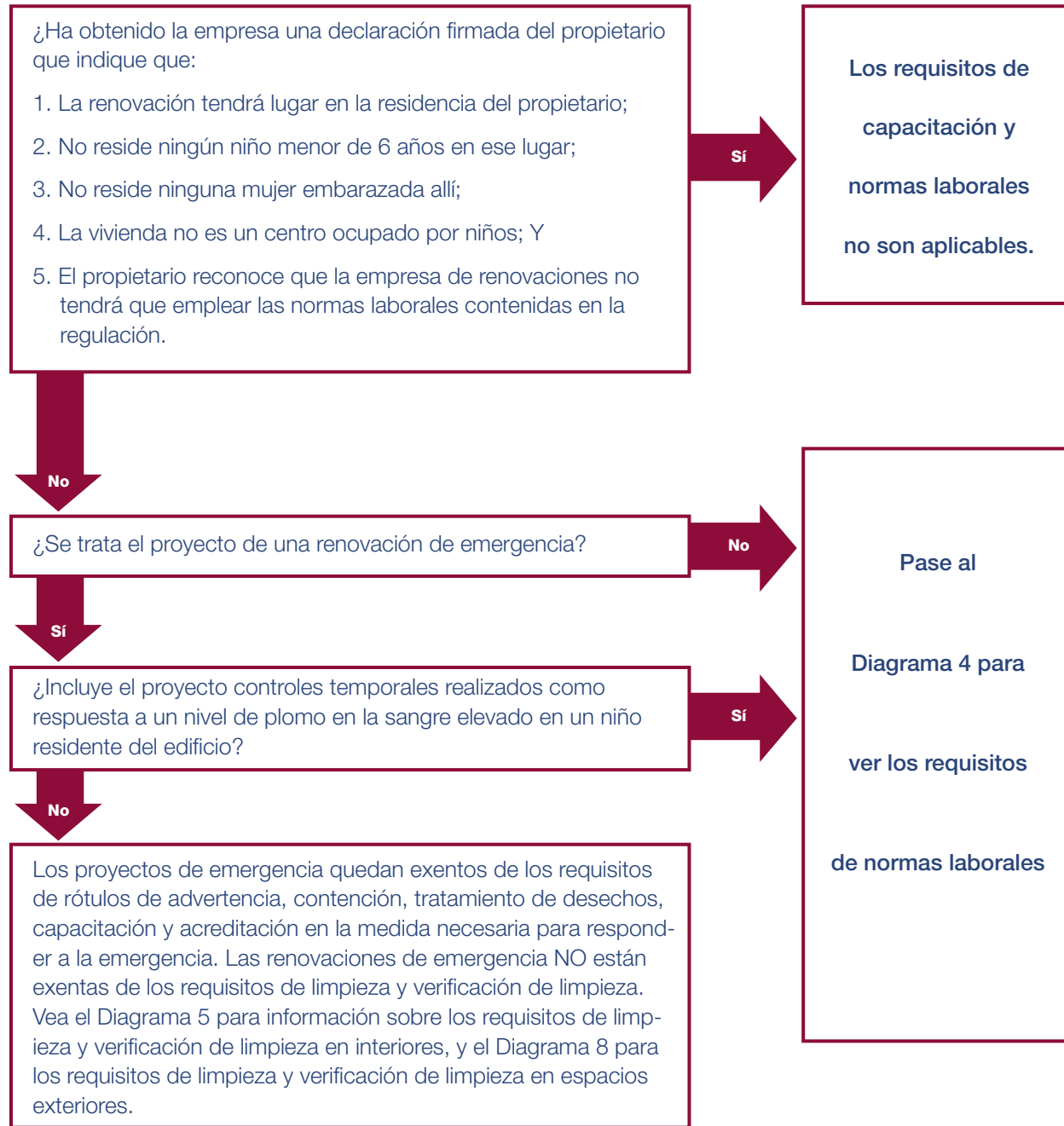


¿Cómo cumplo con los requisitos de educación anteriores a la renovación?

Los requisitos de distribución de materiales educativos anteriores a la renovación varían según el lugar de la renovación. Seleccione el lugar a continuación que mejor describe la ubicación de su producto, y siga el procedimiento aplicable a la derecha.



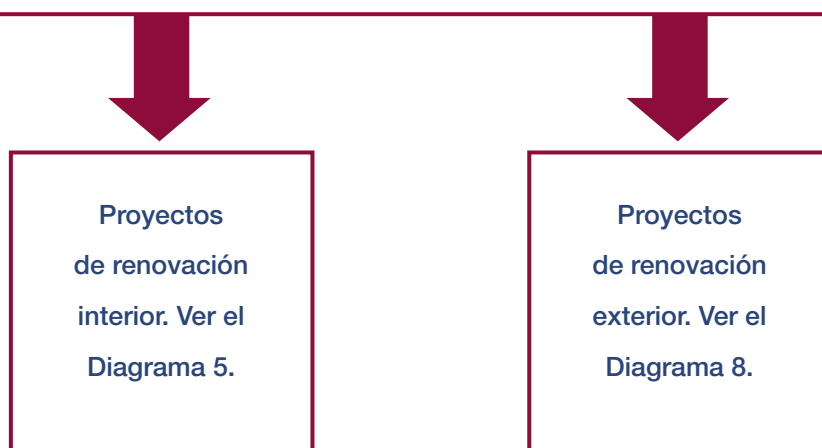
¿Son aplicables la capacitación y normas laborales de renovación?



Requisitos de normas laborales

Generales

- (A) Las renovaciones deben ser realizadas por empresas acreditadas que emplean a renovadores acreditados.
- (B) Las empresas deben colocar rótulos que definan claramente el área de trabajo y adviertan a los ocupantes y a otras personas que no estén participando en las actividades de renovación a permanecer fuera del área de trabajo. Estos rótulos deben estar en el idioma de los ocupantes.
- (C) Antes de la renovación, la empresa debe contener el área de trabajo para que no escape polvo ni desechos durante la renovación.
- (D) Quedan prohibidas las siguientes normas laborales durante el proceso de renovación:
 - 1. Quemar pintura a base de plomo a fuego abierto o con soplete;
 - 2. Usar máquinas que eliminen la pintura a base de plomo por medio de operación a alta velocidad, como de lijado, molido, limado eléctrico, pistola de agujas, limpieza abrasiva o de lija, a menos que se utilicen con un control de escape HEPA; y
 - 3. Operar una pistola de calor en pintura a base de plomo a temperaturas de 1100 grados Fahrenheit o superiores.
- (E) Desechos de las renovaciones:
 - 1. Los desechos de las actividades de renovación deben estar contenidos para evitar que escape polvo y restos antes de que se retiren del área de trabajo para almacenamiento o desecho.
 - 2. Al finalizar cada jornada laboral y al terminar la renovación, deben guardarse los desechos recogidos para evitar el acceso a los mismos y que suelten polvo y restos.
 - 3. Los desechos transportados de actividades de renovación deben estar contenidos para que no suelten polvo y restos.



Requisitos de normas laborales específicos para renovaciones en interiores

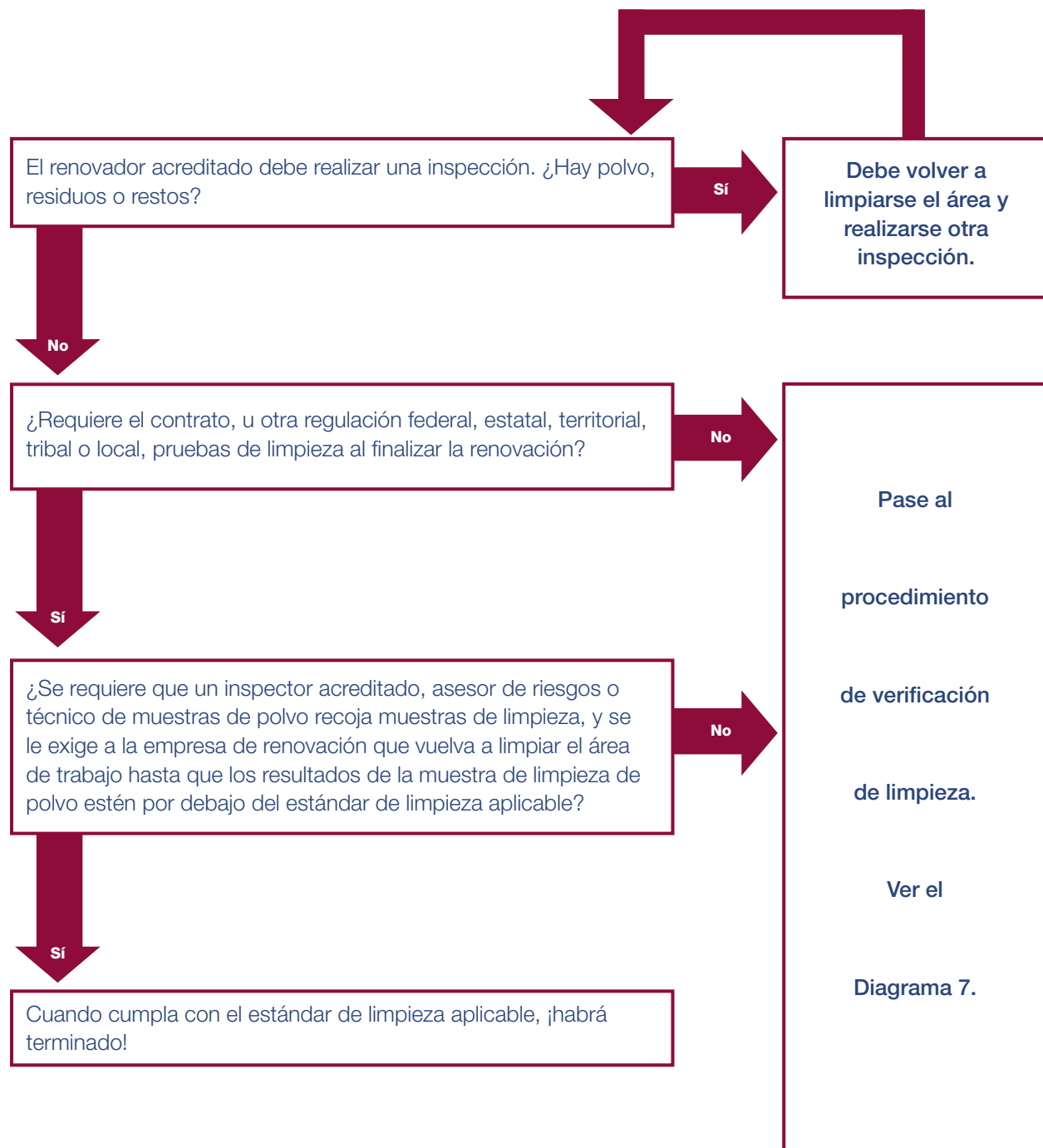
La empresa debe:

- (A) Retirar todos los objetos del área de trabajo o cubrirlos con pliegos de plástico, sellando todas las juntas y bordes.
- (B) Cerrar y cubrir todos los tubos abiertos en el área de trabajo con pliegos de plástico sellados con cinta adhesiva.
- (C) Cerrar las ventanas y puertas en el área de trabajo. Las puertas deben estar cubiertas con pliegos de plástico.
- (D) Cubrir la superficie del piso en el área de trabajo con pliegos de plástico sellados con cinta adhesiva, como mínimo seis pies más allá del perímetro de las superficies que se están renovando o una distancia suficiente para contener el polvo, lo que sea mayor.
- (E) Ejercer precauciones para garantizar que todo el personal, herramientas y otros artículos, incluidas las partes exteriores de los contenedores de desechos, carezcan de polvo y restos cuando salgan del área de trabajo.
- (F) Una vez completada la renovación, la empresa debe limpiar el área de trabajo hasta que no quede polvo, restos o residuos. La empresa debe:
 - 1. Recoger toda la pintura y restos y sellarlos en una bolsa resistente.
 - 2. Retirar y deshacerse de los plásticos protectores como si fuesen desechos.
 - 3. Limpiar todos los objetos y superficies en el área de trabajo y dentro de dos pies de la misma de la siguiente manera:
 - a. Limpiar las paredes comenzando por el techo y terminando en el piso, aspirándolas con un aspirador HEPA o limpiándolas con un paño húmedo.
 - b. Aspirar bien todas las superficies y objetos que hayan permanecido en el área de trabajo, incluyendo los muebles y las lámparas, con un aspirador HEPA.
 - c. Limpiar todas las superficies y objetos que hayan permanecido en el área de trabajo, salvo las alfombras o tapicerías, con un paño húmedo. Lave los pisos que no tengan alfombras empleando un método de lavado que mantenga el agua sucia separada del agua de enjuagar, o usando un sistema de trapeo mojado.



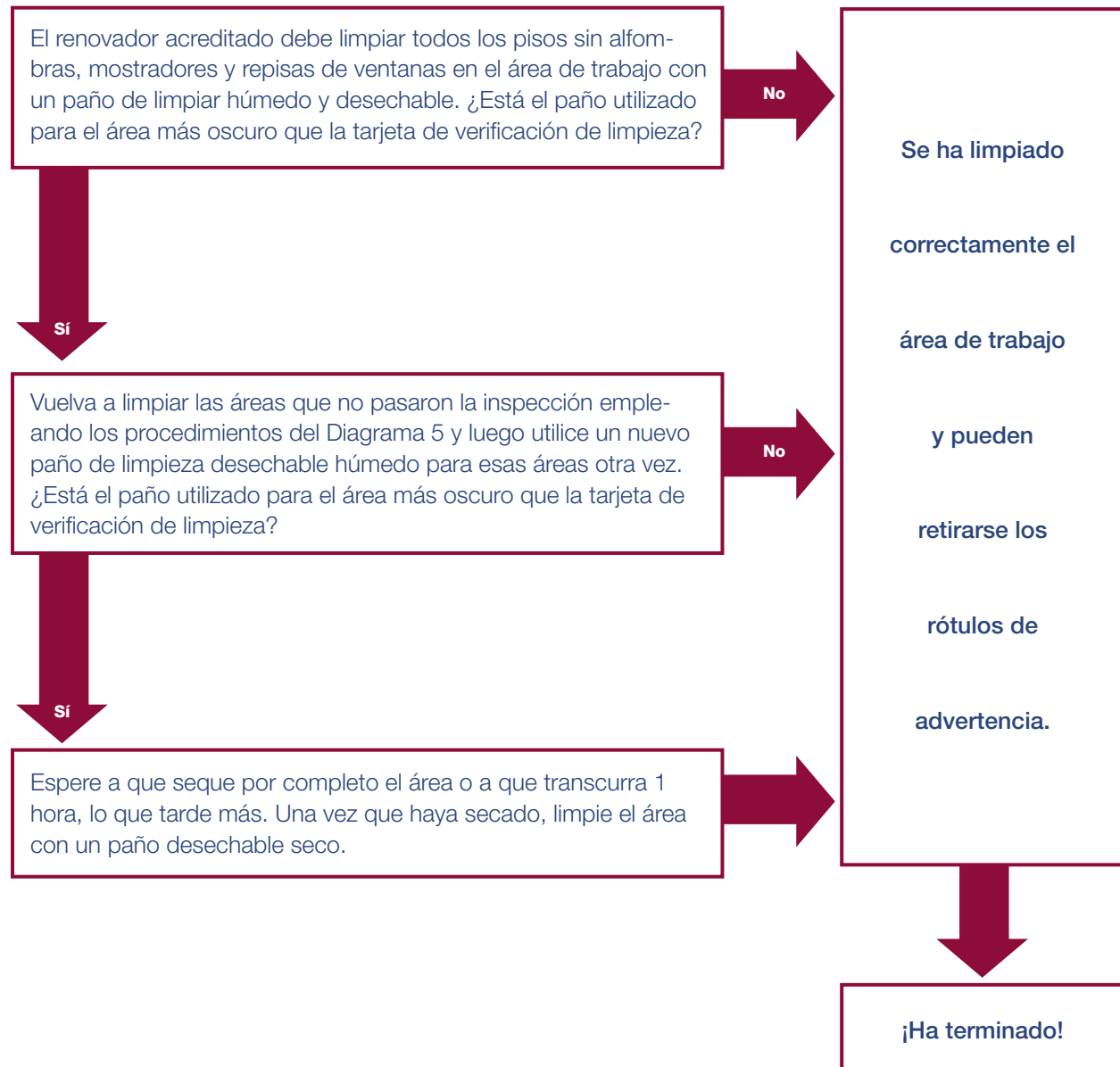
**Se requiere verificar la limpieza para garantizar que el área de trabajo quede debidamente limpia y esté lista para volver a ser ocupada.
Ver el Diagrama 6 para instrucciones sobre cómo realizar la verificación de limpieza para proyectos de interiores.**

Verificación de limpieza de interiores: inspección visual y pruebas opcionales de aprobación



Verificación de limpieza de interiores: pisos, mostradores y repisas de ventanas

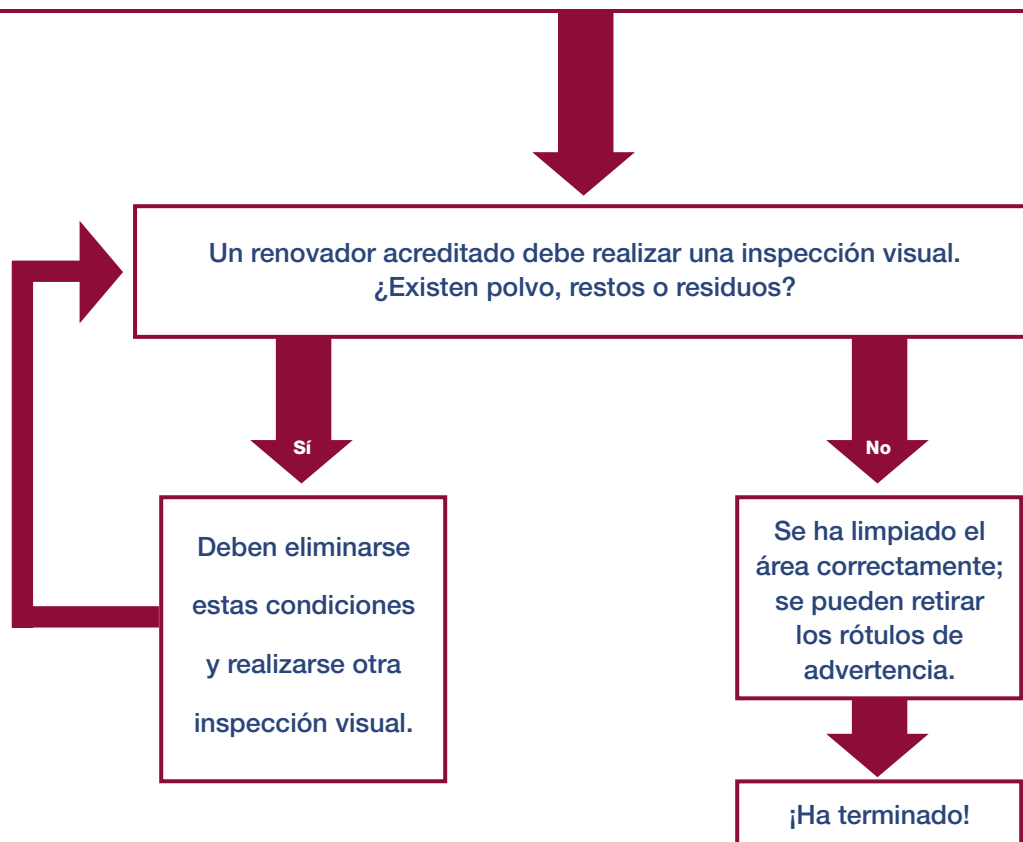
Nota: para áreas superiores a 40 pies cuadrados, divida el área en secciones y utilice un paño nuevo desechable para limpiar cada sección.



Requisitos de normas laborales específicos para renovaciones en exteriores

La empresa debe:

- (A) Cerrar todas las puertas y ventanas a una distancia inferior a 20 pies de la renovación.
- (B) Garantizar que las puertas en el área de trabajo que vayan a utilizarse cuando se realice el trabajo estén cubiertas con pliegues de plástico de forma que los trabajadores puedan pasar pero contengan el polvo y los restos.
- (C) Cubrir el suelo con pliegues de plástico u otro material impermeable desechable extendiéndose como mínimo 10 pies más allá del perímetro o la distancia suficiente para recoger los restos de pintura que caigan, lo que suponga mayor distancia.
- (D) En situaciones en las que las áreas de trabajo se encuentren muy cerca de otros edificios, en climas ventosos, etc., la empresa de renovación debe ejercer precaución adicional para contener el área de trabajo, como por ejemplo, la contención vertical.
- (E) Una vez completada la renovación, la empresa debe limpiar el área de trabajo hasta que queden polvo, restos o residuos. La empresa debe:
 - 1. Recoger toda la pintura y restos y sellarlos en una bolsa resistente.
 - 2. Retirar y deshacerse de los plásticos protectores como si fuesen desechos.
 - 3. Los desechos transportados de actividades de renovación deben contenerse para evitar que se suelten polvo y restos.



¿Cómo se determina mi cumplimiento y qué sucede si la agencia descubre una infracción?

Para maximizar el cumplimiento, la EPA implementa un programa equilibrado de asistencia e incentivos para el cumplimiento y de aplicación tradicional de la ley. EPA sabe que las pequeñas empresas que deben cumplir con nuevos estatutos o regulaciones complejas con frecuencia desean hacer lo correcto, pero pueden carecer de los conocimientos, recursos o aptitudes requeridos. La información sobre asistencia con el cumplimiento y el asesoramiento técnico ayudan a las pequeñas empresas a comprender y a cumplir con sus obligaciones ambientales. Los incentivos de cumplimiento tales como la Política de Pequeñas Empresas de la EPA, se aplican a empresas con 100 empleados o menos y alientan a las personas a descubrir, divulgar y corregir voluntariamente infracciones antes de que las identifique el gobierno (existe más información sobre la Política de Pequeñas Empresas de la EPA disponible en www.epa.gov/compliance/incentives/small-business/index.html). El programa de aplicación de la ley de la EPA tiene la finalidad de proteger al público identificando a personas o empresas que no cumplen ni cooperan para cumplir con sus obligaciones legales.

La EPA emplea una variedad de métodos para determinar si las empresas están cumpliendo con los requisitos, incluyendo la inspección de lugares de trabajo, revisión de registros e informes, y la respuesta a información y quejas recibidas de los ciudadanos. En virtud de TSCA, la EPA (o un estado si se le ha delegado este programa al mismo), puede presentar una acción de aplicación de la ley contra los infractores, intentando conseguir multas por un máximo de \$32,500 por infracción, por día. La multa propuesta en cada caso dependerá de muchos factores, incluyendo el número, longitud y gravedad de las infracciones, el beneficio económico obtenido por el infractor y su capacidad de pago. La EPA ha implementado políticas para garantizar que se calculen las multas de modo justo. Estas políticas están a disposición del público. Asimismo, una empresa sentenciada de una infracción tiene derecho a refutar los alegatos de la EPA y su multa propuesta ante un juez o jurado imparciales.

La EPA alienta a las pequeñas empresas a trabajar con la Agencia para descubrir, divulgar y corregir las infracciones. La Agencia ha elaborado políticas de autodivulgación, para pequeñas empresas y para comunidades pequeñas a fin de modificar las multas para las empresas pequeñas y grandes que cooperan con la EPA para solucionar problemas de cumplimiento. Además, la EPA ha establecido centros de asistencia con el cumplimiento para servir a más de un millón de pequeñas empresas (ver Centro de Asistencia con el Cumplimiento para el Sector de la Construcción en relación con esta regulación en www.cicacenter.org) (en inglés). Para más información sobre la asistencia con el cumplimiento y otros programas de la EPA para pequeñas empresas, comuníquese con el Representante de Pequeñas Empresas de la EPA llamando al 202-566-2075.

Preguntas frecuentes

¿Cuál es el estado legal de esta guía?

Esta guía fue preparada en virtud de la sección 212 de SBREFA. La EPA ha intentado ayudar a explicar en esta guía lo que usted debe hacer para cumplir con la Ley de Control de Substancias Tóxicas (TSCA) y las regulaciones sobre el plomo de la EPA. No obstante, esta guía no tiene efecto legal y no crea ningún derecho legal. El cumplimiento de los procedimientos descritos en ella no establece conformidad con la norma ni establece una suposición o deducción de cumplimiento. Los requisitos legales aplicables al trabajo de renovación están regulados por la Regulación sobre el Plomo de 2008 de la EPA, la cual controla si existen inconsistencias entre la regulación y la información en esta guía.

¿Se considera el pintar como trabajo de renovación si no se produce ninguna actividad de preparación?

No. Si la superficie a pintar no se altera lijándola, raspándola o por medio de otras actividades que puedan causar polvo, el trabajo no se considera como renovación y no son aplicables los requisitos del programa sobre el plomo de la EPA. Sin embargo, los proyectos de pintado que conlleven la preparación de la superficie que altere la pintura, como lijado y raspado, sí estarían cubiertos.

¿Qué sucede si hago la renovación en mi propio hogar?

Las regulaciones del programa sobre el plomo de la EPA solamente se aplican a renovaciones realizadas a cambio de remuneración. Por lo tanto, si trabaja en su propio hogar, las normas no son aplicables. La EPA alienta a los propietarios de viviendas a emplear normas laborales para trabajar de una manera segura con el plomo, para que se protejan a sí mismos, a sus familias y salvaguarden el valor de sus viviendas.

¿Se considera una renovación realizada por propietarios de viviendas de alquiler o empleados de una empresa de gestión de propiedad como una renovación remunerada en virtud de las regulaciones del programa sobre el plomo de la EPA?

Sí. El recibo de pagos de alquiler o salarios derivados de pagos de alquiler se considera como remuneración en virtud del programa sobre el plomo de la EPA. Por lo tanto, las actividades de renovación realizadas por los propietarios de viviendas de alquiler o empleados de los mismos están cubiertas.

¿Tengo que entregar el folleto sobre el plomo con siete días de antelación al comienzo de las actividades de renovación?

El requisito de entrega con 7 días de antelación solamente es aplicable cuando entregue el folleto por correo; de lo contrario, puede entregarlo en cualquier momento antes de comenzar la renovación, siempre y cuando ésta comience dentro de los 60 días siguientes a la fecha de entrega del folleto. Por ejemplo, si su renovación ha de comenzar el 30 de mayo, puede entregar el folleto en persona entre el 1° de abril y el comienzo del proyecto el 30 de mayo, o puede enviarlo por correo entre el 1° de abril y el 23 de mayo.

Consejos para facilitar el cumplimiento

1. Para su comodidad, se incluyen los ejemplos de formularios en las páginas 23 y 25 de este manual en el folleto *Remodelar correctamente*, (ver la página 31 para más información sobre cómo obtener copias). Adjunte los formularios a la parte trasera de sus contratos de renovación o reparación con clientes. Pueden presentarse los formularios completamente rellenos con la documentación normal.
2. Planifique con tiempo para obtener suficientes copias del folleto sobre el plomo (ver la página 31 para más información sobre cómo obtener copias del folleto).

¿Dónde puedo obtener más información?

Encontrará más información disponible en el Centro Nacional de Información sobre el Plomo (1-800-424-LEAD) y en el Internet visitando el www.epa.gov/lead (en inglés) y en español en el <http://www.epa.gov/lead/pubs/leadinfoesp.htm>. Entre los recursos disponibles, encontrará:

- La versión completa (en inglés) de la regulación del Programa de Pintado, Renovación y Reparación de Pinturas a base de Plomo.
- Guía de interpretación, con información más detallada sobre los requisitos de la regulación.
- Una versión descargable del folleto sobre el plomo:
www.epa.gov/lead/pubs/renovaterightbrochure.pdf (en inglés) y
www.epa.gov/lead/pubs/renovaterightbrochuresp.pdf (en español).

¿Por qué es peligrosa la pintura a base de plomo?

El plomo penetra en el cuerpo cuando se traga o ingiere. Las personas, y en especial los niños, pueden tragar polvo de plomo al comer, jugar y realizar otras actividades con las manos y la boca. También se puede respirar el polvo o gases de plomo al alterar pintura a base de plomo. Las personas que lijén, raspen, quemen, cepillen, remuevan o alteren de otro modo pintura a base de plomo se arriesgan a exponerse peligrosamente al plomo.



El plomo es especialmente peligroso para los niños menores de 6 años de edad.

El plomo puede afectar al cerebro del niño y a su sistema nervioso en desarrollo, causando:

- Un cociente intelectual inferior y discapacidades del aprendizaje.
- Problemas de la conducta.

Incluso los niños que parecen sanos pueden tener niveles peligrosos de plomo en el cuerpo.

El plomo es también perjudicial para los adultos. En los adultos, los niveles bajos de plomo pueden presentar muchos peligros, incluyendo:

- Alta presión arterial e hipertensión.
- Las mujeres embarazadas expuestas al plomo pueden transferirlo a sus bebés.



Otros recursos

Para información adicional sobre cómo protegerse y proteger a sus clientes contra los peligros causados por la pintura a base de plomo, visite el www.epa.gov/lead o llame al Centro Nacional de Información sobre el Plomo al 1-800-424-LEAD (5323). En dicha línea telefónica gratuita, hay operadoras que hablan español e inglés.

Los documentos disponibles en español e inglés son:

- *Remodelar correctamente: información importante sobre los riesgos causados por el plomo para familias, proveedores de cuidado infantil y escuelas*
- *Joint EPA-HUD Curriculum: Lead Safety for Remodeling, Repair, and Painting**
- *La seguridad con la pintura de plomo: Una guía práctica para la pintura, el mantenimiento y las renovaciones en las viviendas*
- *Testing Your Home for Lead in Paint, Dust, and Soil**
- *Combata el Envenenamiento con Plomo con una dieta saludable*
- *Proteja a Su Familia Contra el Plomo en el Hogar*
- *Lead in Your Home: A Parent's Reference Guide**

*No disponible en español



Terminología clave

Certificado de envío por correo — Una verificación escrita del Servicio de Correos de haber enviado el folleto sobre el plomo a un propietario o inquilino. Es menos costoso que el correo certificado, el cual también es aceptable para cumplir con los requisitos del Programa de Pintado, Renovación y Reparación de Pinturas a base de Plomo. *(Nota: Si utiliza esta opción de entrega, debe enviar por correo el folleto con una antelación mínima de siete días en relación con el comienzo de la renovación.)*

Inspector acreditado o asesor de riesgos — Una persona que ha recibido capacitación y está acreditado por la EPA o un estado autorizado o Tribu India para realizar inspecciones o evaluaciones de riesgo de pintura con plomo.

Centro ocupado por niños — Puede incluir, entre otros, centros de cuidado infantil, preescolar, y jardines de infancia. Pueden estar ubicados en edificios de viviendas o en edificios públicos o comerciales. La regulación define un “centro ocupado por niños” como un edificio o una porción del mismo construido antes de 1978, visitado regularmente por el mismo niño menor de 6 años de edad, al menos dos días diferentes por semana (en un periodo de domingo a sábado), siempre y cuando la visita de cada día dure al menos tres horas y las visitas semanales en total duren al menos seis horas, y las visitas anuales en total duren al menos 60 horas.

Tarjeta de verificación de limpieza — Una tarjeta creada y distribuida, o aprobada de otro modo, por la EPA con la finalidad de determinar, por medio de la comparación de paños de limpieza desechables secos y húmedos con la tarjeta, si se ha realizado correctamente la limpieza posterior a la renovación.

Área común — Una parte de un edificio que generalmente es accesible a todos los residentes o usuarios. Entre otras (pero no se limitan a) pueden ser los pasillos, escaleras, salas de lavandería, salas de recreo, patios de juegos, centros comunitarios y áreas cercadas. El término se aplica tanto al interior como al exterior del edificio. *(Nota: Los requisitos del Programa de Pintado, Renovación y Reparación de Pinturas de Plomo relacionados con áreas comunes se aplican solamente a viviendas multifamiliares.)*

Componente — Un diseño específico o elemento estructural o fijo distinguido por su forma, función y ubicación. Un componente puede estar ubicado dentro o fuera de la unidad.

Ejemplos

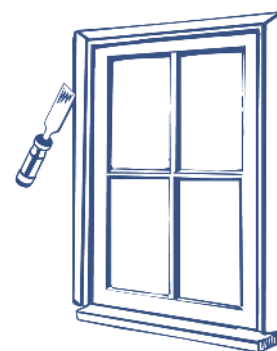
Interior

Techos
Moldura
Paredes
Puertas y marcos
Pisos
Chimeneas
Radiadores
Estantes
Peldaños de escaleras
Ventanas y marcos
Gabinetes fijos
Vigas
Gabinetes de baños
Mostradores
Acondicionadores de aire



Exterior

Tejado pintado
Chimeneas
Tapajuntas
Canaletas y bajantes
Techos
Aleros de tejado
Puertas y marcos
Vallas
Pisos
Juntas
Pasamanos
Repisas y aleros de ventanas
Acondicionadores de aire



Acuse de recibo del folleto de información sobre los riesgos creados por el plomo — Un formulario firmado por el propietario o inquilino de la vivienda confirmando haber recibido una copia del folleto sobre el plomo antes de comenzar la renovación. (Ver el ejemplo en la página 23.)

Renovación de emergencia — Actividades de renovación no planificadas realizadas como respuesta a un evento repentino e inesperado que, si no se resuelve inmediatamente, presenta un riesgo de seguridad o salud pública o puede causar un daño significativo a la propiedad.

Ejemplos

- *Renovación para reparar los daños causados por la caída de un árbol sobre la casa.*
- *Renovación para reparar una tubería que ha reventado en un complejo de apartamentos.*
- *Control temporal realizado como respuesta a un nivel elevado de plomo en la sangre en un niño residente.*

Empresa — Una compañía, asociación, sociedad, negocio de propiedad única o persona, asociación u otra entidad comercial; una agencia del gobierno federal, estatal, tribal o local, o una organización sin fines de lucro.

Contratista general — Una persona contratada para la construcción de un edificio o proyecto en su totalidad, en lugar de para una porción del trabajo. El contratista general contrata a su vez a los subcontratistas (por ejemplo, para plomería, electricidad, etc.), coordina todo el trabajo y está a cargo de pagar a los subcontratistas.

Viviendas para personas de edad avanzada — Comunidades de jubilación o tipos de viviendas similares reservados específicamente para familias con una o más personas de 62 años de edad o mayores en el momento de ocupación inicial de la unidad.

Controles temporales — Significa un conjunto de medidas destinadas a reducir temporalmente la exposición humana o probabilidad de la misma a los riesgos de pintura a base de plomo, incluida la limpieza especializada, reparaciones, mantenimiento, pintado, contención temporal, monitoreo continuo de los riesgos de la pintura a base de plomo o de la posibilidad de los mismos, y el establecimiento y operación de programas de educación de la administración y los residentes.

Reducción del plomo — Trabajo destinado a eliminar permanentemente los riesgos de la pintura a base de plomo. Si lo han contratado solamente para realizar trabajo de reducción del plomo, el Programa de Pintado, Renovación y Reparación de Pinturas a base de Plomo no será aplicable a su situación. La reducción no incluye las actividades de renovación, remodelado o de otro tipo realizadas para reparar, restaurar o rediseñar un edificio - incluso aunque esas actividades eliminen incidentalmente los riesgos de la pintura a base de plomo. **(Nota:** Algunos estados definen este término de modo diferente al descrito arriba. Consulte a sus autoridades estatales si no está seguro de cómo se define “reducción del plomo” en su estado.)

Folleto sobre el plomo — El folleto con información sobre los riesgos del plomo con la finalidad de educar antes de la renovación es *Remodelar correctamente: información importante sobre los riesgos causados por el plomo para familias, proveedores de cuidado infantil y escuelas*, o un folleto alternativo aprobado por la EPA. (Ver la página 31 para información sobre cómo obtener copias.)

Reparaciones y mantenimiento pequeños — Actividades que alteran una superficie pintada máxima de 6 pies cuadrados por habitación para interiores o de un máximo de 20 pies cuadrados para exteriores, en las que no se emplea ninguna de las normas laborales prohibidas y donde el trabajo no requiere el cambio de ventanas ni la demolición de áreas de superficies pintadas. Cuando se retiran componentes pintados, o partes de los mismos, el área entera retirada es la cantidad de superficie pintada alterada. Los trabajos que no sean renovaciones de emergencia, realizados en la misma habitación dentro de los mismos 30 días deben considerarse como parte de un mismo proyecto para fines de determinar si el trabajo es una actividad de reparación y mantenimiento menor.

Propietario — Cualquier persona o empresa que tenga el título legal de una vivienda, incluidas las personas individuales, asociaciones, sociedades, agencias gubernamentales, tribus aborígenes y organizaciones sin fines de lucro.

Normas prohibidas — Quedan prohibidas durante la renovación las normas mencionadas abajo:

- Quemar pintura a base de plomo a fuego abierto o con soplete;
- Usar máquinas que eliminan la pintura a base de plomo por medio de operación a alta velocidad, como de lijado, molido, limado eléctrico, pistola de agujas, limpieza abrasiva o de lija, a menos que se utilicen con un control de escape HEPA; y
- Operar una pistola de calor en pintura a base de plomo a temperaturas de 1100 grados Fahrenheit o superiores.

Registro de notificación — Una declaración escrita documentando las medidas tomadas para notificar a los ocupantes de actividades de renovación en áreas comunes de viviendas multifamiliares. (Ver la página 27 para un ejemplo.)

Renovación — Modificación de toda o parte de una estructura existente que altera una superficie pintada, salvo ciertas actividades exentas (por ejemplo, reparaciones y mantenimiento menores). Incluye:

- Retirada/modificación de superficies pintadas, componentes o estructuras;
- Actividades de preparación de superficies (lijado/raspado/otras actividades que pueden crear polvo de pintura); y
- Sustitución de ventanas.

Ejemplos

1. *Demolición de paredes o techos pintados*
2. *Reenyesado*
3. *Reparaciones o mejoras de plomería*
4. *Cualquier otra actividad que altere superficies pintadas*

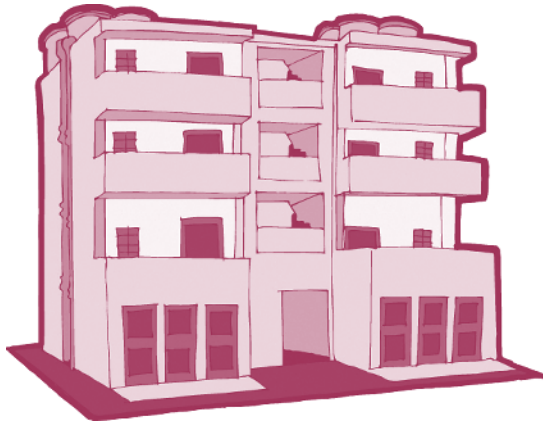
Aviso de renovación — Aviso a los inquilinos de renovaciones en áreas comunes de viviendas multifamiliares. (Ver el ejemplo de formulario en la página 27.) El aviso debe describir el carácter, ubicación y tiempo anticipado de la actividad de renovación, y debe explicar cómo puede obtenerse gratis el folleto sobre el plomo.

Renovador — Una persona que realiza o dirige a los trabajadores que realizan la renovación. Un renovador acreditado es un renovador que ha completado con éxito un curso de renovador acreditado por la EPA o un programa estatal o tribal autorizado por la EPA. **(Nota:** Puesto que el término “renovación” se define de modo muy general en el Programa de Pintado, Renovación y Reparación de Pinturas a base de Plomo, muchos contratistas que normalmente no se considerarían como “renovadores” sí lo son en el programa y deben cumplir con los requisitos de la regulación.)

Autocertificación de entrega — Un método alternativo de documentar la entrega del folleto de información sobre los riesgos del plomo a un inquilino. Este método puede emplearse cuando el inquilino no esté disponible o no pueda firmar un acuse de recibo del folleto sobre el plomo. (Ver el formulario de ejemplo en la página 23.) **(Nota:** Este método no se permite como sustituto de la entrega del folleto sobre el plomo a un propietario.)

Aviso suplementario de renovación — Aviso adicional requerido cuando cambia el ámbito, lugar o tiempo del proyecto.

Viviendas sin dormitorios — Toda vivienda residencial en la cual la zona habitable no está separada de la zona de dormitorio. Este término incluye apartamentos de “eficiencia” y “estudio”, viviendas estudiantiles y barracas militares.



Ejemplo de formulario actual anterior a la renovación

Para utilización hasta abril de 2010.

Acuse de recibo del folleto sobre el plomo

___ He recibido una copia del folleto sobre el plomo informándome sobre el posible riesgo de la exposición al plomo resultante de actividades de renovación que se realizarán en mi vivienda. He recibido este folleto antes de comenzar el trabajo.

Nombre del destinatario (en letra de imprenta)

Fecha

Firma del destinatario

Opción de autocertificación (solamente para viviendas con inquilinos) — Si el folleto sobre el plomo se entregó pero no se pudo obtener la firma de un inquilino, puede marcar la casilla correspondiente abajo.

___ **Se negó a firmar** — Certifico que he realizado un esfuerzo de buena fe por entregar el folleto sobre el plomo a la vivienda de alquiler mencionada abajo en la fecha y hora indicadas, y que el ocupante se negó a firmar el acuse de recibo. Asimismo, certifico que he dejado una copia del folleto en la vivienda con el ocupante.

___ **No estaba disponible para firmar** — Certifico que he realizado un esfuerzo de buena fe por entregar el folleto sobre el plomo a la vivienda de alquiler mencionada abajo y que el ocupante no estaba disponible para firmar el acuse de recibo. Asimismo certifico que he dejado una copia del folleto en la unidad deslizándola por debajo de la puerta.

Nombre de la persona que certifica haber intentado la entrega (en letra de imprenta)

Fecha y hora de entrega del folleto sobre el plomo

Firma de la persona que certifica haber entregado el folleto sobre el plomo

Dirección de la unidad

Nota sobre la opción de envío por correo — Como alternativa a la entrega en persona, puede enviar el folleto sobre el plomo por correo al propietario e/o inquilino. Debe enviarlo con una antelación mínima de 7 días a la renovación (documentelo con un certificado de envío por correo de la oficina de correos).



Ejemplo de formulario futuro anterior a la renovación

Este ejemplo de formulario puede ser utilizado por las empresas para documentar el cumplimiento de los requisitos del Programa Federal de Pintado, Renovación y Reparación de Pinturas a base de Plomo a partir de abril de 2010.

Confirmación del ocupante

Recibo del folleto

___ He recibido una copia del folleto sobre el plomo informándome sobre el posible riesgo de la exposición al plomo resultante de actividades de renovación que se realizarán en mi vivienda. He recibido este folleto antes de comenzar el trabajo.

Reconocimiento de no participación del propietario-ocupante

___ (A) Confirmando que soy propietario y residente de esta vivienda, que no hay niños menores de 6 años que residan aquí, que no hay mujeres embarazadas que residan aquí y que esta vivienda no es un centro ocupado por niños.

Nota: Un niño reside en la residencia primaria de sus padres, tutores legales, padres de crianza o cuidador informal si vive y duerme la mayor parte del tiempo en la residencia del cuidador.

Nota: Un centro ocupado por niños es un edificio construido antes de 1978 visitado con regularidad por el mismo niño, menor de 6 años de edad, al menos dos días por semana, por 3 horas como mínimo cada día, siempre y cuando las visitas sumen en total al menos 60 horas por año.

Si seleccionó la casilla A, marque la B o la C, pero no ambas.

___ (B) Solicito que la empresa de renovación emplee las mismas normas laborales para trabajar de una manera segura con el plomo requeridas por el Programa de Pintado, Renovación y Reparación de Pinturas a base de Plomo de la EPA; o

___ (C) Entiendo que la empresa que realiza la renovación no tendrá que emplear las normas laborales para trabajar de una manera segura con el plomo requeridas por el Programa de Pintado, Renovación y Reparación de Pinturas a base de Plomo de la EPA.

Nombre del propietario - ocupante (en letra de imprenta)

Firma del propietario - ocupante

Fecha de firma

Opción de autocertificación del renovador (solamente para viviendas con inquilinos)

Instrucciones para el renovador: Si el folleto sobre el plomo se entregó pero no se pudo obtener la firma de un inquilino, puede marcar la casilla correspondiente abajo.

___ **Se negó a firmar** – Certifico que he realizado un esfuerzo de buena fe por entregar el folleto sobre el plomo a la vivienda de alquiler mencionada abajo en la fecha y hora indicadas, y que el ocupante se negó a firmar el acuse de recibo. Asimismo, certifico que he dejado una copia del folleto en la vivienda con el ocupante.

___ **No estaba disponible para firmar** – Certifico que he realizado un esfuerzo de buena fe por entregar el folleto sobre el plomo a la vivienda de alquiler mencionada abajo y que el ocupante no estaba disponible para firmar el acuse de recibo. Asimismo certifico que he dejado una copia del folleto en la unidad deslizándola por debajo de la puerta o (escriba cómo dejó el folleto). _____

Nombre de la persona que certifica haber intentado la entrega (en letra de imprenta)

Fecha del intento de entrega

Firma de la persona que certifica haber entregado el folleto sobre el plomo

Dirección de la unidad

Nota sobre la opción de envío por correo — Como alternativa a la entrega en persona, puede enviar el folleto sobre el plomo por correo al propietario e/o inquilino. Debe enviarlo con una antelación mínima de 7 días a la renovación. El envío debe ser documentado con un certificado de envío por correo de la oficina de correos.



Ejemplo de formularios (continuación)

Aviso de renovación — *Para notificar a inquilinos sobre las renovaciones en áreas comunes de viviendas multifamiliares.*

Las siguientes actividades de renovación se llevarán a cabo en estos lugares:

Actividad (ej.: lijado, sustitución de ventanas)

Lugar (ej.: vestíbulo, centro de recreo)

La fecha anticipada de comienzo es _____ y la fecha anticipada de terminación es _____. Puesto que se trata de un edificio construido antes de 1978, parte de la pintura alterada en la renovación puede contener plomo. Puede obtener una copia del folleto, *Remodelar correctamente*, llamándome al _____. Por favor, deje un mensaje incluyendo su nombre, número de teléfono y dirección. Le enviaré un panfleto por correo o lo deslizaré por debajo de su puerta.

Fecha

Nombre del renovador (en letra de imprenta)

Firma del renovador

Registro de procedimiento de notificación de inquilinos — *Ejemplo de lista futura de registro de renovaciones*

Dirección del proyecto _____

Calle (n° de apt.) _____

Ciudad _____ Estado _____

Código postal _____

Propietario de viviendas multifamiliares

N° de unidades de vivienda

Método de entrega de formularios de aviso (ej.: entrega a unidades, a buzones de unidades)

Nombre de la persona que entrega los formularios de aviso

Firma de la persona que entrega los formularios de aviso

Fecha de entrega



Ejemplo de lista futura de registro de renovaciones

(en efecto a partir de abril de 2010)

Nombre de la empresa: _____

Fecha y lugar de la renovación: _____

Breve descripción de la renovación: _____

Nombre del renovador asignado: _____

Nombre(s) del/de los trabajador(es) capacitado(s), si se emplean: _____

Nombre del técnico de muestras de polvo, inspector o asesor de riesgos, si se emplea: _____

___ Copias de las calificaciones del renovador y del técnico de muestras de polvo (certificados de capacitación, acreditaciones) archivadas.

___ El renovador acreditado brindó capacitación a los trabajadores sobre (marque todas las aplicables):

___ Cómo colocar rótulos de advertencia	___ Cómo poner barreras de contención de plástico
___ Cómo mantener la contención	___ Cómo evitar que se transmita polvo a zonas adyacentes
___ Cómo manejar los desechos	___ Limpieza después de la renovación
___ Kits de pruebas utilizados por el renovador acreditado para determinar si existía plomo en los componentes afectados por la renovación (identifique los kits utilizados y describa los lugares de muestra y los resultados):	

___ Rótulos de advertencia colocados a la entrada de la zona de trabajo.

___ Área de trabajo contenida para evitar el escape y diseminación de polvo y restos

- ___ Todos los objetos en el área de trabajo retirados o cubiertos (interiores)
- ___ Conductos de HVAC en el área de trabajo cerrados y cubiertos (interiores)
- ___ Ventanas en el área de trabajo cerradas (interiores)
- ___ Ventanas en y dentro de 20 pies de distancia del área de trabajo cerradas (exteriores)
- ___ Puertas en el área de trabajo cerradas y selladas (interiores)
- ___ Puertas en y dentro de 20 pies de distancia del área de trabajo cerradas y selladas (exteriores)
- ___ Puertas que deben utilizarse en el área de trabajo cubiertas para permitir el paso pero para evitar la transmisión de polvo
- ___ Pisos en el área de trabajo cubiertos con plástico sujeto con cinta adhesiva (interiores)
- ___ Suelo cubierto por plástico extendido a 10 pies del área de trabajo - plástico sujeto al edificio y anclado con pesos (exteriores)
- ___ Si es necesaria, contención vertical instalada para evitar la transmisión de polvo y restos a instalaciones contiguas (exteriores)

___ Contención de desechos en el lugar y mientras se transportan fuera del lugar.

___ Lugar de trabajo limpiado correctamente después de la renovación

- ___ Pintura y restos recogidos, protección rociada, doblada con el lado sucio hacia adentro y sujeta con cinta adhesiva para retirarla del área
- ___ Superficies y objetos del área de trabajo limpiados con un aspirador HEPA y/o paños o trapeadores húmedos (interiores)

___ El renovador acreditado realizó la verificación de limpieza posterior a la renovación (describir los resultados, incluyendo el número de paños húmedos y secos usados): _____

___ Si se realizó una prueba de aprobación de polvo, adjunte una copia del informe

___ Certifico bajo juramento que la información anterior es cierta y completa.

Nombre y cargo

Fecha



¿Dónde puedo obtener copias del folleto sobre el plomo?

Para copias individuales en inglés o en español de *Remodelar correctamente: información importante sobre los riesgos causados por el plomo para familias, proveedores de cuidado infantil y escuelas* (EPA-740-F-08-002), llame al Centro Nacional de Información sobre el Plomo (NLIC) al 1-800-424-LEAD. Para encargos, asegúrese de utilizar el número de referencia correspondiente indicado arriba.

Existen cuatro formas de obtener copias múltiples:

1. Llame al departamento de encargos de la Oficina de Impresión del Gobierno al (202) 512-1800.
2. Envíe su encargo por fax al (202) 512-2233.
3. Solicite copias por escrito al:
Superintendent of Documents
P.O. Box 371954
Pittsburgh, PA 15250-7954
4. Obtenga copias en el Internet en el
www.epa.gov/lead/pubs/brochure.htm (en inglés)

Para copias individuales, en español o en inglés de *“Remodelar correctamente: información importante sobre los riesgos causados por el plomo para familias, proveedores de cuidado infantil y escuelas* (EPA-740-F-08-002), llame al Centro Nacional de Información sobre el Plomo (NLIC) al 1-800-424-LEAD. Para encargos, asegúrese de utilizar el número de referencia correspondiente indicado arriba.

Puede fotocopiar el folleto para distribución siempre y cuando el texto y los gráficos sean legibles.



Aviso de la Ley de Reducción de Documentos: La carga pública incremental para la recopilación de la información contenida en el Programa de Pintado, Renovación y Reparación de Pinturas a base de Plomo, que fue aprobada con el Número de Control de OMB 2070-0144 e identificada con el Número ICR de EPA 1715, se estima en unas 54 horas promedio por año para proveedores de capacitación. Para las empresas que participan en actividades reguladas de renovación, reparación y pintado, la carga incremental promedio se estima en unas 6.5 horas por año. Los comentarios referentes a estas estimaciones o a otro aspecto de esta recopilación de información, incluidas las sugerencias para reducir la carga, pueden enviarse a: Director, Collection Strategies Division, Office of Environmental Information, U.S. Environmental Protection Agency (Mail Code 28222T), 1200 Pennsylvania Avenue, N.W., Washington, D.C. 20460. Incluya el número de OMB identificado arriba en toda su correspondencia. No envíe ningún formulario completamente relleno a esta dirección. La información o formularios deben enviarse conforme a las instrucciones adjuntas a los formularios o según se especifique en las regulaciones correspondientes.

AVISO

Esta guía ha sido preparada en virtud de la sección 212 de la Ley de Aplicación Justa de Regulaciones para Pequeñas Empresas de 1996 (SBREFA), Pub. L. 104-121. NO PUEDE DEPENDERSE DE ESTE DOCUMENTO PARA CREAR DERECHOS APLICABLES POR UNA PARTE EN UN LITIGIO JUDICIAL EN LOS ESTADOS UNIDOS. Las declaraciones en este documento tienen la única intención de ayudarle a cumplir con los requisitos del Programa de Pintado, Renovación y Reparación de Pinturas a base de Plomo en 40 CFR 745, Subparte E. La EPA puede decidir revisar esta guía sin previo aviso público para reflejar los cambios en su enfoque de la implementación del Programa de Pintado, Renovación y Reparación de Pinturas a base de Plomo de la EPA o para clarificar y actualizar texto. Para determinar si la EPA ha revisado este manual y/o para obtener copias, comuníquese con el Representante de Pequeñas Empresas (Small Business Ombudsman) de la EPA llamando al 202-566-2075, o llame al Centro Nacional de Información sobre el Plomo al 1-800-424-LEAD(5323), o visite el sitio Web www.epa.gov/lead/pubs/nlic.htm (en inglés).



1-800-424-LEAD (5323)
www.epa.gov/lead



Apéndice 5:

Pasos para la renovación, reparación y
pintura SEGURAS CON EL PLOMO

Seguridad relacionada

CON EL PLOMO

**Renovación, reparación
y pintura**



1-800-424-LEAD

www.epa.gov/lead

¿Renovación, reparación o pintura?

¿Está trabajando en un proyecto de renovación, reparación o pintura de una vivienda?

¿Incluye el proyecto una vivienda construida antes de 1978?

Si es así, debe saber cómo trabajar de forma segura con la pintura a base de plomo. Esta guía está diseñada para ayudar a los contratistas y propietarios en la planificación y realización de un proyecto de renovación, reparación y pintura de una vivienda, mediante el empleo de prácticas de trabajo seguras con el plomo. Las prácticas seguras para trabajar con el plomo son un grupo de técnicas que reducen la cantidad de polvo producido por las actividades de renovación. Cuando se emplean de forma correcta, hacen que el trabajo sea más seguro para los trabajadores y que la vivienda sea más segura para los residentes, una vez finalizada la renovación. Las siguientes prácticas seguras para trabajar con el plomo le permitirán:

- Preparar el trabajo de forma segura;
- disminuir la creación de polvo con plomo peligroso; y
- dejar el área de trabajo limpia y segura para los residentes después de finalizar el trabajo.

Contratistas, pintores y arrendadores. En caso de que esté trabajando en una vivienda o instalación habitada por niños construida antes de 1978, debe proporcionar información sobre la pintura a base de plomo a los ocupantes y propietarios de las viviendas, además de los propietarios de los centros habitados por niños y sus padres. Para obtener más información, consulte la página 33.

Apartir de abril de 2010, los contratistas de renovación, reparación y pintura deben estar certificados y emplear las prácticas seguras para trabajar con el plomo cuando realicen labores en viviendas construidas antes de 1978. Para obtener más información, consulte la página 6.



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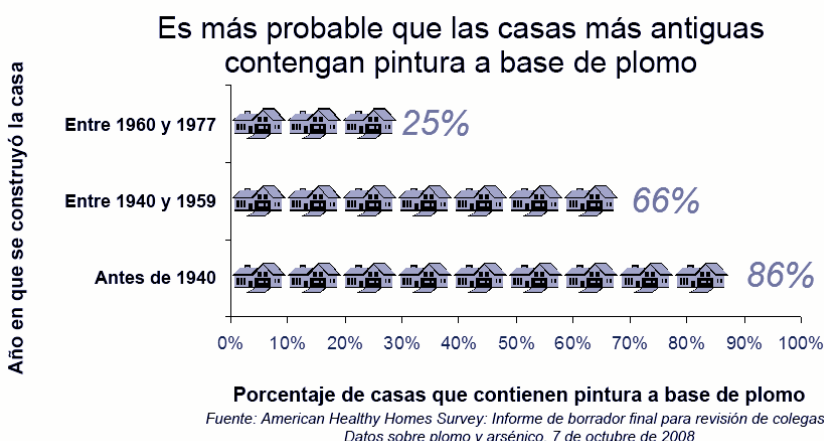
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Conozca los datos sobre la pintura a base de plomo

Aproximadamente la mitad de las viviendas construidas antes de 1978 tienen pintura a base de plomo. La posibilidad de encontrar pintura a base de plomo aumenta con la antigüedad de la vivienda:

- Dos de cada tres viviendas construidas entre 1940 y 1960 tienen pintura a base de plomo.
- Nueve de cada diez viviendas construidas antes de 1940 tienen pintura a base de plomo.



La pintura a base de plomo se puede encontrar en cualquier superficie de la vivienda, ya sea en el interior o exterior. Cuando se altera la pintura a base de plomo durante las actividades de renovación, reparación o pintura, se pueden crear cantidades peligrosas de polvo con plomo. Trabajos tales como demoliciones, reemplazo de ventanas, apertura de paredes, etc. también pueden desprender el polvo con plomo acumulado en la vivienda. Incluso después de una limpieza de renovación típica pueden permanecer niveles peligrosos de polvo con plomo.

El plomo penetra en el cuerpo cuando se ingiere o se inhala.

- Las personas, en especial los niños, pueden ingerir polvo con plomo mientras comen, juegan y realizan otras actividades comunes en que se lleven las manos a la boca.
- Las personas también pueden inhalar polvo o humo con plomo mientras realizan trabajos que alteren superficies pintadas con pintura a base de plomo, o bien en las que se incluya una limpieza con chorros de arena, raspado, combustión o cepillo.
- Asimismo, las mascotas se pueden envenenar por los mismos tipos de exposiciones al plomo.

Una vez dentro del cuerpo, el plomo puede tener efectos negativos a la salud humana.

- En los niños, el envenenamiento por plomo daña el sistema nervioso y causa problemas de comportamiento y desarrollo que pueden afectarlos para toda la vida.
- En los adultos, el envenenamiento por plomo causa problemas de salud y del aparato reproductor. Las mujeres embarazadas son especialmente vulnerables a los efectos del plomo.

Las investigaciones han demostrado que las actividades generales de renovación residenciales están asociadas con un mayor riesgo de niveles elevados de plomo en los niños.



Si trabaja de manera segura puede ayudar a prevenir tanto la exposición al plomo como el envenenamiento por plomo. Esta guía le indica cómo hacerlo.



La regla para el programa de renovación, reparación y pintura

Esta sección resume los requisitos de la regla de la EPA que se refiere a la renovación, reparación y pintura relacionadas con pintura a base de plomo para contratistas; además, proporciona una guía para propietarios y ocupantes para que sepan cómo enfrentar los peligros de la pintura a base de plomo relacionados con las actividades de renovación, reparación y pintura.

La regla de renovación, reparación y pintura (RRP) se aplica a los contratistas, a los administradores de propiedades y a otras personas que, durante trabajos de renovación, alteren pintura que se sabe o se supone que contiene plomo. El término renovación abarca todas las actividades que se realizan por remuneración y que alteran superficies pintadas, lo que incluye la mayoría de las actividades de reparación, remodelación y mantenimiento, como la sustitución de ventanas, aclimatación y demolición. La regla RRP se aplica a todos los trabajos de renovación que se realizan en viviendas residenciales, departamentos y centros habitados por niños, como escuelas y guarderías, construidas antes de 1978. Las personas afectadas por la regla RRP pueden leer la regla completa en el sitio Web de la EPA: <http://www.epa.gov/lead/pubs/renovation.htm>.

Los requisitos de capacitación, certificación y prácticas de trabajo de la regla de renovación, reparación y pintura entran en vigencia el día 22 de abril de 2010. Los requisitos de educación antes de la renovación ya están en vigor.

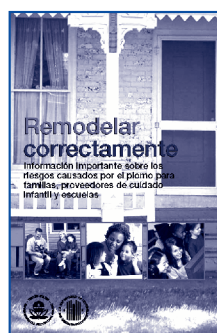
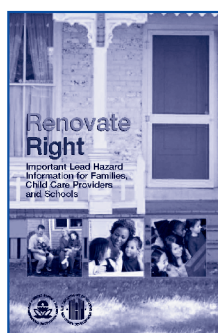
Los requisitos para contratistas de renovación son:

Requisitos de certificación y capacitación

- Todas las empresas que realicen trabajos de renovación, reparación o pintura deben obtener la certificación correspondiente. Para hacerlo, deben postular ante la EPA o el estado (en caso de que éste tenga un programa de renovación autorizado por la EPA) y realizar un pago.
- Las empresas deben tener al menos un "renovador certificado" asignado a trabajos en los que se altere pintura a base de plomo. Para obtener la certificación, un renovador debe aprobar satisfactoriamente un curso de capacitación de la EPA u otro que esté aprobado por el estado; que los imparta un proveedor de capacitación de la EPA u otro que esté acreditado por el estado.
- Todos los trabajadores de renovaciones deben recibir capacitación. Los trabajadores de renovaciones pueden recibir capacitación en el trabajo por parte de un renovador certificado para utilizar prácticas seguras para trabajar con el plomo, o ellos mismos pueden llegar a ser renovadores certificados.

Requisitos de educación antes de la renovación

- Los contratistas, administradores de propiedades y otros que realicen renovaciones por remuneración en viviendas residenciales, departamentos e instalaciones habitadas por niños construidas antes de 1978, deben distribuir el folleto de la EPA *Renovar correctamente*, que contiene información respecto de los riesgos del plomo, a los ocupantes y propietarios de viviendas y a los propietarios de centros habitados por niños y a sus padres antes de comenzar los trabajos de renovación. Consulte la página 33 para obtener más información respecto de los requisitos de educación anteriores a la renovación.



Requisitos de prácticas de trabajo

- Los renovadores deben utilizar contención en el área de trabajo para evitar que el polvo y los escombros se escapen de la misma.
- Hay algunas prácticas de trabajo que están prohibidas. La combustión con llama, el uso de pistolas de aire caliente de más de 1,100 grados Fahrenheit y el uso de herramientas eléctricas sin control de ventilación HEPA (para recoger el polvo que se genere) están prohibidos.
- Un requisito es la limpieza a fondo, seguida por un procedimiento de verificación de limpieza para reducir la exposición a los peligros de la pintura a base de plomo.
- Generalmente, las actividades menores de reparación y mantenimiento (menos de 6 pies cuadrados por habitación interior o 20 pies cuadrados por proyecto exterior) están exentas de los requisitos de prácticas de trabajo. Sin embargo, esta exención no se aplica a trabajos que incluyan la sustitución de ventanas, la demolición o que impliquen el uso de cualquiera de las prácticas prohibidas mencionadas anteriormente.

Exención de la regla RRP

Los requisitos de capacitación, certificación y prácticas de trabajo no se aplican en caso de que la empresa obtenga una declaración firmada del dueño, que indique que se cumplen todas las condiciones que se detallan a continuación:

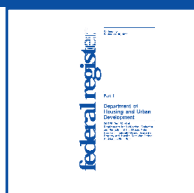
- La renovación se realizará en la residencia del propietario;
- En el lugar no habita ningún niño menor de 6 años;
- En el lugar no habita ninguna mujer embarazada;
- La vivienda no es una instalación habitada por niños; y
- El propietario confirma que no se exigirá a la empresa de renovación el uso de las prácticas de trabajo que indica la regla.

Propietarios que trabajan en sus propias viviendas

La regla RRP se aplica sólo a las renovaciones que se realizan por remuneración. Si usted trabaja en su propia vivienda, las reglas no se aplican. Aun así, la EPA fomenta a los propietarios a que utilicen prácticas seguras para trabajar con el plomo para proteger su propia integridad física, la de sus familias y el valor de sus viviendas.

Arrendadores que trabajan en su propiedad

Los arrendadores reciben pagos mensuales por alquiler y el personal de mantenimiento en propiedades de alquiler o en instalaciones habitadas por niños recibe sueldos o salarios que derivan de pagos por alquiler. Lo anterior se considera como remuneración conforme a la regla RRP. Por lo tanto, las actividades de renovación y reparación que realizan los arrendadores o sus empleados están cubiertas por la regla. Los trabajos que realicen los arrendadores o sus empleados en viviendas y centros habitados por niños construidas antes de 1978 se deben realizar utilizando prácticas seguras para trabajar con el plomo, en caso de que se altere pintura que se sabe o se supone que es a base de plomo.



Otros reglamentos estatales y federales

Regla del Departamento de Vivienda y Urbanismo de Estados Unidos para trabajar de forma segura con el plomo

Esta regla del Departamento de Vivienda y Urbanismo para trabajar de forma segura con el plomo (24 CFR Parte 35) se aplica a las viviendas de propiedad federal o con ayuda federal construidas antes de 1978, así como también, a las viviendas de propiedad federal que estén en venta. No se aplica a los centros habitados por niños que no sean viviendas residenciales. Los requisitos de la regla del Departamento de Vivienda y Urbanismo son similares a la regla RRP de la EPA, pero existen diferencias en algunos detalles, lo que incluye:

- **Exenciones.** La regla del Departamento de Vivienda y Urbanismo no permite que los propietarios de viviendas que reciben ayuda federal renuncien a estos requisitos.
- **Requisitos de capacitación.** El Departamento de Vivienda y Urbanismo no reconoce la capacitación en el lugar de trabajo. Para realizar un control de peligros relacionados con el plomo en viviendas que reciben ayuda federal, existen dos opciones: o todos los trabajadores deben haber completado un curso aprobado por el Departamento de Vivienda y Urbanismo, o el personal debe estar supervisado por un renovador certificado quien, además, es un supervisor certificado en la reducción de plomo.
- **Reparaciones menores y mantenimiento.** La definición del Departamento de Vivienda y Urbanismo de reparaciones menores y mantenimiento, que aplican para una exención de su regla es distinta a la de la EPA (2 pies cuadrados en el interior y 20 pies cuadrados en el exterior o 10 por ciento de la superficie de un tipo de componente de una construcción pequeña).

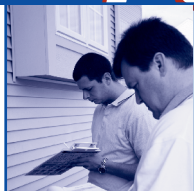
Otras diferencias entre las reglas de la EPA y las del Departamento de Vivienda y Urbanismo (en cuanto a las pruebas de pintura, prácticas prohibidas, pruebas de aprobación y eliminación de desechos) se indican en los lugares apropiados.

Reglamentos estatales y locales

Se pueden aplicar otros requisitos estatales o locales, distintos o más estrictos que los requisitos federales. Por ejemplo, la ley federal permite que la EPA autorice a los estados a administrar su propio programa de renovación de plomo, en lugar del programa federal de plomo. Incluso en estados que no tienen un programa de renovación de plomo, un estado puede promulgar sus propias reglas, las cuales pueden ser distintas o tener más alcance que los requisitos federales.

Para obtener más información respecto de las reglas que se aplican en su estado, comuníquese con el Centro Nacional de Información sobre el Plomo llamando al **1-800-424-LEAD (5323)** o visite **www.epa.gov/lead/nlic.htm**.

Paso 1



Determine si el trabajo comprende pintura a base de plomo

Antes de que comience un trabajo, considere si la pintura a base de plomo será un problema.

Investigue la antigüedad de la vivienda o del centro habitado por niños.

La antigüedad de una vivienda puede indicarle mucho sobre la posibilidad de presencia de pintura a base de plomo.

- Si se construyó antes de 1978, puede que tenga pintura a base de plomo.
- Cuanto más antigua sea la vivienda, mayor será la posibilidad de que exista plomo en la pintura y el polvo acumulado.
- Considere cuándo se construyeron las ampliaciones. Es posible que algunas partes de la vivienda se hayan construido con posterioridad a otras. Las ampliaciones realizadas posteriormente tienen menos posibilidades de tener pintura a base de plomo y polvo contaminado.
- La pintura a base de plomo se puede encontrar en el interior o exterior de la vivienda, con mayor frecuencia en cocinas o baños, y en la pintura brillante de las molduras, como antepechos de ventanas, marcos de puertas y barandas.

Busque información sobre el plomo.

Se puede conseguir fácilmente información sobre la presencia de pintura a base de plomo en su hogar. Conforme con una ley federal de divulgación, cuando se vende o alquila una vivienda anterior a 1978, el vendedor o el arrendador debe proporcionar información al comprador o inquilino sobre cualquier pintura a base de plomo que se conozca. Los propietarios deben verificar sus registros para ver si tienen información sobre pintura a base de plomo y deben compartir esta información con cualquier persona que realice trabajos en la vivienda.



Considere las pruebas de plomo.

Considere las pruebas de plomo. Si una vivienda se construyó antes de 1978, debe asumir que existe pintura a base de plomo o disponer que se hagan pruebas en el área de trabajo para detectar la presencia de pintura a base de plomo antes de comenzar el trabajo. Existen dos opciones para las pruebas de pintura en una vivienda, conforme con la regla de renovación, reparación y pintura:

1. Pruebas de pintura realizadas por inspectores de pintura a base de plomo certificados o evaluadores de riesgos de pintura con plomo: estos profesionales certificados llevan a cabo una investigación superficie por superficie para detectar la presencia de pintura a base de plomo y recogen cáscaras de pintura para someterlas a análisis de laboratorio, o bien, realizan pruebas en las superficies pintadas con un equipo llamado analizador fluorescente de rayos X (XRF, por sus siglas en inglés), el cual mide la cantidad de plomo que existe en la pintura.
2. Pruebas de pintura realizadas por renovadores certificados: los renovadores certificados, a petición del propietario, pueden utilizar juegos de pruebas locales de sustancias químicas reconocidos por la EPA para realizar pruebas en todas las superficies afectadas por la renovación.

Nota: El Departamento de Vivienda y Urbanismo no reconoce las pruebas realizadas por un renovador certificado que use kits de pruebas locales. En las viviendas contempladas por la regla del Departamento de Vivienda y Urbanismo para trabajar de forma segura con el plomo, sólo se permite la primera opción.

Todas las superficies afectadas por una renovación, contemplada por la regla de renovación, reparación y pintura, se deben someter a pruebas para detectar la presencia de pintura a base de plomo o se debe asumir que contienen dicho tipo de pintura. Las pruebas deben incluir todas las superficies afectadas revestidas con pintura, laca, barniz, tinte, revestimiento o incluso pintura cubierta con papel para tapizar paredes, en el caso de que éste se vaya a alterar durante el trabajo de renovación. Un informe que documente las pruebas debe enumerar las superficies sometidas a pruebas y las superficies que contienen pintura a base de plomo. Si existe pintura a base de plomo en una superficie afectada, entonces se deben emplear las prácticas seguras para trabajar con el plomo que se describen en este folleto.

Para obtener una lista de los profesionales certificados para realizar pruebas de plomo de su área, comuníquese con el **Centro Nacional de Información sobre el Plomo** al **1-800-424-LEAD (5323)** o visite <http://cfpub.epa.gov/flpp>.

Recuerde, si la vivienda se construyó antes de 1978 y no existe información disponible sobre la pintura, los renovadores deben suponer que existe pintura a base de plomo y deben emplear las prácticas seguras para trabajar con el plomo que se describen en este folleto. Asegúrese de que todas las personas que participen en el trabajo, incluidos los trabajadores, supervisores y residentes, empleen las precauciones de seguridad adecuadas.

Paso 2



Organícelo de forma segura

Cuando trabaje en un lugar con pintura a base de plomo, debe separar el área de trabajo del resto de la vivienda.

El objetivo de una instalación adecuada en el área de trabajo es mantener el polvo en el interior de dicha área y las personas que no sean trabajadores afuera.

El área de trabajo es el área que puede contaminarse durante el trabajo. El tamaño del área de trabajo puede variar según el método que se use para alterar la pintura a base de plomo y la cantidad de polvo y escombros que se genere como resultado. Siempre que se altere pintura a base de plomo, el área de trabajo se debe proteger con láminas plásticas, aplicadas en el piso, el suelo u otras superficies que correspondan, a fin de evitar que el polvo generado por el trabajo contamine la vivienda o el exterior.

La regla de renovación, reparación y pintura requiere que el área de trabajo se proteja con láminas plásticas que se extiendan 6 pies como mínimo en todas las direcciones de la ubicación donde se alterará la pintura. La regla requiere además que las láminas plásticas se extiendan en una cantidad suficiente más allá de la ubicación de la alteración de pintura, de modo que todo el polvo y los escombros generados por el trabajo se mantengan en el interior del área protegida por el plástico. Toda la sección de la vivienda o el exterior que esté protegida por las láminas plásticas, por grande que ésta sea, constituye el área de trabajo.

Se debe evitar que las personas sin autorización y las mascotas entren en el área de trabajo. Esto se puede realizar colocando letreros de advertencia e instalando barreras alrededor del área de trabajo, como por ejemplo cinta de barrera, cercas, barreras plásticas en puertas de acceso, etc.



Lista de compras

A continuación se presenta una lista de artículos y herramientas que necesitará para preparar el área de trabajo de forma segura. Estos elementos se encuentran en ferreterías y tiendas que vendan artículos de jardinería.

Materiales para limitar el acceso y cubrir el piso o el suelo

- ☐ Letreros
- ☐ Cinta de barrera, cuerda o cercas
- ☐ Conos
- ☐ Lámina plástica de alta resistencia
- ☐ Cinta adhesiva (de protección, para conductos o de pintores)
- ☐ Engrapadora
- ☐ Cuchillo de uso general o tijeras



Qué hacer

Para mantener el polvo dentro y las personas fuera de su área de trabajo, tendrá que realizar los siguientes pasos para trabajos de interiores o exteriores. Algunos trabajos generan más polvo que otros, por lo tanto, necesitan precauciones adicionales.

Para trabajos de interiores

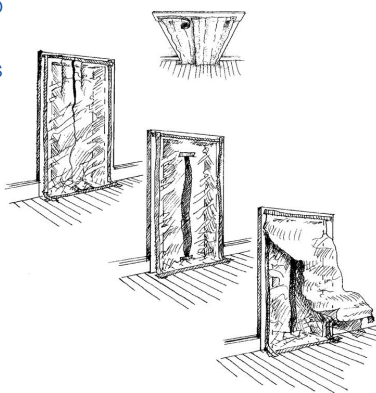
- Disponga que los ocupantes salgan de la habitación donde se realizará el trabajo y que éstos permanezcan fuera del área de trabajo hasta que termine la limpieza final.
- Coloque letreros, cintas de barrera o conos para mantener fuera del área de trabajo a quienes no sean trabajadores, particularmente a niños. Mantenga a las mascotas fuera del área de trabajo para su seguridad y evitar que introduzcan polvo y escombros con las patas en el interior de la vivienda. Los letreros deben estar en el idioma principal de los ocupantes y decir “No entrar – Sólo personal autorizado” y “Prohibido comer, beber y fumar”.

- Saque los muebles y otras pertenencias del área de trabajo. Estos artículos pueden incluir: telas, cortinas, muebles, alfombras, etc. Si un artículo es muy grande para moverlo, cúbralo con láminas plásticas de alta resistencia y péguelas con cinta adhesiva para mantenerlas fijas en su lugar.
- Utilice láminas plásticas de alta resistencia para cubrir pisos en el área de trabajo hasta un mínimo de 6 pies a partir del área de alteración de la pintura. Fije con cinta adhesiva.
- Cierre todas las puertas del área de trabajo, incluidas las de los closets y armarios, y cúbralas con láminas plásticas. Cuando los límites del área de trabajo incluyan la puerta que se utiliza para acceder a la misma, cubra la puerta con dos capas de láminas protectoras, como se describe a continuación:

- Corte y fije una capa de la lámina al perímetro del marco de la puerta. No deje que la lámina quede tirante. En lugar de eso, forme algunos pliegues para dejar material adicional en la parte superior e inferior de la puerta antes de pegar con cinta adhesiva o sujetar con la engrapadora.

- Corte una rendija vertical en el medio de la lámina, dejando 6" sin cortar en la parte superior e inferior. Refuerce con cinta adhesiva.

- Corte y fije una segunda capa de lámina superpuesta en la parte superior de la puerta.



- Cierre y cubra los respiraderos del área de trabajo. Esto impedirá que el polvo entre en los conductos y se desplace por la vivienda. Tal vez tenga que apagar el sistema de climatización, a fin de evitar que éste se dañe.
- Ponga todas las herramientas y los artículos necesarios sobre las láminas protectoras antes de comenzar a trabajar, a fin de no salirse de las láminas protectoras antes de que finalice el trabajo.

Para trabajos de exteriores

- Mantenga fuera del área de trabajo a quienes no sean trabajadores, con letreros, cinta adhesiva o conos.
- Cubra el suelo y las plantas con láminas plásticas de alta resistencia para recoger los escombros. La cubierta debe extenderse al menos 10 pies más allá del edificio. Fije la cubierta a la pared exterior con un listón de madera y grapas o cinta adhesiva.
- Cierre las ventanas y puertas en un radio de 20 pies alrededor del área de trabajo para evitar que el polvo y los escombros entren en las viviendas.
- Mueva o cubra todas las áreas de juegos infantiles que se encuentren en un radio de 20 pies alrededor del área de trabajo.
- Cuando trabaje en construcciones de 2 o más pisos, extienda aún más la lámina desde la base de la vivienda y hacia cada lado del área donde se altere la pintura.
- Se deben usar cubiertas verticales en andamios si el trabajo está cerca de aceras, calles, límites de propiedad, o bien, si la construcción tiene más de tres pisos de altura.
- No trabaje durante vientos fuertes, si es posible. La regla de renovación, reparación y pintura de la EPA no menciona velocidades de viento específicas, pero si el viento es lo suficientemente fuerte como para levantar polvo y escombros, se deben tomar precauciones especiales para mantener el área de trabajo contenida. Aquello puede significar crear una pantalla de plástico para el viento al borde del plástico que cubre el suelo para mantener el polvo y los escombros contenidos. En última instancia, usted es responsable de evitar que el polvo y los escombros salgan del área de trabajo, por lo tanto, tome las precauciones adecuadas cuando el viento sea un factor.
- Ponga todas las herramientas y los artículos necesarios sobre las láminas protectoras antes de comenzar a trabajar, a fin de no salirse de las láminas protectoras antes de que finalice el trabajo.

Paso 3



Protéjase

Los trabajadores deben protegerse.

Sin los equipos de protección personal correctos, los trabajadores pueden ingerir o inhalar plomo en el trabajo, además de arriesgarse a transportar plomo desde la vivienda en obras hasta sus hogares y familias. Los siguientes elementos se encuentran en ferreterías, tiendas de artículos de jardinería u otros proveedores especializados.

Lista de compras

- ☐ Gafas de protección
- ☐ Gorra de pintor
- ☐ Overoles desechables
- ☐ Respirador N-100 desechable
- ☐ Guantes desechables de látex o goma
- ☐ Cubrezapatos desechables



Qué hacer

Protéjase los ojos.

- Utilice siempre anteojos o gafas protectoras al raspar, martillar, etc.

Mantenga limpia su ropa.

- Utilice cubiertas de prendas protectoras desechables. Las cubiertas de prendas protectoras desechables se pueden almacenar en bolsas plásticas y reutilizar si se encuentran medianamente limpias y no están rotas. Las roturas pequeñas se pueden reparar con cinta adhesiva para conductos.
- Al término del período de trabajo, utilice la aspiradora para remover el polvo y retire las cubiertas de prendas protectoras desechables. No utilice aire comprimido para desplazar el polvo de las cubiertas de prendas protectoras desechables o de las prendas de vestir.
- No abrace a otras personas hasta que se haya quitado su ropa de trabajo. Luego, lave su ropa de trabajo por separado de la ropa sucia de su familia.

- Utilice cubrezapatos desechables para no transportar el polvo del área de trabajo y para proteger sus zapatos de la exposición al polvo.
- Utilice guantes para protegerse las manos y evitar la exposición al polvo.
- Utilice una gorra de pintor para protegerse la cabeza contra el polvo y los escombros. Estos son fáciles de desechar al final del día.

Utilice una mascarilla respiratoria protectora.

Cuando el trabajo crea polvo o cáscaras de pintura, los trabajadores deben utilizar protección respiratoria, como la mascarilla respiratoria desechable N-100, para que no inhalen polvo con plomo.

Coloque un letrero de advertencia.

Coloque un letrero en la entrada del trabajo que recuerde a los trabajadores que no deben comer, beber y fumar en el área de trabajo.

El letrero debe decir lo siguiente:

- Advertencia
- Área de trabajo con plomo
- Veneno
- Prohibido fumar, beber o comer



Lávese.

Los trabajadores deben lavarse las manos y la cara cada vez que dejen de trabajar. Es particularmente importante lavarse antes de comer y al final del día.

Nota: Las reglas de la OSHA pueden requerir que los empleados realicen pasos adicionales para proteger la salud de los trabajadores.

Visite www.osha.gov/SLTC/lead/index.html.

Paso 4



Disminuya el polvo al mínimo

A medida que trabaja, su objetivo es no levantar polvo.

Recuerde que mientras raspa, perfora, corta, abre paredes, etc., está generando polvo. Puede evitar levantar el polvo usando las herramientas correctas y siguiendo algunas prácticas simples que disminuyen y controlan la propagación del polvo. Los siguientes elementos se encuentran en ferreterías, tiendas de artículos de jardinería u otros proveedores especializados.

Lista de compras

Materiales para todos los trabajos:

- ☐ Papel de lija húmedo y seco, esponja de lijado
- ☐ Botella para rociado o pulverizador de bomba
- ☐ Lámina plástica de alta resistencia
- ☐ Cuchillo de uso general o tijeras
- ☐ Cinta adhesiva de protección, para conductos o de pintores
- ☐ Aspiradora con filtro de partículas de aire de alta eficiencia (HEPA) (aspiradora especial que puede eliminar partículas muy pequeñas de los pisos, antepechos de ventanas y alfombras y no los devuelve al aire)
- ☐ Bolsas de desperdicios plásticas de alta resistencia
- ☐ Tapetes adhesivos (de tamaño grande, tapetes que ayudan a quitar el polvo) toallas de papel o paños desechables.



Otras herramientas que se puedan necesitar:

- ☐ Pistola de aire caliente de baja temperatura (menos de 1,100 grados Fahrenheit)
- ☐ Decapantes químicos sin cloruro de metileno.
- ☐ Herramientas eléctricas con accesorios de aspiración equipados con filtro HEPA

Qué hacer

Utilice las herramientas correctas.

- Utilice lijas húmedas y rociadores para no levantar el polvo generado durante el lijado, las perforaciones y los cortes.
- Utilice accesorios de aspiradora HEPA en las lijadoras y esmeriladoras eléctricas para contener el polvo creado por estas herramientas.
- Cuando se necesite una pistola de aire caliente para quitar la pintura, use un ajuste de temperatura inferior a 1,100 grados Fahrenheit.

Emplee prácticas de trabajo que disminuyan el polvo al mínimo.

- Rocíe las áreas antes de lijar, raspar, perforar y cortar, a fin de que no se levante el polvo (salvo a menos de 1 pie de las tomas de corriente eléctrica).
- Raye la pintura con un cuchillo de uso general antes de separar los componentes.
- Levante los componentes con una palanca y sepárelos, en lugar de golpear y martillar.
- Mantenga los componentes que se están desechando dentro del área de trabajo hasta que estén envueltos con seguridad en láminas o bolsas de desperdicios plásticas de alta resistencia. Una vez se hayan envuelto o depositado en bolsas de desperdicios plásticas, sáquelas del área de trabajo para almacenarlas en un área segura, lejos de los residentes.

Controle la propagación del polvo.

- Mantenga el área de trabajo aislada del resto de la vivienda.
- No saque el polvo del área de trabajo:
 - Manténgase dentro del área de trabajo contenida y en los caminos contenidos.
 - Limpiar los trajes con una aspiradora antes de salir del área de trabajo, de modo que el polvo se quede dentro de la misma.
 - Cada vez que salga de las láminas plásticas, quítese los cubrezapatos desechables y límpiense los zapatos con un trapo o una aspiradora, en especial las suelas, antes de salirse de las láminas plásticas. El uso de un gran tapete adhesivo desechable en el piso le puede ayudar a limpiarse las suelas de los zapatos.
- Lave las prendas protectoras que no sean desechables separadamente de la ropa sucia de su familia.

No utilice prácticas prohibidas.

La regla de renovación, reparación y pintura prohíbe el uso de ciertas prácticas de trabajo peligrosas por parte de los contratistas. Estas “prácticas prohibidas” incluyen:

- La combustión de pintura a base de plomo con llama o soplete.
- El uso de máquinas que quiten la pintura a base de plomo mediante una operación a alta velocidad, tales como lijado, esmerilado, cepillado eléctrico, limpieza con abrasivos o con chorros de arena, a menos que dichas máquinas se utilicen con un control de ventilación HEPA.
- La operación de una pistola de aire caliente sobre la pintura a base de plomo a temperaturas superiores a 1,100 grados Fahrenheit.

En el caso de las viviendas que reciben ayuda federal, la regla del Departamento de Vivienda y Urbanismo prohíbe prácticas de trabajo adicionales:

- El raspado en seco y el lijado a mano excesivos.
- El uso de pistolas de aire caliente que carbonicen la pintura.
- El uso de decapantes de pintura volátiles en áreas con poca ventilación.

Nota: La regla de renovación, reparación y pintura de la EPA no se aplica a los propietarios quienes renuevan sus propiedades. Sin embargo, debido a que las prácticas prohibidas conforme a las reglas generan grandes cantidades de polvo, la EPA recomienda que el propietario que realice sus propios trabajos también las evite.

Paso 5



Deje limpia el área de trabajo

El área de trabajo se debe dejar limpia al final de cada día y en especial al finalizar el trabajo. El área debe estar sin polvo ni escombros. Los siguientes artículos, herramientas y equipos de limpieza se encuentran en ferreterías y tiendas que venden artículos de jardinería.

Lista de compras

- ☐ Bolsas de desperdicios plásticas de alta resistencia
- ☐ Aspiradoras aprobadas por HEPA con accesorios y una barra sacudidora eléctrica
- ☐ Cinta adhesiva de protección, para conductos o de pintores
- ☐ Botella para rociado o pulverizador de bomba
- ☐ Toallas de limpiezas húmedas desechables o toallas de mano
- ☐ Detergente o limpiador de uso general
- ☐ Trapeadores y cabezas desechables de trapeador
- ☐ Dos baldes o un balde de dos lados con escurridora
- ☐ Pala y rastrillo
- ☐ Sistema de limpieza húmedo
- ☐ Paños de limpieza secos y cargados de manera electrostática



Qué hacer

Los renovadores y propietarios que realicen sus propios trabajos deben realizar diariamente lo siguiente:

- Recoger mientras trabaja. Poner la basura en bolsas de desperdicios plásticas de alta resistencia.
- Limpiar el área de trabajo con una aspiradora HEPA varias veces durante el día y al final del día.
- Limpiar las herramientas al final del día.
- Lavarse cada vez que se tome un descanso y antes de irse a casa.
- Desechar o limpiar su equipo de protección personal.
- Seguir separando el área de trabajo del resto de la vivienda y recordar a los residentes que permanezcan fuera del área.

Cuando finalice el trabajo, los renovadores y propietarios que realicen sus propios trabajos deben realizar lo siguiente:

- Retirar cuidadosamente las láminas de desperdicios plásticas, doblarlas con el lado sucio hacia adentro, cerrarlas con cinta adhesiva y desecharlas.
- Asegurarse de que toda la basura y los escombros, lo que incluye los componentes de la construcción, se eliminen adecuadamente.
- Limpiar todas las superficies, incluidas las paredes, con una aspiradora HEPA.
- Rociar y fregar el área de trabajo con un limpiador de uso general en un paño o trapeador húmedo, cambiando el agua de enjuagar a menudo, hasta que se eliminen el polvo y los escombros.
- Limpiar todas las superficies nuevamente con una aspiradora una vez que estén secas.
- Inspeccionar visualmente el trabajo. Fijarse en los alrededores, tanto dentro como fuera. No debe haber polvo, cáscaras de pintura ni escombros.
- Volver a limpiar el área minuciosamente en caso de que encuentre polvo o escombros.

Paso 6



Controle los desechos

Qué hacer

Depositar sus desechos en una bolsa o envolverlos en la obra y dentro del área de trabajo.

- Recoger y controlar todos sus desechos. Algunos ejemplos de desechos son el polvo, los escombros, las cáscaras de pintura, las láminas protectoras, los filtros HEPA, el agua sucia, la ropa, las cabezas de trapeador, paños, ropa protectora, mascarillas respiratorias, guantes, componentes arquitectónicos y otros desechos.
- Utilice láminas o bolsas de desperdicios plásticas de alta resistencia para depositar los desechos. Selle la bolsa firmemente con cinta adhesiva para conductos. Considere el uso de bolsas de desperdicios dobles para depositar los desechos y evitar que se rasguen. Los componentes de gran tamaño deben envolverse en láminas protectoras y sellarse con cinta adhesiva.
- Deposite los desechos en una bolsa de desperdicios y séllela antes de sacarla del área de trabajo.
- Acumule todos los desechos en un basurero o contenedor de escombros con una cubierta asegurada, hasta su eliminación.
- Limite el tiempo de almacenamiento en la obra.
- No transporte los desechos en un camión abierto o en un vehículo personal.



Elimine las aguas residuales apropiadamente.

- Las aguas utilizadas durante la limpieza se deben filtrar y verter en un inodoro, si así lo permiten las reglas locales. Si no es así, recójalas en un barril y lléveselo. No vierta nunca estas aguas en un fregadero, tina, desagüe de aguas pluviales ni en el suelo. Elimine siempre las aguas residuales de acuerdo con los reglamentos federales, estatales y locales.
- El sitio Web de la EPA cuenta con información de los estados sobre la eliminación de desechos sólidos y peligrosos. Visite el siguiente enlace para obtener más información:
<http://www.epa.gov/epawaste/wyl/stateprograms.htm>.

Infórmese de las reglas de eliminación de aguas.

- Debido a que la EPA considera la mayoría de las renovaciones y remodelaciones residenciales como "mantenimiento residencial de rutina", la mayoría de los desechos que se generan durante estas actividades están clasificados como desechos sólidos no peligrosos y se deben llevar a un vertedero de desechos sólidos. Lo anterior no se aplica al trabajo realizado en instalaciones comerciales, públicas u otros centros habitados por niños que no sean residenciales, donde los desechos se pueden considerar como peligrosos y requieren métodos de eliminación especiales. Visite el siguiente enlace para obtener más información:
www.epa.gov/lead/pubs/fslbp.htm.
- Verifique siempre los requisitos estatales y locales antes de eliminar los desechos. Algunos son más estrictos que los reglamentos federales.

Paso 7



Verifique la terminación de su trabajo con el procedimiento de verificación de limpieza o la aprobación

Cuando se termine el trabajo y antes de que se vuelva a ocupar el espacio interior, debe determinar si es un ambiente seguro para vivir o no.

Para renovadores certificados y personal de mantenimiento:

Conforme con la regla RRP, se requieren pruebas de verificación de limpieza o aprobación, si el trabajo lo realizó un contratista o un arrendador. (Si la vivienda recibe ayuda federal, se requieren pruebas de aprobación). Si se escoge el procedimiento de verificación de limpieza, éste procedimiento debe realizarlo un renovador certificado por la EPA. Si se escoge la aprobación, las pruebas de aprobación las debe realizar un inspector de plomo certificado, un evaluador de riesgos de plomo certificado o un técnico de muestreo de plomo certificado.

Para personas que realicen sus propios trabajos:

Después de una inspección visual en viviendas que no reciben ayuda federal, donde el propietario terminó el trabajo, no es obligatorio realizar un procedimiento de verificación de limpieza o de aprobación, pero la EPA recomienda encarecidamente que elija uno de dichos métodos, a fin de garantizar que se realizó una limpieza completa.

Procedimiento de verificación de limpieza

Después de haber realizado la limpieza, el procedimiento de verificación de limpieza se realiza pasando un paño desechable húmedo por las superficies que acumulan polvo en el área de trabajo y, posteriormente, comparando visualmente este paño con una tarjeta de verificación de limpieza. Algunas superficies que acumulan polvo son los antepechos de las ventanas, encimeras y otras superficies horizontales grandes como decoraciones exteriores de chimeneas, estanterías y pisos. Puede obtener una tarjeta de verificación de limpieza en el **Centro Nacional de Información sobre el Plomo** llamando al **1-800-424-LEAD (5323)**. Sólo un renovador certificado por la EPA puede realizar una verificación de limpieza, en caso de que se hayan realizado renovaciones contempladas por la regla de renovación, reparación y pintura.

Nota: Para los trabajos exteriores sólo se requiere una inspección visual de polvo, cáscaras de pintura o escombros.



El procedimiento de verificación de limpieza para antepechos de ventanas se describe a continuación:

- Cada antepecho de ventana del área de trabajo se limpia con un paño nuevo desechable húmedo.
- Cuando se haya limpiado toda la superficie del antepecho de la ventana, el paño se compara con la tarjeta de verificación de limpieza. (Consulte “Interpretación del procedimiento de verificación de limpieza”, en la página 27).

El procedimiento de verificación de limpieza para encimeras y pisos se describe a continuación:

- El renovador certificado limpia cada encimera con un paño desechable húmedo:
 - Para encimeras pequeñas y otras superficies horizontales como decoraciones exteriores de chimeneas y estanterías que tengan una superficie total menor a 40 pies cuadrados, limpie toda la superficie con un paño nuevo y compárelo con la tarjeta de verificación de limpieza.
 - Las superficies grandes, como encimeras y pisos de gran tamaño, tienen superficies de más de 40 pies cuadrados; cada uno de estos pisos y encimeras se deben dividir en secciones similares que tengan una superficie de 40 pies cuadrados o menos. Limpie cada sección separadamente con un nuevo paño desechable húmedo para cada sección. Al realizar una verificación de limpieza en pisos, el paño se debe colocar en el mango de un sistema de limpieza húmedo. El uso del mango del sistema de limpieza húmedo permite que el renovador certificado aplique una presión uniforme en el paño. Compare cada toalla con la tarjeta de verificación de limpieza.

Interpretación del procedimiento de verificación de limpieza

- Compare cada paño que representa una sección de superficie específica con la tarjeta de verificación de limpieza. Si el paño que se usó para limpiar una sección de la superficie del área de trabajo está más limpio que los paños de ejemplo de la tarjeta de verificación de limpieza, esa sección de superficie se ha limpiado adecuadamente.
- Si el paño no está más limpio que la tarjeta de verificación de limpieza, vuelva a limpiar esa sección de la superficie. Posteriormente, utilice un nuevo paño desechable húmedo para limpiar la sección de la superficie una vez más. Si el segundo paño está más limpio que la tarjeta de verificación de limpieza, esa sección de la superficie se ha limpiado adecuadamente.
- Si el segundo paño no está más limpio que la tarjeta de verificación de limpieza, vuelva a limpiar la superficie y espere 1 hora o hasta que la superficie se haya secado completamente (lo que tome más tiempo).
- Limpie la sección de la superficie con un paño de limpieza seco cargado con electrostática. Ahora se ha completado el procedimiento de verificación de limpieza y se considera que la superficie está limpia.
- Cuando todas las superficies del área de trabajo han pasado la comparación con la tarjeta de verificación de limpieza o han completado la verificación de limpieza posterior a la renovación, se puede afirmar que el proyecto está completo y que el área se puede devolver a sus ocupantes, a menos que la vivienda esté recibiendo ayuda federal o que las leyes estatales o locales requieran pruebas de aprobación referentes al polvo; en tal caso, el proyecto debe pasar dichas pruebas de aprobación antes de que se pueda devolver el área a sus ocupantes.

Pruebas de aprobación referente al polvo

Las pruebas de aprobación deben ser llevadas a cabo por inspectores de pintura a base de plomo certificados, evaluadores de riesgos del polvo con plomo certificados o técnicos de muestreo de polvo con plomo certificados. Para viviendas que reciban ayuda federal, las pruebas de aprobación deben estar a cargo de una persona independiente de la empresa de renovación.

- Si bien la regla de renovación, reparación y pintura indica que la aprobación es opcional, en algunos estados y localidades, ésta puede ser obligatoria. Además, un propietario puede solicitar específicamente en su contrato que se realicen las pruebas de aprobación. En este caso, limpie el área y verifique su trabajo; posteriormente, contrate un inspector de pintura a base de plomo certificado, evaluador de riesgos o técnico en muestreo de polvo con plomo para programar las pruebas de aprobación.
- El Departamento de Vivienda y Urbanismo requiere que se realicen pruebas de aprobación después de una renovación o de un trabajo de reparación en las viviendas anteriores a 1978 que reciban ayuda federal, las cuales están bajo la regla para trabajar de forma segura con el plomo. Los contratistas deben determinar si la vivienda recibe ayuda federal. La ayuda federal puede recibirse por medio del gobierno estatal o local, a través de una corporación de desarrollo de la comunidad u otra entidad similar.
- La toma de muestras para la aprobación de trabajos interiores consistirá en una muestra del piso de cada habitación donde se realizaron trabajos (hasta cuatro muestras) y una muestra adicional en el piso de la zona exterior de la entrada del área de trabajo. En caso de que haya antepechos y canales de ventanas en el área de trabajo, se tomará una muestra de estas áreas en cada habitación donde se realizaron trabajos (hasta cuatro muestras).
- Todas las muestras para la aprobación se deben enviar a un laboratorio reconocido por la EPA que analice polvo con plomo. Puede consultar la lista de laboratorios en www.epa.gov/lead/pubs/nllap.htm.
- Para otorgar una aprobación de trabajos en exteriores, la EPA, así como el Departamento de Vivienda y Urbanismo sólo requiere una evaluación visual del área de trabajo.

Interprete los resultados de las muestras para la aprobación

El laboratorio informará la cantidad de plomo que contiene el polvo. Una muestra de polvo que supere los siguientes límites de plomo se considera peligrosa:

- Pisos: 40 microgramos por pie cuadrado
- Antepechos de ventanas: 250 microgramos por pie cuadrado
- Canales de ventanas: 400 microgramos por pie cuadrado

Si el informe del laboratorio indica que los niveles de plomo igualan o superan estos límites, entonces la vivienda no pasa la prueba de limpieza de polvo. La vivienda se debe limpiar y las pruebas se deben realizar nuevamente hasta que los niveles de plomo estén en conformidad con dichos límites de aprobación. Es el contratista quien debe realizar la nueva limpieza.

Se recomienda que los propietarios especifiquen en el contrato inicial que se realizará una prueba de aprobación de polvo al final del trabajo y que el contratista será responsable de volver a limpiar la vivienda, en caso de que ésta no pase esta prueba. Ninguna persona, además del contratista y el examinador de aprobaciones, debe entrar en el área de trabajo hasta que ésta se haya limpiado.



Obtenga más información sobre la seguridad con relación al plomo

Para obtener más información acerca de las prácticas seguras para trabajar con el plomo, comuníquese con el Centro Nacional de Información sobre el Plomo, llamando al **1-800-424-LEAD (5323)** y visite el siguiente enlace **<http://www.epa.gov/lead/nlic.htm>**. El Centro es la fuente más importante de información de calidad del gobierno federal sobre la prevención del envenenamiento por plomo y los peligros del plomo.

Tome un curso.

Capacítase en actividades relacionadas con el plomo. Hay capacitadores profesionales e instituciones educativas locales que ofrecen cursos de capacitación. Para obtener información sobre cursos, comuníquese con el Centro Nacional de Información sobre el Plomo. Un curso relevante es:

- **Seguridad con relación al plomo en labores de renovación, reparación y pintura**

(EPA-740-R-09-001, febrero de 2009). La EPA y el Departamento de Vivienda y Urbanismo desarrollaron este curso de 8 horas para capacitar a renovadores, pintores y personal de mantenimiento en prácticas de trabajo seguras en viviendas con pintura a base de plomo. Es un curso interactivo que incluye actividades prácticas para ensayar las destrezas que los trabajadores necesitan para no crear peligros con plomo en las viviendas en las que trabajan. Se puede encontrar más información en:

<http://www.epa.gov/lead/pubs/epahudrrmodel.htm>.

Infórmese acerca de las normas y los recursos locales.

El Centro Nacional de Información sobre el Plomo puede proporcionar información sobre cómo comunicarse con sus programas estatales, locales o tribales, para obtener información general sobre la prevención de envenenamiento por plomo.

- Los departamentos locales de salud pueden dar información sobre programas locales, incluida la ayuda a niños envenenados.
- Los programas estatales y tribales de prevención de envenenamiento por plomo o de protección ambiental pueden brindar información sobre los reglamentos del plomo que se aplican en su comunidad y pueden informarle sobre posibles fuentes de ayuda financiera para reducir los peligros relacionados con el plomo. Es posible que también le informen sobre los costos y la disponibilidad de personas certificadas para realizar las pruebas de pintura con plomo o de polvo con plomo.
- Los funcionarios del código de edificación pueden informarle sobre las reglas que se aplican al trabajo de renovación y remodelación que esté planificando.

Acceda a recursos adicionales.

Acceda a recursos adicionales. El Centro Nacional de Información sobre el Plomo también puede proporcionarle copias de los siguientes materiales de referencia general y las siguientes guías instructivas:

- Renovar correctamente: Información importante para familias, proveedores de cuidado infantil y escuelas acerca del peligro del plomo (EPA-740-F-08-002, marzo de 2008).
<http://www.epa.gov/lead/pubs/renovaterightbrochure.pdf>
- Guía de cumplimiento destinada a entidades pequeñas para renovar correctamente: Manual para contratistas, administradores de propiedades y personal de mantenimiento que trabajen en viviendas, instalaciones de cuidado infantil y escuelas construidas antes de 1978. (EPA-740-F-08-003, diciembre de 2008). **<http://www.epa.gov/lead/pubs/sbcomplianceguide.pdf>**
- Contratistas: Seguridad con relación al plomo durante la renovación (EPA 740-F-08-001, marzo de 2008). Este pequeño folleto proporciona un breve resumen de la información general respecto de las prácticas de trabajo seguras con el plomo para contener, reducir y limpiar el polvo.
http://www.epa.gov/lead/pubs/contractor_brochure.pdf
- Proteja a su familia contra el plomo de la casa (EPA 747-K-99-001, junio de 2003). Se trata de un folleto de información general acerca de la pintura a base de plomo, los peligros del plomo, los efectos de envenenamiento por plomo y los pasos que puede realizar para proteger a su familia.
<http://www.epa.gov/lead/pubs/leadpdf.pdf>
- Seguridad con la pintura a base de plomo: Guía práctica para labores de pintura, mantenimiento de la vivienda y renovación (HUD-1779-LHC, marzo de 2001). Esta guía instruye al lector, paso a paso, acerca de las prácticas seguras para trabajar con el plomo para diferentes labores en la vivienda.
<http://www.hud.gov/offices/lead/training/LBPguide.pdf>



Otros recursos

Para obtener otros recursos sobre el plomo, visite los siguientes sitios Web:

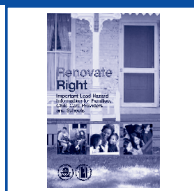
<http://www.epa.gov/lead/> — La EPA desempeña una función muy importante en cuanto a abordar los peligros del plomo en las viviendas, como el deterioro de las pinturas a base de plomo, el polvo contaminado con plomo y el suelo residencial contaminado con plomo. Este sitio Web proporciona información acerca del plomo y los peligros del mismo, además de indicar algunas medidas sencillas para proteger a su familia. Incluye enlaces a información básica, además de información más detallada y documentos acerca del plomo, reglas y reglamentos, materiales de educación y ayuda social, capacitación y otros enlaces relacionados con el plomo.

<http://www.hud.gov/offices/lead/> — La oficina de viviendas saludables y control de peligros por plomo (OHHLHC, por sus siglas en inglés) del Departamento de Vivienda y Urbanismo de Estados Unidos es única entre las agencias federales que abordan los peligros por plomo, debido a que su personal está preparado para poner la ciencia de la salud del plomo en función de las viviendas de Estados Unidos. El sitio le dará acceso a recursos sobre los reglamentos de la pintura a base de plomo, la capacitación, las guías técnicas y el cumplimiento y la ejecución de las leyes.

<http://www.osha.gov/SLTC/lead/index.html> — La misión de la Administración de Seguridad y Salud Ocupacional (OSHA, por sus siglas en inglés) del Departamento del Trabajo de Estados Unidos es garantizar la seguridad y la salud de los trabajadores de Estados Unidos a través de: el establecimiento y la ejecución de estándares; la disponibilidad de capacitación, ayuda social y educación; la creación de asociaciones y; el estímulo a las mejoras continuas de la seguridad y la salud en el lugar de trabajo. La OSHA ha establecido como una alta prioridad estratégica la reducción de la exposición al plomo. Este sitio contiene enlaces a recursos sobre el reconocimiento, la evaluación, el cumplimiento y la capacitación acerca del plomo.

<http://www.cdc.gov/lead> — Los Centros para el control y la prevención de enfermedades (CDC, por sus siglas en inglés) del Departamento de Salud y Servicios Humanos de los Estados Unidos están comprometidos para mejorar la salud de las personas. Este sitio proporciona información recopilada por los CDC acerca del plomo e incluye materiales y enlaces para padres, profesionales de la salud, investigadores, estudiantes y otras personas que estén interesadas en el tema del plomo. Algunos de los recursos más importantes son las hojas informativas, las guías, las recomendaciones y las preguntas y respuestas.

Los requisitos de educación anterior a la renovación, que indica la regla de renovación, reparación y pintura, garantizan que los propietarios y los ocupantes



Requisitos de educación antes de la renovación

de viviendas anteriores a 1978 y de centros habitados por niños reciban información acerca de posibles peligros de la exposición a pintura a base de plomo, antes de que comiencen los trabajos de renovación.

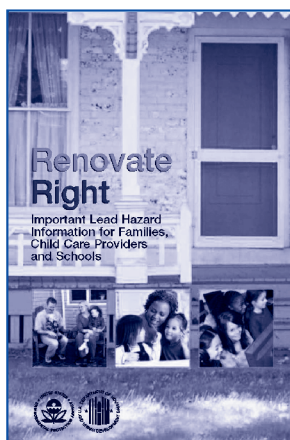
¿Quiénes se ven afectados? Los requisitos se aplican a cualquier persona que recibe un pago por realizar un trabajo de alteración de pintura de alguna vivienda residencial o de algún centro habitado por niños construidos antes de 1978. Esto incluye a los propietarios y administradores de viviendas de alquiler, contratistas generales y contratistas especiales como pintores, plomeros, carpinteros y electricistas.

¿Qué propiedades se ven afectadas? Todas las propiedades residenciales y los centros habitados por niños construidos antes de 1978, a menos que se pueda aplicar alguna de las excepciones que se mencionan a continuación.

¿Existe alguna excepción? Los requisitos no son aplicables para viviendas que hayan sido diseñadas para ancianos o personas con discapacidades (a menos que residan niños menores de 6 años); tampoco para las viviendas sin dormitorios (estudios, residencias, etc.); viviendas en las que se ha comprobado, por medio de una inspección adecuada, que no hay pintura a base de plomo; renovaciones y reparaciones de emergencia y reparaciones menores que afecten menos de 6 pies cuadrados de pintura en superficies interiores o menos de 20 pies cuadrados de pintura en superficies exteriores.

¿Cuáles son los requisitos? La regla de renovación, reparación y pintura requiere la distribución del folleto *Renovar correctamente: Información importante para familias, proveedores de cuidado infantil y escuelas acerca del peligro del plomo* antes de que comience el trabajo.

- En viviendas residenciales, se debe entregar el folleto tanto al propietario como a los ocupantes; además, es necesario que el contratista documente la recepción o el envío por correo del folleto.
- En viviendas residenciales donde habiten varias familias, se debe distribuir el folleto en cada unidad afectada.
- Cuando, debido al trabajo, se vean afectadas áreas comunes de alguna vivienda residencial en la que habiten varias familias, el folleto se puede entregar a cada unidad o bien se puede enviar un aviso a cada unidad para informar dónde pueden leer la información acerca de los peligros del plomo y el trabajo que se realizará.
- En centros habitados por niños, se debe entregar el folleto al propietario, a la parte responsable y a los padres de los niños.



¿Cómo obtengo el folleto? El folleto se puede obtener del **Centro Nacional de Información sobre el Plomo**, llamando al **1-800-424-LEAD (5323)**.

Solicite el folleto *Renovar Correctamente: Información importante para familias, proveedores de cuidado infantil y escuelas acerca del peligro del plomo*, o descárguelo desde:

<http://www.epa.gov/lead/pubs/renovaterightbrochure.pdf>.

Nota: En el caso de las viviendas que reciben ayuda federal, el Departamento de Vivienda y Urbanismo requiere que se distribuya un aviso a los ocupantes en un plazo de 15 días a partir de la fecha en la que se identifiquen pintura a base de plomo o peligros relacionados con ella en su unidad (o en áreas comunes, si fuera el caso) y en un plazo de 15 días después de concluir los trabajos de control del peligro en su unidad o en áreas comunes.



Lista de compras

Organícelo de forma segura

- ☐ Letreros
- ☐ Cinta de barrera o cuerda
- ☐ Conos
- ☐ Lámina plástica de alta resistencia
- ☐ Cinta adhesiva de protección, para conductos o de pintores
- ☐ Engrapadora
- ☐ Cuchillo de uso general o tijeras

Disminuya el polvo al mínimo

- ☐ Papel de lija húmedo y seco, esponja de lijado
- ☐ Botella para rociado o pulverizador de bomba
- ☐ Decapantes químicos sin cloruro de metileno.
- ☐ Aspiradora con filtro de partículas de aire de alta eficiencia (HEPA) (aspiradora especial que puede eliminar partículas muy pequeñas de los pisos, antepechos de ventanas y alfombras)
- ☐ Bolsas de desperdicios plásticas de alta resistencia
- ☐ Tapetes adhesivos (de tamaño grande, tapetes que ayudan a quitar el polvo) toallas de papel o paños desechables.

- ☐ Pistola de aire caliente de baja temperatura (menos de 1,100 grados Fahrenheit)
- ☐ Herramientas eléctricas con accesorios de aspiración con filtro HEPA

Protégase

- ☐ Gafas de protección
- ☐ Gorra de pintor
- ☐ Overoles desechables
- ☐ Respirador N-100 desechable
- ☐ Guantes desechables de látex o goma
- ☐ Cubrezapatos desechables

Limpieza del área de trabajo

- ☐ Bolsas de desperdicios plásticas de alta resistencia
- ☐ Aspiradora HEPA
- ☐ Cinta adhesiva de protección, para conductos o de pintores
- ☐ Botella para rociado o pulverizador de bomba
- ☐ Toallas de limpieza húmedas desechables o toallas de mano
- ☐ Detergente o limpiador de uso general

Evite la exposición al plomo durante los procesos de renovación, reparación y pintura



Comprenda que los trabajos de renovación, reparación y pintura pueden crear peligros. Las personas, en particular los niños, pueden ingerir el polvo con plomo o las cáscaras de pintura que se hayan producido durante el trabajo y pueden envenenarse. El envenenamiento por plomo tiene graves efectos en la salud.



Lea el folleto de información acerca de los peligros del plomo *Renovar correctamente* de la EPA y del Departamento de Vivienda y Urbanismo. Según lo establece la ley, los contratistas deben entregar una copia del folleto *Renovar correctamente* a los propietarios de viviendas y centros ocupados por niños construídos antes de 1978. *Renovar correctamente* explica el peligro de la pintura a base de plomo y sus riesgos relacionados. Uede obtener copias de *Renovar correctamente* llamando al **1-800-424-LEAD (5323)** o puede descargarlo en **<http://www.epa.gov/lead/pubs/renovaterightbrochure.pdf>**.



Utilice prácticas seguras para trabajar con el plomo. Siga prácticas que lo protegerán a usted y a los residentes de la exposición al plomo. Es posible que estas prácticas impliquen utilizar un poco más de tiempo y dinero, pero son necesarias para proteger a los niños, los residentes, los trabajadores y a las familias de los trabajadores de la exposición al polvo con plomo.



Realice pruebas de plomo antes o después de llevar a cabo el trabajo. Las pruebas previas al trabajo permiten que los trabajadores utilicen prácticas seguras para trabajar con el plomo donde se haya identificado pintura con plomo en la vivienda. El uso del procedimiento de verificación de limpieza o las pruebas de aprobación al final del trabajo, garantiza que no haya quedado polvo.



Obtenga más información sobre el plomo. Para obtener más información sobre la seguridad en el trabajo con relación al plomo, comuníquese con el Centro Nacional de Información sobre el Plomo llamando al **1-800-424-LEAD (5323)** o visite el sitio Web de la EPA en **www.epa.gov/lead** o el sitio Web del Departamento de Vivienda y Urbanismo en **www.hud.gov/offices/lead**.



Apéndice 6:

Ejercicios prácticos

PRÁCTICAS SEGURAS PARA TRABAJAR CON EL PLOMO en labores de renovación, reparación y pintura

Apéndice 6: Ejercicios prácticos

Los siguientes ejercicios se pueden utilizar en lugar de los ejercicios prácticos o como actividades complementarias. Se proporcionan hojas de trabajo de ejercicios y respuestas.

- Conjunto de destrezas N° 1: Uso de kits de pruebas reconocidos por la EPA
- Conjunto de destrezas N° 2: Instalación de barreras, letreros y puertas con protección plástica
- Conjunto de destrezas N° 3: Cubrimiento o retiro de muebles
- Conjunto de destrezas N° 4: Instalación de contención interior
- Conjunto de destrezas N° 5: Instalación de contención exterior
- Conjunto de destrezas N° 6: Equipos de protección personal
- Conjunto de destrezas N° 7: Limpieza final de interiores
- Conjunto de destrezas N° 8: Limpieza final de exteriores
- Conjunto de destrezas N° 9: Recogida de desechos en bolsas
- Conjunto de destrezas N° 10: Inspección visual
- Conjunto de destrezas N° 11: Procedimiento de verificación de limpieza

Artículos recomendados para las actividades prácticas
Lista de artículos de los juegos de prueba • Cubierta de plástico desechable de 2' por 2' • Cubrezapatos desechables • Toallas de limpieza húmedas desechables • Guantes desechables que no sean de látex • Aspiradora HEPA con accesorios (para limpiar después del muestreo) • Kits de pruebas reconocidos por la EPA con instrucciones del fabricante • Bolsas de basura de alta resistencia • Suministros específicos del juego, según lo requieran las instrucciones del fabricante • El fabricante proporcionó tarjetas de verificación de pruebas con capas de pintura a base de plomo • Superficie de madera pintada sin capa de pintura a base de plomo • <i>Registro de avance del asistente</i> • Pluma o lápiz • Cinta adhesiva (conductos, para pintores y de protección) • <i>Formulario de documentación del kit de pruebas</i> • Cámara digital (<i>opcional</i>) • Tarjetas de índice numeradas (<i>opcional</i>)
Lista de artículos para la instalación • Cinta de barrera • Mango de escoba, o espigas, o mango de metal o madera de 1" x 1" x 30" • Herramienta cortadora (por ejemplo, navaja, cuchillo cortacartón o tijeras) • Almohadilla adhesiva desechable • Puerta que se usará en la instalación de ingreso al área de trabajo • Estacas de cerca • Lámina plástica de alta resistencia • Cubiertas magnéticas • Conos anaranjados • Cuerda o cinta de barrera (preferiblemente de color brillante) • Engrapadora y grapas • Cinta adhesiva (conductos, para pintores y de protección)

PRÁCTICAS SEGURAS PARA TRABAJAR CON EL PLOMO en labores de renovación, reparación y pintura

Artículos recomendados para las actividades prácticas
Lista de artículos para la instalación - continuación • Cinta métrica • Letreros de advertencia • Sistemas de contención diseñados previamente (<i>opcionales para el conjunto de destrezas 2</i>)
Lista de artículos para los equipos de protección personal (PPE, por sus siglas en inglés) • Overoles desechables • Guantes desechables que no sean de látex • Cubrezapatos desechables • Protección para los ojos • Guantes de trabajo de lona o cuero • Mascarilla respiratoria N-100 • Bolsas de desperdicios desechables • Cinta adhesiva para conductos • Instalaciones para lavarse las manos y jabón
Lista de artículos para limpieza • Talco para bebés o almidón de maíz • Tarjeta de verificación de limpieza; cada alumno tomará y guardará una • Herramienta cortadora (por ejemplo, navaja, cuchillo cortacartón o tijeras) • Cubrezapatos desechables • Guantes desechables que no sean de látex • Toallas de limpieza húmedas desechables • Paños de limpieza desechables, de color blanco y cargados de manera electrostática, diseñados para limpiar superficies duras • Linterna • Pulverizador de jardín • Bolsas de desperdicio plásticas de alta resistencia • Lámina plástica de alta resistencia • Aspiradoras HEPA con accesorios y una barra sacudidora eléctrica • Trapeador con mango largo, diseñada para toallas de limpieza húmedas • Cinta adhesiva (conductos, para pintores y de protección) • Cinta métrica • Balde para trapeador de dos lados con escurridora (o equivalente); cabezas desechables de trapeador; trapeador de mango largo en donde se puedan colocar los paños de limpieza desechables; o un sistema de limpieza húmedo. • Reloj de pared o pulsera

PRÁCTICAS SEGURAS PARA TRABAJAR CON EL PLOMO en labores de renovación, reparación y pintura

Registro de progreso del asistente

	Módulo 3 (15 min.)	Módulo 4 (45 min.)				Módulo 5 (10 min.)	Módulo 6 (50 min.)				
Nombre de la persona en capacitación	Conjunto de destrezas 1: Uso de kits de pruebas reconocidos por la EPA	Conjunto de destrezas 2: Instalación de barreras, letreros y puertas con protección plástica	Conjunto de destrezas 3: Cubrimiento o retiro de muebles	Conjunto de destrezas 4: Instalación de contención interior	Conjunto de destrezas 5: Instalación de contención exterior	Conjunto de destrezas 6: Equipos de protección personal	Conjunto de destrezas 7: Limpieza final de interiores	Conjunto de destrezas 8: Limpieza final de exteriores	Conjunto de destrezas 9: Recogida de desechos en bolsas	Conjunto de destrezas 10: Inspección visual	Conjunto de destrezas 11: Procedimiento de verificación de limpieza

Fecha de la capacitación: _____

Nombre del renovador certificado: _____

PRÁCTICAS SEGURAS PARA TRABAJAR CON EL PLOMO en labores de renovación, reparación y pintura

Registro de avance del asistente

	Módulo 3 (15 min.)	Módulo 4 (45 min.)				Módulo 5 (10 min.)	Módulo 6 (50 min.)				
Nombre de la persona en capacitación	Conjunto de destrezas 1: Uso de juegos de prueba reconocidos por la EPA	Conjunto de destrezas 2: Instalación de barreras, letreros y puertas con protección plástica	Conjunto de destrezas 3: Cubrimiento o retiro de muebles	Conjunto de destrezas 4: Instalación de contención interior	Conjunto de destrezas 5: Instalación de contención exterior	Conjunto de destrezas 6: Equipos de protección personal	Conjunto de destrezas 7: Limpieza final de interiores	Conjunto de destrezas 8: Limpieza final de exteriores	Conjunto de destrezas 9: Recogida de desechos en bolsas	Conjunto de destrezas 10: Inspección visual	Conjunto de destrezas 11: Procedimiento de verificación de limpieza

Fecha de la capacitación: _____ Nombre del renovador certificado: _____

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Evaluación de destrezas prácticas de capacitación del renovador certificado

Fecha: _____ Dirección: _____ Ciudad y estado: _____
Nombre del alumno: _____ Firma del alumno: _____

Conjunto de destrezas	Descripción de la destreza	El alumno ha demostrado pericia en las siguientes destrezas de acuerdo con los requisitos de la regla RRP de la EPA.	Iniciales del instructor
N° 1	Uso de kits de pruebas reconocidos por la EPA	Uso de kits de pruebas para probar correctamente pintura a base de plomo y resultados de documentos.	
N° 2	Instalación de barreras, letreros y puertas con protección plástica	Colocación de barreras críticas e instalación de letreros para aislar el área de trabajo contra acceso de individuos no autorizados.	
N° 3	Cubrimiento o retiro de muebles	Identificación de los pasos correctos para determinar cuándo y cómo cubrir o retirar muebles y pertenencias del área de trabajo.	
N° 4	Instalación de contención interior	Uso de los pasos correctos para cubrir pisos y cerrar y sellar ventanas y puertas en el área de trabajo.	
N° 5	Instalación de contención exterior	Elección de pasos correctos para restringir el ingreso al área de trabajo exterior y proteger el suelo debajo y alrededor del área de trabajo de la contaminación.	
N° 6	Equipos de protección personal	Uso de técnicas de reducción de polvo mientras se realizan actividades de renovación, reparación y pintura comunes.	
N° 7	Limpieza final de interiores	Limpieza del área de trabajo interior después de terminar el trabajo y antes de la inspección visual y el procedimiento de verificación de limpieza o examen de aprobación.	
N° 8	Limpieza final de exteriores	Limpieza del área de trabajo exterior después de terminar el trabajo y antes de la inspección visual y (si es necesario) verificación de limpieza o examen de aprobación.	
N° 9	Recogida de desechos en bolsas	Elección de pasos correctos para depositar los desechos en bolsas y aplicar el sello de cuello de cisne a éstas últimas, envolver trozos grandes de escombros y transportarlos fuera del área de trabajo.	
N° 10	Inspección visual	Realización de una inspección visual del área de trabajo antes del procedimiento de verificación de limpieza.	
N° 11	Procedimiento de verificación de limpieza	Realización del procedimiento de verificación de limpieza.	

Soy el instructor del curso de renovador certificado impartido en la fecha y ubicación antes descrita. Verifico que el alumno ha demostrado tener las destrezas descritas anteriormente.

Nombre del instructor: _____ Firma del instructor: _____
Teléfono del instructor: _____ Organización: _____ Fecha: _____

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Conjunto de destrezas N° 1: Uso de kits de pruebas reconocidos por la EPA

Tiempo: 15 minutos

9 de febrero

Artículos necesarios:

- Kits de pruebas Kits de pruebas reconocidos por la EPA con instrucciones del fabricante
- Artículos específicos del juego, según lo requieran las instrucciones del fabricante
- Cubierta de plástico desechable de 2' por 2'
- Cinta (conducto, pintores y protección)
- Guantes desechables que no sean de látex
- Cubrezapatos desechables
- El fabricante proporcionó tarjetas de verificación de pruebas con capas de pintura a base de plomo
- Toallas de limpieza húmedas desechables
- Bolsas de basura de alta resistencia
- Superficie de madera pintada sin capa de pintura a base de plomo
- *Formulario de documentación del kit de pruebas kits de pruebas*
- *Registro de progreso del asistente*
- Pluma o lápiz
- Cámara digital (*opcional*)
- Tarjetas de índice numeradas (*opcional*)
- Aspiradora con accesorios aprobada por EPA (para limpiar después del muestreo)

Nota para el instructor: *Se sugiere encarecidamente que los instructores preparen bolsas plásticas que contengan todos los materiales necesarios para los ejercicios prácticos, antes del ejercicio, a fin de cumplir con los límites de tiempo asignados al conjunto de destrezas N° 1.*

Propósito: El propósito de este ejercicio práctico es enseñar a los alumnos a usar correctamente los kits de pruebas reconocidos por la EPA para determinar si hay presencia de pintura a base de plomo en los componentes y superficies afectadas por el trabajo de renovación.

Nota para el instructor: *Lea el propósito de esta actividad a los alumnos y recuérdelos que deben documentar todas las áreas donde el color de la pintura o las reacciones de sustratos puedan causar un resultado incorrecto. Estas superficies no deben probarse con kits de pruebas, deben ser sometidas a pruebas por inspectores certificados o evaluadores de riesgos certificados; o bien, debe darse por hecho que contienen pintura a base de plomo.*

Demostración: El instructor del curso debe mostrar y explicar todos los pasos que se incluyen en el uso de kits de pruebas reconocidos por la EPA. La demostración no debe durar más de 5 minutos, incluido el tiempo necesario para repartir los materiales.

Evaluación de los alumnos: Permita a los alumnos practicar los ocho pasos de la siguiente página. Observe que cada alumno siga los pasos. Realice correcciones y haga sugerencias a medida que los ejercicios avancen y determine si se necesita más práctica. Esto no debe

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tomar más de 10 minutos. Los alumnos deben completar todos los pasos obligatorios para ser "Competentes". Evalúe el trabajo de cada alumno y luego que éste haya podido usar un juego de prueba correctamente, el instructor debe escribir la palabra "Competente" en el campo de registro de avance del participante que corresponda al conjunto de destrezas N° 1 y al nombre del alumno en particular.

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Conjunto de destrezas N° 1: Uso de kits de pruebas reconocidos por la EPA - continuación

Práctica de destrezas:

- Paso 1: Lea las instrucciones del fabricante
- Paso 2: Escriba la información y las observaciones necesarias acerca de la ubicación de la prueba en el *formulario de documentación del kits de pruebas*.*
- Paso 3: (Opcional) Fije una pequeña cubierta de plástico desechable (de 2 x 2 pies) sobre el piso debajo de la ubicación de la prueba con cinta de protección.
- Paso 4: Colóquese guantes desechables que no sean de látex y cubrezapatos.
- Paso 5: Siga las instrucciones del fabricante para el uso del kits de pruebas para llevar a cabo la prueba.* Realice una prueba de la tarjeta de prueba entregada por el fabricante, para observar un resultado positivo; lleve a cabo una prueba de superficie de madera pintada con una capa de pintura que no sea a base de plomo para observar un resultado negativo.*
- Paso 6: Use una toalla de limpieza húmeda para eliminar los residuos químicos que queden sobre la superficie sometida a prueba. Use una segunda toalla de limpieza húmeda para eliminar cualquier escombros o polvo visible sobre el piso debajo del área de recopilación de muestras y coloque la toalla de limpieza utilizada para limpiar dentro de la bolsa de basura.*
- Paso 7: Verifique la documentación para finalizar y tome nota de los resultados de la prueba en el *formulario de documentación del kits de pruebas*.*
- Paso 8: (Opcional) Numere la ubicación de la prueba en secuencia en el *formulario de documentación del kits de pruebas*, luego seleccione la tarjeta de índice numerada correspondiente y péguela a un costado de la ubicación de prueba con cinta de protección y tome una fotografía de la ubicación de prueba numerada, a fin de documentar fotográficamente la realización y posiblemente el resultado de la prueba.

*Indica las destrezas obligatorias que se deben lograr para obtener una calificación de "Competente".

Interpretación de los resultados del muestreo del kit de pruebas:

Las instrucciones del fabricante señalarán el cambio de color del indicador fijado para el plomo en la pintura. Una vez realizada la prueba, tome nota del resultado y consulte la guía del fabricante para interpretarlo. Todas las superficies pintadas que muestren el cambio de color indicado por el fabricante para plomo en la pintura (un resultado de prueba positivo) deben tratarse como pintura a base de plomo hasta que un inspector de plomo certificado o un evaluador de riesgos de plomo certificado efectúen pruebas adicionales para probar lo contrario.

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Documentación de los resultados de los kits de pruebas:

Se debe enviar un informe con las averiguaciones hechas a partir del uso del kit de pruebas a la persona que contrata el trabajo en un plazo de 30 días posteriores a la finalización del trabajo de renovación. La empresa certificada debe conservar el *Formulario de documentación del kit de pruebas* durante 3 años después de finalizado el trabajo.

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Formulario de documentación del kit de pruebas

Página 1 de __

Información del propietario

Nombre del propietario u ocupante: _____
Dirección: _____
Ciudad: _____ Estado: _____ Código postal: _____
Número de contacto: (____) ____ - ____ Correo electrónico: _____

Información de la renovación

Complete la siguiente información que esté disponible acerca de la obra de renovación, la empresa y el renovador certificado.

Dirección de la renovación: _____ N° de unidad _____
Ciudad: _____ Estado: _____ Código postal: _____

Nombre de la empresa certificada: _____
Dirección: _____
Ciudad: _____ Estado: _____ Código postal: _____
Número de contacto: (____) ____ - ____
Correo electrónico: _____
Nombre del renovador certificado: _____ Fecha de certificación: ____ / ____ / ____

Información de kit de pruebas

Use los siguientes espacios en blanco para identificar el kit de pruebas o los kits de pruebas utilizados para probar componentes.

Kit de pruebas N° 1

Fabricante: _____ Fecha de fabricación: ____ / ____ / ____
Modelo: _____ N° de serie: _____
Fecha de vencimiento: _____

Kit de pruebas N° 2

Fabricante: _____ Fecha de fabricación: ____ / ____ / ____
Modelo: _____ N° de serie: _____
Fecha de vencimiento: _____

Kit de pruebas N° 3

Fabricante: _____ Fecha de fabricación: ____ / ____ / ____
Modelo: _____ N° de serie: _____
Fecha de vencimiento: _____

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Formulario de documentación del kit de pruebas

Página __ de __

Dirección de la renovación: _____ N° de unidad _____
Ciudad: _____ Estado: _____ Código postal: _____

N° de ubicación de la prueba _____ Kit de pruebas utilizado: (Encierre en un círculo sólo uno)
Kit de pruebas N° 1 Kit de pruebas N° 2 Kit de pruebas N° 3
Descripción de la ubicación de pruebas: _____

Resultado: ¿Hay plomo presente? (Encierre en un círculo sólo una) SÍ NO Se
sospecha

N° de ubicación de la prueba _____ Kit de pruebas utilizado: (Encierre en un círculo sólo uno)
Kit de pruebas N° 1 Kit de pruebas N° 2 Kit de pruebas N° 3
Descripción de la ubicación de pruebas: _____

Resultado: ¿Hay plomo presente? (Encierre en un círculo sólo una) SÍ NO Se
sospecha

N° de ubicación de la prueba _____ Kit de pruebas utilizado: (Encierre en un círculo sólo uno)
Kit de pruebas N° 1 Kit de pruebas N° 2 Kit de pruebas N° 3
Descripción de la ubicación de pruebas: _____

Resultado: ¿Hay plomo presente? (Encierre en un círculo sólo una) SÍ NO Se
sospecha

N° de ubicación de la prueba _____ Kit de pruebas utilizado: (Encierre en un círculo sólo uno)
Kit de pruebas N° 1 Kit de pruebas N° 2 Kit de pruebas N° 3
Descripción de la ubicación de pruebas: _____

Resultado: ¿Hay plomo presente? (Encierre en un círculo sólo una) SÍ NO Se
sospecha

N° de ubicación de la prueba _____ Kit de pruebas utilizado: (Encierre en un círculo sólo uno)
Kit de pruebas N° 1 Kit de pruebas N° 2 Kit de pruebas N° 3
Descripción de la ubicación de pruebas: _____

Resultado: ¿Hay plomo presente? (Encierre en un círculo sólo una) SÍ NO Se
sospecha

N° de ubicación de la prueba _____ Kit de pruebas utilizado: (Encierre en un círculo sólo uno)
Kit de pruebas N° 1 Kit de pruebas N° 2 Kit de pruebas N° 3
Descripción de la ubicación de pruebas: _____

Resultado: ¿Hay plomo presente? (Encierre en un círculo sólo una) SÍ NO Se
sospecha

N° de ubicación de la prueba _____ Kit de pruebas utilizado: (Encierre en un círculo sólo uno)
Kit de pruebas N° 1 Kit de pruebas N° 2 Kit de pruebas N° 3
Descripción de la ubicación de pruebas: _____

Resultado: ¿Hay plomo presente? (Encierre en un círculo sólo una) SÍ NO Se
sospecha

PRÁCTICAS SEGURAS PARA TRABAJAR CON EL PLOMO en labores de renovación, reparación y pintura

Conjunto de destrezas N° 2: Instalación de barreras, letreros y puertas con protección plástica

Tiempo: 10 minutos

9 de febrero

Artículos necesarios:

- Cinta de barrera
- Letreros de advertencia
- Puerta que se usará en la instalación de la entrada al área de trabajo
- Herramienta cortadora (por ejemplo, navaja, cuchillo cortacartón o tijeras)
- Lámina plástica de alta resistencia
- Cinta adhesiva (conductos, para pintores y de protección)
- Engrapadora y grapas
- Mango de escoba, o espigas, o mango de metal o madera de 1" x 1" x 30"
- Opcional: También es posible usar sistemas de contención diseñados previamente para este ejercicio.

Nota para el instructor: Se sugiere encarecidamente que los instructores preparen bolsas plásticas que contengan todos los materiales necesarios para la práctica de destrezas, antes del ejercicio, a fin de cumplir con los límites de tiempo asignados al conjunto de destrezas N° 2.

Propósito: El propósito de este ejercicio práctico es mostrar a los alumnos los pasos correctos para determinar dónde colocar las barreras críticas y darles la oportunidad de practicar la colocación de barreras e instalación de letreros para aislar el área de trabajo del acceso a personal no autorizado.

Nota para el instructor: Lea el propósito de esta actividad a los alumnos. Recuérdeles que estos pasos de instalación se deben completar antes de alterar más de 6 pie cuadrados por habitación de pintura a base de plomo, o cuando se vaya a reemplazar una ventana o hacer una demolición.

Demostración: El instructor del curso debe mostrar y explicar todos los pasos que se incluyen en el establecimiento de una barrera crítica y en la colocación de letreros. Las barreras críticas son barreras de láminas plásticas que se aseguran sobre aberturas, puertas y ventanas, las cuales deben permanecer en su lugar hasta la verificación o aprobación de limpieza, a fin de mantener el polvo dentro del área de trabajo. A pesar de que no siempre es obligatorio, éstas pueden ayudar a controlar la propagación de polvo a otras áreas de la casa. Use a los alumnos para ayudar en el levantamiento de barreras críticas de demostración. Nota: Para ahorrar tiempo, use barreras cortadas previamente para la instalación en las puertas de ingreso. Se pueden utilizar barreras adjuntas con velcro para demostración y práctica. También es posible usar letreros adjuntos con velcro.

Evaluación de los alumnos: El instructor debe permitir a los alumnos que practiquen estos pasos en la página siguiente, mientras se observa a cada uno realizarlos. Realice correcciones y haga sugerencias a medida que los ejercicios avancen y determine si se necesita más práctica. *Opción: Solicite a los alumnos que digan los pasos a medida que trabajan.* Los alumnos deben completar todos los pasos obligatorios para ser "Competentes". Evalúe el trabajo de cada alumno y, después de que todos hayan completado correctamente los elementos obligatorios del ejercicio, registre el

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rendimiento como "Competente" en el campo del registro de progreso del participante, que corresponda al conjunto de destrezas N° 2 y al nombre del alumno en particular.

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Conjunto de destrezas N° 2: Instalación de barreras, letreros y puertas con protección plástica - continuación

Práctica de destrezas:

- Paso 1: Pida a los ocupantes que abandonen la sala y permanezcan fuera del lugar donde se realizará el trabajo.
- Paso 2: Haga que permanezcan fuera hasta que finalice el procedimiento de verificación de limpieza o hasta que se reciba la aprobación. Instale cinta de barrera para establecer un perímetro controlado.
- Paso 3: Coloque un letrero de "No entrar" en la puerta de ingreso al área de trabajo.* Coloque también un letrero que indique que no se permite comer, beber ni fumar en el área de trabajo.*
- Paso 4: Cubra la puerta de ingreso al área de trabajo con 2 capas de láminas plásticas de la siguiente manera:*
- Paso 5: Primero corte la capa de lámina plástica un poco más ancha y larga que (cerca de 3 pulgadas más larga) el marco de la puerta.*
- Paso 6: Haga un pequeño pliegue en forma de "S" en la parte superior de la lámina plástica y péguelo con cinta, de modo que todas las capas estén fijadas en la parte superior del marco.* Haga un pliegue similar en forma de "S" en la parte inferior de la lámina y péguelo con cinta, de modo que todas las capas estén fijadas al piso.* Esto garantizará que la lámina plástica no quede tirante y permita ceder en lugar de rasgarse cuando las personas la atraviesen. Fije ambos lados de la lámina plástica al marco de la puerta con cinta adhesiva.
- Paso 7: Engrape los extremos superiores al marco de la puerta como refuerzo.*
- Paso 8: Para entrar y salir de la habitación, use cinta adhesiva para conductos para crear una línea vertical con la altura aproximada de un hombre desde el piso hasta el travesaño, en la mitad de la lámina plástica, en ambos costados.* Corte una rendija vertical larga en la cinta para conductos; deje aproximadamente 6 pulgadas en la parte superior e inferior sin cortar.* Refuerce la parte superior e inferior de la rendija con cinta para conductos horizontal para evitar que la lámina se rasgue.*
- Paso 9: Pegue con cinta una segunda capa de lámina plástica a la parte superior del marco de la puerta.* Esta capa se corta un poco más corta que el marco de la puerta, de modo que cuelgue plana contra la primera capa de láminas plásticas.
- Paso 10: Aplique peso a la parte inferior de la segunda capa; para ello, pegue con cinta adhesiva para conductos una espiga al extremo inferior de la lámina. Esto crea una protección plástica plana de sellado automático sobre la puerta de ingreso y sella la abertura que se cortó en la lámina plástica durante el paso 8.

*Indica las destrezas obligatorias que se deben lograr para obtener una calificación de "Competente".

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Conjunto de destrezas N° 3: Cubrimiento o retiro de muebles

Tiempo: 10 minutos

9 de febrero

Artículos necesarios:

- Lámina plástica de alta resistencia
- Herramienta cortadora (por ejemplo, navaja, cuchillo cortacartón o tijeras)
- Cinta adhesiva (para conductos, para pintores y de protección)

Propósito: El propósito de este ejercicio práctico es mostrar a los alumnos los pasos correctos para determinar cuándo y cómo cubrir o retirar muebles y pertenencias de un área de trabajo.

Nota para el instructor: Lea el propósito de esta actividad a los alumnos. Recuérdeles que estos pasos de instalación se deben completar antes de alterar más de 6 pie² (pie cuadrado) por habitación de pintura a base de plomo, o cuando se vaya a reemplazar una ventana o hacer una demolición. Recuérdeles también que la mejor solución para el problema del traslado de muebles y pertenencias es notificar a los residentes que ellos mismos hagan el traslado antes del trabajo. Recuérdeles que es mejor retirar los muebles y pertenencias personales en lugar de cubrirlas. Déle a los alumnos la oportunidad de observar o practicar ambos métodos (cubrimiento y retiro).

Demostración: El instructor del curso debe explicar todos los pasos que se incluyen en el cubrimiento o retiro de muebles y pertenencias del área de trabajo. Use a los alumnos para demostrar el traslado de sillas fuera del área de trabajo. Cubra una mesa con láminas plásticas y fíjelas con cinta adhesiva, de modo que no quede ninguna parte de la mesa al descubierto. Comente la colocación de otros elementos debajo de la mesa para una mayor eficacia en la preparación del área de trabajo. La demostración no debe durar más de 3 minutos, incluido el tiempo necesario para repartir los materiales.

Evaluación de los alumnos: El instructor debe permitir a los alumnos que practiquen estos pasos en la siguiente página, mientras se observa cómo los realizan. Realice correcciones y haga sugerencias a medida que los ejercicios avancen y determine si se necesita más práctica. *Opción:* Solicite a los alumnos que digan los pasos a medida que trabajan. Los alumnos deben completar todos los pasos obligatorios para ser "Competentes". Evalúe el trabajo de cada alumno y, después de que todos hayan completado correctamente los elementos obligatorios del ejercicio, registre el rendimiento como "Competente" en el campo del registro de progreso del participante, que corresponda al conjunto de destrezas N° 3 y al nombre del alumno en particular.

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Conjunto de destrezas N° 3: Cubrimiento o retiro de muebles - continuación

Práctica de destrezas:

Paso 1: Saque todos los muebles del área de trabajo.

Nota: Si el área de capacitación es pequeña, designe un área contra una pared para que represente la zona “fuera del área de trabajo”, donde se puedan colocar los muebles retirados del área de trabajo. En una sala de clases, mueva las sillas y la mayoría de las mesas hacia el área designada y cubra las mesas.

Paso 2: Reúna a los alumnos en grupos de 2 a 6 integrantes. Cubra varias de las mesas donde trabajan los alumnos. Esto se hace de la siguiente manera:

Paso 3: Corte un trozo de lámina plástica lo suficientemente grande como para cubrir la mesa y superponer el piso de 3 a 6 pulgadas.*

Paso 4: Fije la lámina plástica a la mesa o al piso con cinta adhesiva.*

Paso 5: Si no es necesario trasladar la mesa durante el trabajo, la lámina plástica puede fijarse al piso con cinta adhesiva para conductos o de protección según sea apropiado para la superficie.*

Paso 6: Si es necesario trasladar la mesa durante el trabajo, envuélvala con láminas plásticas incluidas las patas y fije la lámina plástica con cinta adhesiva. Tenga cuidado al aplicar la cinta para no dañar las superficies de acabado del mueble.*

Nota: Los alumnos deben comprender que se espera que retiren o cubran todos los elementos decorativos de ventanas, muebles y tapetes que se encuentren a 6 pies de las superficies que se van a renovar, reparar o pintar. Es recomendable retirar los muebles cada vez que sea posible.

*Indica las destrezas obligatorias que se deben lograr para obtener una calificación de "Competente".

PRÁCTICAS SEGURAS PARA TRABAJAR CON EL PLOMO en labores de renovación, reparación y pintura

Conjunto de destrezas N° 4: Instalación de contención interior

Tiempo: 10 minutos

9 de febrero

Artículos necesarios:

- Conos anaranjados
- Cuerda o cinta de barrera (preferiblemente de color brillante)
- Letreros de advertencia
- Cinta métrica
- Cinta adhesiva (conductos, para pintores y de protección)
- Lámina plástica de alta resistencia
- Herramienta cortadora (por ejemplo, navaja, cuchillo cortacartón o tijeras)
- Cubiertas magnéticas
- Almohadilla adhesiva desechable

Propósito: El propósito de este ejercicio práctico es mostrar a los alumnos los pasos correctos para cubrir pisos y cerrar y sellar puertas, ventanas y sistemas de climatización del área de trabajo.

Nota para el instructor: Lea el propósito de esta actividad a los alumnos. Recuérdeles que estos pasos de instalación se deben completar antes de alterar más de 6 pie² por habitación de pintura a base de plomo, o cuando se vaya a reemplazar una ventana o hacer una demolición.

Demostración: El instructor del curso debe explicar todos los pasos que se incluyen en el cubrimiento y sellado de pisos y otras superficies horizontales del área de trabajo y en el cierre y sellado de puertas y ventanas entre el área de trabajo y zonas adyacentes. Use alumnos para demostrar el cierre y aplicación de cinta de protección a ventanas y puertas. Recuérdeles que están tratando de evitar que el polvo se escape del área de trabajo.

Evaluación de los alumnos: Permita que los alumnos practiquen los pasos para cubrir los pisos, cerrar y sellar ventanas y cerrar y sellar puertas. Observe a cada alumno seguir los pasos en la página siguiente. Haga correcciones y sugerencias a medida que los ejercicios avancen y determine si se necesita más práctica. *Opción: Solicite a los alumnos que digan los pasos a medida que trabajan.* Los alumnos deben completar todos los pasos obligatorios para ser "Competentes". Evalúe el trabajo de cada alumno y, después de que todos hayan completado correctamente los elementos obligatorios del ejercicio, registre el rendimiento como "Competente" en el campo del registro de progreso del participante, que corresponda al conjunto de destrezas N° 4 y al nombre del alumno en particular.

PRÁCTICAS SEGURAS PARA TRABAJAR CON EL PLOMO en labores de renovación, reparación y pintura

Conjunto de destrezas N° 4: Instalación de contención interior - continuación

Práctica de destrezas:

- Paso 1: En cada puerta que no sea de ingreso al área de trabajo, coloque un cono anaranjado, cinta de barrera y un letrero con la instrucción "No entrar".*
- Paso 2: Cierre todas las puertas y ventanas en el camino al área de trabajo.*
- Paso 3: Aplique cinta adhesiva para pintores, de protección para conductos a las juntas alrededor de cada marco de puerta y ventana.*
- Paso 4: Corte la lámina plástica, de modo que cubra todas las superficies expuestas dentro de 6 pies de los componentes que se verán afectados por el trabajo.*
- Paso 5: Fije la lámina plástica al piso y a las paredes con cinta adhesiva.*
- Paso 6: Use láminas plásticas estrechas para no pisar la alfombra o los pisos al salir caminando del área de trabajo. Fíjelas al piso con cinta adhesiva.*
- Paso 7: Cierre y cubra todas las tomas de aire acondicionado y calefacción, con cubiertas magnéticas, cinta adhesiva o láminas plásticas y cinta adhesiva.* Además, si es posible, apague el sistema de climatización mientras trabaja.* Las unidades de climatización pueden volver a encenderse después de la verificación de la limpieza o después de obtener la aprobación.
- Paso 8: Organice todas las herramientas, artículos y equipos que necesite para llevar a cabo el trabajo de renovación, reparación o pintura sobre la lámina plástica en el área de trabajo para no contaminarla.*
- Paso 9: Ubique una almohadilla adhesiva desechable en la esquina de la lámina plástica más cercana a la puerta de entrada, a fin de controlar que no caiga polvo en dicha lámina.*

*Indica las destrezas obligatorias que se deben lograr para obtener una calificación de "Competente".

PRÁCTICAS SEGURAS PARA TRABAJAR CON EL PLOMO en labores de renovación, reparación y pintura

Conjunto de destrezas N° 5: Instalación de contención exterior

Tiempo: 15 minutos

9 de febrero

Suministros necesarios:

- Conos anaranjados
- Cuerda o cinta de barrera (preferiblemente de color brillante) y estacas de cerca
- Letreros de advertencia
- Lámina plástica de alta resistencia
- Cinta adhesiva (conductos, para pintores y de protección)
- Herramienta cortadora (por ejemplo, navaja, cuchillo cortacartón o tijeras)
- Cinta métrica
- Almohadilla adhesiva desechable

Propósito: El propósito de este ejercicio práctico es mostrar a los alumnos los pasos correctos para restringir el ingreso al área de trabajo exterior y proteger de la contaminación el suelo de debajo y alrededor del área de trabajo.

Nota para el instructor: Lea el propósito de esta actividad a los alumnos. Recuérdeles que estos pasos de instalación se deben completar antes de alterar más de 20 pie² de pintura en componentes que han sido determinados como pintura a base de plomo, o cuando se vaya a reemplazar una ventana o hacer una demolición.

Demostración: El instructor del curso debe explicar todos los pasos que se incluyen en la restricción del acceso al área de trabajo y la contención de polvo dentro de ésta última. Enfatique a los alumnos que una instalación apropiada restringirá el acceso y evitará que el polvo y los escombros se escapen del área de trabajo.

Evaluación de los alumnos: Permita que los alumnos cubran el suelo e instalen barreras para evitar el acceso no autorizado al área de trabajo. Observe a cada alumno seguir los pasos en la siguiente página. Realice correcciones y haga sugerencias a medida que los ejercicios avancen y determine si se necesita más práctica. *Opción:* Solicite a los alumnos que digan los pasos a medida que trabajan. Los alumnos deben completar todos los pasos obligatorios para ser "Competentes". Evalúe el trabajo de cada alumno y, después de que todos hayan completado correctamente los elementos obligatorios del ejercicio, registre el rendimiento como "Competente" en el campo del registro de progreso del participante, que corresponda al conjunto de destrezas N° 5 y al nombre del alumno en particular.

PRÁCTICAS SEGURAS PARA TRABAJAR CON EL PLOMO en labores de renovación, reparación y pintura

Conjunto de destrezas N° 5: Instalación de contención exterior - continuación

Práctica de destrezas:

- Paso 1: En cada puerta que no sea de ingreso de camino al área de trabajo, coloque un cono anaranjado, cinta de barrera y un letrero con la instrucción "No entrar".*
- Paso 2: Cierre todas las puertas y ventanas a 20 pies como máximo del área de trabajo.*
- Paso 3: Coloque láminas plásticas como cubiertas para el suelo a un mínimo de 10 pies en todas las direcciones desde la ubicación real de una área de alteración de la pintura.*
- Paso 4: Aplique peso a los bordes de la lámina plástica con listones de 2x4 o ladrillos o bien, clávelos al suelo.*
- Paso 5: Fije la lámina plástica al piso y a las paredes con cinta o materiales aislantes y estacas.*
- Paso 6: Coloque cercas de barrera o una cuerda alrededor del perímetro del área de trabajo a 20 pies desde ésta última y en todos los costados expuestos.*
- Paso 7: Establezca un punto de ingreso al área de trabajo y coloque un letrero con la instrucción "No entrar; no se permite comer, beber ni fumar".*
- Paso 8: Contenga los bordes de la lámina plástica para evitar que se escape el polvo.* Puede contenerlos colocando una cuerda de baja altura cerca del suelo y tendiendo la lámina plástica sobre la cuerda. Ésta debe estar sólo a unas pulgadas del suelo. También puede usar un listón de 2x4 estacado al suelo para elevar los bordes de la lámina plástica en lugar del método de la cuerda.
- Paso 9: Organice todas las herramientas, artículos y equipos que necesite para llevar a cabo el trabajo de renovación, reparación o pintura sobre la lámina plástica en el área de trabajo para no contaminarla.*
- Paso 10: Ubique una almohadilla adhesiva desechable en la esquina de la lámina plástica más cercana a la puerta de entrada, a fin de controlar que no caiga polvo en dicha lámina.*

*Indica las destrezas obligatorias que se deben lograr para obtener una calificación de "Competente".

PRÁCTICAS SEGURAS PARA TRABAJAR CON EL PLOMO en labores de renovación, reparación y pintura

Conjunto de destrezas N° 6: Equipos de protección personal

Tiempo: 10 minutos

9 de febrero

Artículos necesarios:

- Overoles desechables
- Guantes desechables que no sean de látex
- Cubrezapatos desechables
- Protección para los ojos
- Guantes de trabajo de lona o cuero
- Mascarilla respiratoria N-100
- Bolsas de desperdicio desechables
- Cinta adhesiva para conductos
- Instalaciones para lavarse las manos y jabón

Propósito: El propósito de este ejercicio práctico es mostrar a los alumnos los pasos correctos para ponerse (vestirse) y quitarse (desvestirse) los equipos de protección personal y los pasos para descontaminar y eliminar el equipo usado.

Nota para el instructor: Lea el propósito de esta actividad a los alumnos.

Demostración: El instructor del curso debe explicar todos los pasos que hay que seguir para ponerse los equipos de protección personal y para ello, debe vestir a un alumno voluntario con dichos equipos. Enfatique a los alumnos que estos equipos evitan su exposición al plomo, al mismo tiempo que previenen la contaminación de áreas externas al área de trabajo.

Evaluación de los alumnos: Observe a cada alumno seguir los pasos de la siguiente página. Realice correcciones y haga sugerencias a medida que los ejercicios avancen y determine si se necesita más práctica. *Opción: Solicite a los alumnos que digan los pasos a medida que trabajan.* Los alumnos deben completar todos los pasos obligatorios para ser "Competentes". Evalúe el trabajo de cada alumno y, después de que todos hayan completado correctamente los elementos obligatorios del ejercicio, registre el rendimiento como "Competente" en el campo del registro de avance del participante, que corresponda al conjunto de destrezas N° 6 y al nombre del alumno en particular.

PRÁCTICAS SEGURAS PARA TRABAJAR CON EL PLOMO en labores de renovación, reparación y pintura

Conjunto de destrezas N° 6: Equipos de protección personal - continuación

Práctica de destrezas:

- Paso 1: Póngase (vístase con) un overol protector.*
- Paso 2: Póngase guantes desechables.*
- Paso 3: Póngase cubiertas para botas sobre el calzado.*
- Paso 4: Póngase gafas protectoras.*
- Paso 5: Póngase guantes de trabajo.*
- Paso 6: Cuando esté vestido con estos equipos de protección personal, hable sobre el uso de mascarillas respiratorias y muestre el método correcto para colocarse y fijar la mascarilla.
Nota: Los alumnos no deben usar mascarilla respiratoria si no están inscritos actualmente en el programa de protección respiratoria de la empresa de capacitación. Observe la demostración pero no use mascarillas respiratorias si lo antes mencionado se aplica en su caso.
- Paso 7: Quítese los guantes de trabajo y póngalos en una bolsa de desechos marcada.*
- Paso 8: Quítese las cubiertas para botas tirando de ellas desde el talón y enrollándolas de adentro hacia afuera a medida que las retira. Cuando la haya quitado, póngala en una bolsa de desechos marcada.*
- Paso 9: Quítese el traje bajando la cremallera y enróllelo de adentro hacia afuera para no desprender polvo. Cuando se lo haya quitado, póngalo en una bolsa de desechos marcada.*
- Paso 10: Quítese los guantes desechables que no sean de látex: tome el puño de un guante y tire del mismo de adentro hacia afuera hasta sacarlo completamente. Sostenga el guante que se ha quitado en la palma de la mano que aún conserva el guante puesto. Meta un dedo de la mano sin guante debajo del puño de la mano que conserva el guante y comience a retirarlo de forma que vaya enrollando el guante ya sacado que sostiene en la mano. Cuando se los quite, tendrá un guante dentro de otro con el lado sucio contenido. Coloque los guantes en la bolsa de desechos marcada.*
- Paso 11: Lávese las manos, la cara y los zapatos con agua y jabón. Séquese las manos y la cara con una toalla desechable.*

*Indica las destrezas obligatorias que se deben lograr para obtener una calificación de "Competente".

PRÁCTICAS SEGURAS PARA TRABAJAR CON EL PLOMO en labores de renovación, reparación y pintura

Conjunto de destrezas N° 7: Limpieza final de interiores

Tiempo: 10 minutos

9 de febrero

Artículos necesarios:

- Lámina plástica de alta resistencia
- Cinta adhesiva para conductos
- Aspiradoras HEPA con accesorios y una barra sacudidora eléctrica
- Pulverizador de jardín
- Herramienta cortadora (por ejemplo, navaja, cuchillo cortacartón o tijeras)
- Toallas de limpieza húmedas desechables
- Bolsas de desperdicio plásticas de alta resistencia
- Balde para trapeador de dos lados con escurridora (o equivalente); cabezas desechables del trapeador; trapeador con mango largo en donde se puedan colocar los paños de limpieza desechables; o un sistema de limpieza húmedo.

Propósito: El propósito de este ejercicio práctico es mostrar a los alumnos los pasos correctos para limpiar el área de trabajo interior después de terminar el trabajo y antes de la inspección visual y procedimiento de verificación de limpieza o examen de aprobación.

Nota para el instructor: *Lea el propósito de esta actividad a los alumnos. Recuérdeles que deben intentar limpiar completamente todo el polvo y escombros visibles del área de trabajo y que éste actividad será revisada. Recuérdeles que se puede alcanzar este nivel de limpieza, pero que requiere de atención y ejecución cuidadosas.*

- El instructor del curso debe explicar todos los pasos que se incluyen en la limpieza del área de trabajo. Enfatice a los alumnos que no existen atajos para aprobar la inspección visual.
- Los equipos de protección personal recomendados durante las actividades de limpieza final constan de un conjunto de overoles, guantes y zapatos desechables.
- Si la lámina plástica no está en su lugar debido a ejercicios previos, coloque láminas plásticas en el piso o alfombra.

Evaluación de los alumnos: Observe a cada alumno seguir los pasos en la siguiente página. Realice correcciones y haga sugerencias a medida que los ejercicios avancen y determine si se necesita más práctica. Los alumnos deben completar todos los pasos obligatorios para ser "Competentes". Evalúe el trabajo de cada alumno y, después de que todos hayan completado correctamente los elementos obligatorios del ejercicio, registre el rendimiento como "Competente" en el campo del registro de progreso del participante, que corresponda al conjunto de destrezas N° 7 y al nombre del alumno en particular.

PRÁCTICAS SEGURAS PARA TRABAJAR CON EL PLOMO en labores de renovación, reparación y pintura

Conjunto de destrezas N° 7: Limpieza final de interiores - continuación

Práctica de destrezas:

- Paso 1: Envuelva y selle, o coloque en bolsas todos los componentes y otros materiales grandes, y luego retírelos del área de trabajo.*
- Paso 2: Limpie la lámina plástica con una aspiradora HEPA (este procedimiento no es obligatorio, pero es más rápido que limpiar el polvo y los escombros a mano). Rocíe agua en la lámina plástica y doble el lado sucio hacia adentro. Selle los bordes de la lámina plástica plegada con cinta adhesiva o colóquela en una bolsa plástica de alta resistencia. Deseche la lámina protectora.*
- Paso 3: Retire todos los desechos del área de trabajo y colóquelos en recipientes de desechos adecuados.*
- Paso 4: Limpie todas las superficies dentro del área de trabajo y en un espacio de 2 pies más allá de esta área hasta que no quede polvo ni escombros. Comience a limpiar desde la parte superior de las paredes en dirección al piso, use una aspiradora HEPA o una toalla húmeda en todas las superficies de las paredes del área de trabajo. Limpie con una aspiradora HEPA todas las superficies restantes del área de trabajo, incluidos muebles y accesorios. Use el accesorio para tapiz y limpie las superficies de las ventanas y la herramienta para fisuras en los bordes de las paredes. Use la aspiradora HEPA con una barra sacudidora para limpiar la alfombra. Trabaje desde el extremo más alejado del área de trabajo hacia la entrada, asegurándose de no pisar las áreas que ya se limpiaron.*
- Paso 5: Luego, limpie todas las superficies y objetos restantes del área de trabajo, salvo las superficies alfombradas y tapizadas, con toallas de limpieza húmedas desechables. Trapee también los pisos que no tienen alfombras con un sistema de limpieza de dos baldes o un sistema de limpieza húmedo. Trabaje desde el extremo más alejado del área de trabajo hacia la entrada, asegurándose de no pisar las áreas que ya se limpiaron. Para las áreas alfombradas, lleve a cabo una segunda pasada con la aspiradora HEPA con la barra sacudidora en lugar de limpiar con una toalla de limpieza húmeda.*
- Paso 6: Si la propiedad está regulada por el HUD, repita el paso 4 para las paredes, encimeras y pisos y luego siga con el paso 7. De lo contrario, continúe con el paso 7.
- Paso 7: Después de finalizar los procedimientos de limpieza, revise su trabajo. Lleve a cabo una inspección visual detenida del área de trabajo en busca de polvo y escombros visibles. Si encuentra polvo y escombros visibles, repita los pasos 4 y 5, según sea necesario, para asegurarse de que no queden residuos y vuelva a revisar su trabajo con una inspección visual completa del área. Cuando no detecte residuos de ningún tipo, continúe con el paso 8.*
- Paso 8: Notifique al renovador certificado a cargo del proyecto que el área de trabajo está lista para la inspección visual.*

*Indica las destrezas obligatorias que se deben lograr para obtener una calificación de "Competente".

PRÁCTICAS SEGURAS PARA TRABAJAR CON EL PLOMO en labores de renovación, reparación y pintura

Conjunto de destrezas N° 8: Limpieza final de exteriores

Tiempo: 10 minutos

9 de febrero

Artículos necesarios:

- Lámina plástica de alta resistencia
- Bolsas de desperdicio plásticas de alta resistencia
- Cinta adhesiva (conductos, para pintores y de protección)
- Herramienta cortadora (por ejemplo, navaja, cuchillo cortacartón o tijeras)
- Linterna.
- Toallas de limpieza húmedas desechables
- Aspiradora HEPA con accesorios
- Balde para trapeador de dos lados con escurridora (o equivalente); cabezas desechables del trapeador; trapeador con mango largo en donde se puedan colocar los paños de limpieza desechables; o un sistema de limpieza húmedo.

Propósito: El propósito de este ejercicio práctico es mostrar a los alumnos los pasos correctos para limpiar el área de trabajo exterior después de terminar el trabajo y antes de la inspección visual (si es necesario) y procedimiento de verificación de limpieza o examen de aprobación.

Nota para el instructor: Lea el propósito de esta actividad a los alumnos. Recuérdeles que deben intentar limpiar todo el polvo y escombros visibles del área de trabajo y que éste será revisado. Recuérdeles que se puede alcanzar este nivel de limpieza, pero que requiere de atención y ejecución cuidadosas.

- El instructor del curso debe explicar todos los pasos que se incluyen en la limpieza del área de trabajo. Enfatice a los alumnos que no existen atajos para aprobar la inspección visual.
- Los equipos de protección personal recomendados durante las actividades de limpieza constan de un conjunto de overoles, guantes y zapatos desechables.
- Si la lámina plástica no está en su lugar debido a ejercicios previos, coloque láminas plásticas en el piso o alfombra.

Evaluación de los alumnos: Observe a cada alumno seguir los pasos en la siguiente página. Haga correcciones y sugerencias a medida que los ejercicios avancen y determine si se necesita más práctica. *Opción: Solicite a los alumnos que digan los pasos a medida que trabajan.* Los alumnos deben completar todos los pasos obligatorios para ser "Competentes". Evalúe el trabajo de cada alumno y, luego que todos hayan completado correctamente los elementos obligatorios del ejercicio, registre el rendimiento como "Competente" en el campo del registro de progreso del participante, que corresponda al conjunto de destrezas N° 8 y al nombre del alumno en particular.

PRÁCTICAS SEGURAS PARA TRABAJAR CON EL PLOMO en labores de renovación, reparación y pintura

Conjunto de destrezas N° 8: Limpieza final de exteriores - continuación

Práctica de destrezas:

- Paso 1: Envuelva y selle, o coloque en bolsas todos los componentes y otros materiales grandes, y luego retírelos del área de trabajo.*
- Paso 2: Limpie la lámina plástica con una aspiradora HEPA (este procedimiento no es obligatorio, pero es mucho más rápido que limpiar el polvo y los escombros a mano). Rocíe agua en la lámina plástica y doble el lado sucio hacia adentro. Selle los bordes de la lámina plástica con cinta o colóquela en una bolsa plástica de alta resistencia. Elimine la lámina plástica.*
- Paso 3: Retire todos los desechos del área de trabajo y colóquelos en recipientes de desechos adecuados.*
- Paso 4: Limpie todas las superficies del área de trabajo y de los espacios a 2 pies alrededor de ésta, hasta que no quede polvo, escombros ni cáscaras de pintura.*

Procedimiento de limpieza sugerido para superficies exteriores que se pueden limpiar: Comience a limpiar desde la parte superior de las paredes en dirección al piso, con una aspiradora HEPA o con una toalla húmeda por todas las superficies que se puedan limpiar en el área de trabajo, incluidos muebles y accesorios. Use la aspiradora HEPA con el accesorio para tapiz para las ventanas y la herramienta para fisuras en las paredes. Trabaje desde el extremo más alejado del área de trabajo hacia la entrada, asegurándose de no pisar las áreas que ya se limpiaron.

- Paso 5: Después de finalizar la limpieza, revise su trabajo. Lleve a cabo una inspección visual detenida del área de trabajo en busca de polvo, escombros o cáscaras de pintura visibles sobre las superficies difíciles de limpiar y busque los mismos desechos en el suelo debajo de la lámina protectora del área de trabajo. Si encuentra polvo o escombros, vuelva a limpiar y revise nuevamente su trabajo con una inspección visual completa del área de trabajo. Cuando no detecte desechos de ningún tipo, continúe con el paso 6.*
- Paso 6: Notifique al renovador certificado a cargo del proyecto que el área de trabajo está lista para la inspección visual.*

*Indica las destrezas obligatorias que se deben lograr para obtener una calificación de "Competente".

PRÁCTICAS SEGURAS PARA TRABAJAR CON EL PLOMO en labores de renovación, reparación y pintura

Conjunto de destrezas N° 9: Recogida de desechos en bolsas

Tiempo: 10 minutos

9 de febrero

Artículos necesarios:

- Láminas plásticas usadas y equipo de protección personal usado (de los ejercicios anteriores)
- Polvo y escombros (de los ejercicios anteriores)
- Lámina plástica de alta resistencia
- Bolsas de desperdicio plásticas de alta resistencia
- Herramienta cortadora (por ejemplo, navaja, cuchillo cortacartón o tijeras)
- Aspiradora HEPA con accesorios
- Cinta adhesiva para conductos

Propósito: El propósito de este ejercicio práctico es mostrar a los alumnos los pasos correctos para depositar en bolsas los desechos y aplicar el sello de cuello de cisne a éstas últimas, envolver trozos grandes de escombros y eliminar los desechos del área de trabajo.

Nota para el instructor: Lea el propósito de esta actividad a los alumnos.

- **Demostración:** El instructor del curso debe demostrar la técnica correcta del sello de cuello de cisne a las bolsas de desechos.
- **Carrera de relevos para la recogida de desechos en bolsas:** Este ejercicio puede realizarse como una carrera de relevos. Divida a los alumnos en grupos y haga que cada miembro seleccione una bolsa de desechos, que la cargue con material simulado, aplique el sello de cuello de cisne, aspire el exterior de la bolsa y la entregue como finalizada en el área de almacenamiento simulada. Esto permitirá que los instructores observen la competencia en el método de cierre de bolsas y aplicación de la técnica de cuello de cisne; además será una forma entretenida de aprender para los alumnos.

Evaluación de los alumnos: Observe a cada estudiante efectuar el sello de cuello de cisne en una bolsa de desechos. Los alumnos deben completar todos los pasos obligatorios para ser "Competentes". Cuando el alumno haya completado exitosamente todos los elementos requeridos del ejercicio, registre el rendimiento como "Competente" en el campo del registro de progreso del participante, que corresponda al conjunto de destrezas N° 9 y al nombre del alumno en particular.

PRÁCTICAS SEGURAS PARA TRABAJAR CON EL PLOMO en labores de renovación, reparación y pintura

Conjunto de destrezas N° 9: Recogida de desechos en bolsas - continuación

Práctica de destrezas:

Nota: Este ejercicio requiere que los materiales de desecho generados durante los ejercicios se almacenen en bolsas sin sellar o en láminas de plástico.

Procedimiento de cuello de cisne para bolsas de desechos:

- Paso 1: Cada alumno debe recibir una bolsa de desechos y colocar materiales en su interior, los cuales se eliminarán como desechos simulados. No llene las bolsas en exceso.
- Paso 2: Tome con una mano el extremo abierto de la bolsa justo debajo de la abertura.*
- Paso 3: Tuerza la bolsa de modo que el cuello de ésta gire en la misma dirección y forme una columna de 8 a 10 pulgadas.*
- Paso 4: Pliegue la columna torcida sobre sí misma, de forma similar a como cuando pliega una manguera para cortar el paso de agua.*
- Paso 5: Tome el cuello plegado de la bolsa con una mano y enrolle cinta adhesiva alrededor de él para asegurar el plegado en su lugar.*
- Paso 6: Ahora enrolle la cinta alrededor de 2 a 3 pulgadas desde la parte superior del pliegue, varias veces, de modo que la bolsa no pueda abrirse. El cuello de la bolsa luce como el cuello de un cisne plegado sobre sí mismo (sello de cuello de cisne).*
- Paso 7: Use la aspiradora HEPA para eliminar el polvo que provenga del interior de la bolsa. Traslade las bolsas fuera del área de trabajo al contenedor de desechos adecuado.*

Envoltura de trozos grandes de escombros:

- Paso 1: Corte un trozo de plástico, de modo que con él pueda envolver los escombros que se van a eliminar.*
- Paso 2: Cuando estén envueltos en plástico, aplique cinta adhesiva a las juntas del paquete.*
- Paso 3: Enrolle cinta alrededor del ancho del paquete en tres puntos para evitar que se desenrede.*
- Paso 4: Use la aspiradora HEPA para retirar el polvo del exterior del paquete y trasladar los escombros envueltos fuera del área de trabajo al contenedor de desechos adecuado.*

*Indica las destrezas obligatorias que se deben lograr para obtener una calificación de "Competente".

PRÁCTICAS SEGURAS PARA TRABAJAR CON EL PLOMO en labores de renovación, reparación y pintura

Conjunto de destrezas N° 10: Inspección visual

Tiempo: 5 minutos

9 de febrero

Artículos necesarios:

- Cubrezapatos desechables
- Linterna

Propósito: El propósito de este ejercicio práctico es mostrar a los alumnos los pasos correctos para llevar a cabo una inspección visual del área de trabajo antes de realizar el procedimiento de verificación de limpieza.

Nota para el instructor: Lea el propósito de esta actividad a los alumnos. Recuérdeles que deben tratar de verificar que se haya limpiado todo el polvo y escombros visibles del área de trabajo. Recuérdeles que se puede alcanzar este nivel de limpieza, pero que requiere de atención y ejecución cuidadosa. Léales la siguiente nota.

Nota para los alumnos: Si se va a realizar un examen de aprobación, el renovador certificado tiene que realizar de todas formas la inspección visual antes de llevar a cabo el examen de aprobación de dos partes. El examen de aprobación consta de una inspección visual separada y una prueba de toalla de limpieza del polvo. El examen de aprobación de dos partes es efectuado por un inspector de plomo certificado, evaluador de riesgos de plomo certificado o técnico en muestreo de polvo certificado.

Demostración: El instructor de curso debe explicar todos los pasos que se incluyen en la aprobación visual del área de trabajo. Enfátice a los alumnos que no existen atajos para aprobar la inspección visual.

Evaluación de los alumnos: Observe a cada alumno llevar a cabo una inspección visual y escuche a medida que señalen problemas que deban resolverse. Los alumnos deben completar todos los pasos obligatorios para ser "Competentes". Evalúe el trabajo de cada alumno y, después de que todos hayan completado correctamente los elementos obligatorios del ejercicio, registre el rendimiento como "Competente" en el campo del registro de progreso del participante, que corresponda al conjunto de destrezas N° 10 y al nombre del alumno en particular.

PRÁCTICAS SEGURAS PARA TRABAJAR CON EL PLOMO en labores de renovación, reparación y pintura

Conjunto de destrezas N° 10: Inspección visual - continuación

Práctica de destrezas:

- Paso 1: Colóquese cubrezapatos desechables, de modo que no saque ni ingrese polvo ni escombros al área de trabajo.*
- Paso 2: Encienda todas las luces disponibles en el área de trabajo. Lleve consigo una linterna de luz blanca para asegurarse de contar con una iluminación adecuada.*
- Paso 3: Busque sistemáticamente en cada superficie horizontal del área de trabajo, avanzando desde el punto más alejado de la entrada sin recorrer sus pasos. Acérquese a las superficies que inspeccione.*

Nota: Recuerde que ésta es una inspección visual, pero en la verificación de limpieza se limpiará el polvo con una toalla para realizar una comparación con la tarjeta de verificación de limpieza. Si sospecha que hay una superficie sucia, haga que la vuelvan a limpiar con un paño húmedo nuevo.

- Paso 4: En caso de que encuentre polvo o escombros visibles, vuelva a limpiar el área de trabajo y repita el paso 3.*
- Paso 5: Cuando haya inspeccionado cuidadosamente todas las superficies y no haya encontrado polvo ni escombros, continúe con el procedimiento de verificación de limpieza del conjunto de destrezas N° 11.*

*Indica las destrezas obligatorias que se deben lograr para obtener una calificación de "Competente".

PRÁCTICAS SEGURAS PARA TRABAJAR CON EL PLOMO en labores de renovación, reparación y pintura

Conjunto de destrezas N° 11: Procedimiento de verificación de limpieza

Tiempo: 15 minutos

9 de febrero

Artículos necesarios:

- Talco para bebés o almidón de maíz
- Cubrezapatos desechables
- Linterna
- Guantes desechables que no sean de látex
- Toallas de limpieza húmedas desechables
- Tarjeta de verificación de limpieza; cada alumno tomará y guardará una
- Paños de limpieza desechables, de color blanco y cargados de manera electrostática, diseñados para limpiar superficies duras
- Trapeador con mango largo, diseñado para toallas de limpieza húmedas
- Cinta métrica
- Reloj de pared o pulsera

Propósito: El propósito de este ejercicio práctico es mostrar a los alumnos los pasos correctos para llevar a cabo el procedimiento de verificación de limpieza.

- El instructor del curso debe explicar todos los pasos que se incluyen en la realización del procedimiento de verificación de limpieza.

Evaluación de los alumnos: Observe a cada alumno llevar a cabo el procedimiento de verificación de limpieza y escuche a medida que señalen problemas que deban ser solucionados. Los alumnos deben completar todos los pasos obligatorios para ser "Competentes". Evalúe el trabajo de cada alumno y, después de que todos hayan completado correctamente los elementos obligatorios del ejercicio, registre el rendimiento como "Competente" en el campo del registro de progreso del participante, que corresponda al conjunto de destrezas N° 11 y al nombre del alumno en particular.

PRÁCTICAS SEGURAS PARA TRABAJAR CON EL PLOMO en labores de renovación, reparación y pintura

Conjunto de destrezas N° 11: Procedimiento de verificación de limpieza - continuación

Práctica de destrezas:

- Paso 1: Cuando ingrese en el área de trabajo, colóquese cubrezapatos desechables, de modo que no saque ni ingrese polvo ni escombros al área de trabajo.*
- Paso 2: Encienda todas las luces disponibles en el área de trabajo. Asegúrese de tener la iluminación necesaria.*

Para los antepechos de las ventanas:

- Paso 3: Con los guantes puestos, limpie cada antepecho de ventana del área de trabajo con una toalla de limpieza blanca y húmeda.*
- Paso 4: Compare la toalla de limpieza con la tarjeta de verificación de limpieza. Si la primera toalla es igual o más blanca (más clara) que la tarjeta de verificación, el antepecho de la ventana está limpio; siga con el paso 6. Si la primera toalla de limpieza no es igual ni más blanca (más clara) que la tarjeta de verificación de limpieza, vuelva a limpiar el antepecho de la ventana y repita el paso 3 y luego siga con el paso 5 (omite este paso).*
- Paso 5: Compare la segunda toalla de limpieza con la tarjeta de verificación de limpieza. Si la segunda toalla es igual o más blanca (más clara) que la tarjeta de verificación de limpieza, el antepecho de la ventana está limpio; siga con el paso 6. Si la segunda toalla de limpieza no es igual ni más blanca (no más clara) que la tarjeta de verificación de limpieza, espere una hora o hasta que la superficie húmeda se seque (para propósitos de este ejercicio no deberá esperar). Luego, vuelva a limpiar la superficie con un paño de limpieza seco, blanco, cargado con electricidad estática desechable diseñado para uso en superficies difíciles de limpiar. El antepecho de la ventana estará limpio y habrá finalizado el procedimiento de verificación de limpieza.*

Para pisos y encimeras:

- Paso 6: Con los guantes puestos, limpie cada piso o encimera del área de trabajo con una toalla de limpieza blanca y húmeda. Para los pisos, use un trapeador con mango largo diseñada para contener una toalla de limpieza. Para los pisos, limpie no más de 40 pies cuadrados con cada toalla. Para las encimeras, limpie la superficie completa de la encimera hasta 40 pies cuadrado con cada toalla.*
- Paso 7: Compare cada toalla de limpieza de piso y encimera con la tarjeta de verificación de limpieza. Si la primera toalla es igual o más blanca (más clara) que la tarjeta de verificación, el piso o la encimera están limpios. Si la primera toalla no es igual ni más blanca (no más clara) que la tarjeta de verificación de limpieza, vuelva a limpiar la sección del piso o de la encimera, limpie la sección del piso o encimera con una toalla húmeda limpia y repita el paso 6 para dicha sección y siga con el paso 8 (omite este paso).*
- Paso 8: Compare la segunda toalla de limpieza del piso o encimera con la tarjeta de verificación de limpieza. Si la segunda toalla es igual o más blanca (más clara) que la tarjeta de verificación, la sección del piso o de la encimera se ha limpiado

Apéndice 7:

Reglamentos estatales y locales

(Nota: Este Apéndice se dejó intencionadamente en blanco para permitir que los proveedores de capacitación agreguen los reglamentos estatales y locales aplicables.)

Apéndice 8:

Situación normativa de desechos de
contratistas y residentes generados en
actividades domésticas con pintura
a base de plomo

MEMORÁNDUM

De: Elizabeth A. Cotsworth, directora
Oficina de Desechos Sólidos

Para: Asesores superiores de políticas de RCRA
Regiones EPA 1 a la 10

Asunto: Situación normativa de desechos de contratistas y residentes generados en actividades domésticas con pintura a base de plomo

¿Cuál es el propósito de esta interpretación?

Este memorándum aclara la situación normativa de los desechos generados como resultado de actividades domésticas con pintura a base de plomo (LBP, por sus siglas en inglés), que incluyen la reducción, la renovación y la remodelación en hogares y en otras residencias. Desde 1980, la Agencia de Protección Ambiental (EPA, por sus siglas en inglés) ha excluido los desechos domésticos del universo de los desechos peligrosos de la Ley de Conservación y Recuperación de Recursos (RCRA, por sus siglas en inglés) según el Código de Regulación Federal 40 261.4 (b) (1). En la propuesta de suspensión temporal de la característica tóxica (TC, por sus siglas en inglés) de 1998, aclaramos que la exclusión de los desechos domésticos se aplica a todos los desechos de pintura a base de plomo (LBP, por sus siglas en inglés) que se generen como resultado de acciones de residentes domésticos (denominados de aquí en adelante “residentes”) para renovar, remodelar o derribar sus hogares por sí mismos. Regulación Federal 63 70233, 70241 (18 de diciembre de 1998). En este memorándum, EPA explica que creemos que los escombros de pintura a base de plomo generados por contratistas en hogares también son “desechos domésticos”, y por lo tanto, quedan excluidos de los reglamentos para desechos peligrosos que se indican en el Subtítulo C de la RCRA. De este modo, la exclusión doméstica se aplica a los desechos generados por residentes o contratistas que lleven a cabo actividades con LBP en residencias.

¿Cuál es la importancia práctica de la clasificación de los desechos de LPB como desechos domésticos?

Como resultado de esta aclaración, los contratistas pueden eliminar los desechos peligrosos de LBP de las reducciones de pintura a base de plomo como basura doméstica sujeta a los reglamentos estatales aplicables. Esta práctica simplificará muchas actividades de reducción

de plomo, además de reducir sus costos. De esta forma, la aclaración en el memorándum de hoy facilitará la reducción, la renovación y la remodelación residenciales adicionales, además de las actividades de rehabilitación, para así proteger a los niños contra la exposición continua a la pintura a base de plomo en hogares y para que las viviendas residenciales sean seguras en lo que se refiere al plomo, tanto para niños como para adultos.

Los escombros de LBP (como los componentes arquitectónicos de los edificios: puertas, marcos de ventanas, carpintería pintada) que no presenten la característica de toxicidad para plomo no necesitan tratarse como un desecho peligroso. Sin embargo, los desechos de LBP como escombros, cáscaras de pintura, polvo y lodo que se generen a partir de actividades de reducción y remoción de plomo que presenten la característica de toxicidad para el plomo (es decir, que excedan el límite normativo de característica de toxicidad de 5 mg/L de plomo en el lixiviado de los desechos), son desechos peligrosos y se deben tratar y eliminar de acuerdo con los requisitos aplicables del subtítulo C de la RCRA (que incluye restricciones de esparcimiento sobre la tierra), excepto cuando sean “desechos domésticos”. Según el Código de Regulación Federal 40 261.4 (b) (1), los desechos domésticos quedan excluidos de los requisitos de gestión de desechos peligrosos. Hoy en día, la EPA aclara que los desechos generados como parte de actividades con LBP que se lleven a cabo en residencias (que incluyen hogares para sólo una familia, edificios de apartamentos, viviendas públicas y cuarteles militares) también son desechos domésticos, y que dichos desechos ya no son peligrosos y además, están excluidos de las regulaciones de gestión y eliminación de desechos peligrosos de la RCRA. Los generadores de desechos de LBP residenciales no tienen que realizar una determinación de desechos peligrosos de RCRA. Esta interpretación se mantiene sin importar si el desecho presenta la característica de toxicidad o si las actividades con LBP las realizaron los propios residentes o un contratista.

¿Dónde puedo eliminar mis desechos domésticos de LBP?

Los desechos de LBP provenientes de residencias se pueden eliminar en un vertedero municipal de desechos sólidos (MSWLF, por sus siglas en inglés) o en una cámara de combustión de desechos sólidos municipal. No se permite verter ni quemar desechos residenciales de LBP al aire libre. Ciertos desechos de LBP (grandes cantidades de desechos concentrados de pintura a base de plomo, como cáscaras de pintura, polvo o lodo) provenientes de actividades de remoción de plomo, pueden estar sujetos a requisitos más estrictos por parte de las autoridades estatales, locales o tribales.

¿Cuál es la base de esta interpretación?

La exclusión de los desechos domésticos implementa el propósito del Congreso con respecto a que los reglamentos sobre los desechos peligrosos “no se deben utilizar para controlar la eliminación de las sustancias que se usen de forma doméstica, ni tampoco para extender el control sobre los desechos municipales generales en base a la presencia de dichas sustancias”. S. Rep. N° 94-988, 94° Congreso. 2ª Sesión, en 16. Los reglamentos de la EPA definen “desechos domésticos” como aquellos que contienen “cualquier material de desecho (lo que incluye basura y desechos sanitarios en tanques sépticos) que se derive de viviendas (lo que incluye residencias para una sola familia o para varias de ellas, hoteles y moteles, albergues, estaciones de guardabosque, habitaciones para cuadrillas, campamentos, terrenos

para picnic y áreas de recreación para el uso durante el día)”. Código de Regulación Federal 40 261.4 (b) (1). La Agencia ha aplicado dos criterios para definir el alcance de la exclusión: (1) el desecho lo deben generar personas en un establecimiento doméstico, y (2) el desecho se debe componer principalmente de materiales que se encuentran en desechos generados por consumidores en sus hogares (Registro Federal 49 44978 y Registro Federal 63 70241).

En 1998, la EPA concluyó que los desperdicios de LBP que son resultado de trabajos de renovación y remodelación realizados por los residentes domésticos cumplen estos criterios. (Registro Federal 63 70241-42, 18 de diciembre de 1998). En resumen, la Agencia descubrió que cada vez hay más residentes que realizan estas actividades y por lo tanto, se puede considerar que los desechos los genera el grupo familiar y del tipo que los consumidores generan habitualmente en sus hogares. También se consideraron como desechos domésticos los desechos de las reducciones de LBP realizadas por residentes.

La EPA aclara que esta interpretación también se aplica a los desechos de LBP generados por el contratista cuando lleva a cabo renovaciones, remodelaciones y reducciones en residencias. Tanto la definición de desechos domésticos en la sección 261.4 (b) (1) como los criterios de la Agencia para la determinación del alcance de la exclusión se concentran en el tipo de desecho generado y en el lugar de la generación, en lugar de la persona que genere el desecho (por ejemplo, un residente o un contratista). Este enfoque es coherente con la política anterior de la Agencia.¹ Debido a que los desechos de LBP que genere el contratista al llevar a cabo renovaciones, remodelaciones, rehabilitaciones y reducciones son del tipo que generan los consumidores en sus hogares, es apropiado concluir que dichos desechos (ya sean generados por un residente o por un contratista), están comprendidos dentro de la exclusión de desechos domésticos. Esta aclaración facilitará las reducciones y las actividades de remoción de plomo en viviendas de interés al reducir los costos de la gestión y eliminación de los desechos de LBP de las residencias.

¿Cuál es la relación entre esta interpretación y la continua creación de reglas sobre escombros de LBP?

El 18 de diciembre de 1998, la EPA recomendó nuevos estándares de la Ley para el Control de Sustancias Tóxicas (TSCA, por sus siglas en inglés) para la gestión y eliminación de los escombros de LBP (Registro Federal 63 70190), simultáneamente sugirió suspender de

¹ En la regla final que establece los estándares para el control y la gestión de desechos médicos, la EPA concluyó que los desechos generados por proveedores de atención de salud (por ejemplo, contratistas) en viviendas privadas estarían cubiertos por la exclusión de desechos domésticos. Registro Federal 54 12326, 12339 (marzo 24 de 1989). En el contexto específico de la LBP, la Agencia estableció en un informe de la línea directa de la EPA (pregunta N° 6 de la RCRA) de marzo de 1990, que las cáscaras y el polvo de pintura a base de plomo que eran resultado del lavado y de una nueva pintura de las paredes residenciales por el propietario o por contratistas (como parte del mantenimiento doméstico de rutina), sería parte de la corriente de los desechos domésticos y no estarían sujetos a los reglamentos del Subtítulo C de RCRA. Del mismo modo, en un memorándum de marzo de 1995 sobre la Aplicabilidad de la exclusión de los desechos domésticos a suelos contaminados con plomo, descubrimos que si la fuente de contaminación por plomo era resultado del mantenimiento residencial de rutina, de los efectos del tiempo o del desgaste por fricción de la pintura a base de plomo de la residencia, los reglamentos de desechos peligrosos no se aplican hasta que el suelo contaminado con plomo sea tratado en la obra o eliminado de ésta, de acuerdo con los reglamentos de desechos sólidos aplicables o la ley estatal, según lo exija RCRA.

forma temporal la aplicabilidad de los reglamentos de desechos peligrosos de la RCRA que se aplican actualmente a los escombros de LBP (Registro Federal 63 70233). Este memorándum responde a las solicitudes que hicieran las partes interesadas para que la EPA aclarara si la exclusión existente de desechos domésticos se aplica tanto a los propietarios como a los contratistas que llevan a cabo actividades con LBP en residencias. Mientras la Agencia aún se propone concretar aspectos de las dos propuestas, realizamos esta aclaración con anticipación a la regla final para facilitar la reducción de LBP en residencias, sin retrasos innecesarios.

¿Cómo afecta esta interpretación a las autoridades de fiscalización de la EPA?

Según esta aclaración, los desechos de LBP generados por residentes o contratistas a partir de la renovación, remodelación, rehabilitación o reducción en residencias son desechos domésticos que quedan excluidos de los requisitos de desechos peligrosos de la EPA en el Código de Regulación Federal 40, Parte 124 y 262 hasta la 271. La estipulación de los desechos domésticos en el Código de Regulación Federal 40 261.4 (b)(1) sólo excluye a dichos desechos de los requisitos normativos de la RCRA. Sin embargo, esto no afecta la capacidad de la EPA para llegar a aquellos desechos bajo su autoridad legal, como §3007 (inspección) y §7003 (peligro inminente) de la RCRA. Consulte el Código de Regulación Federal 40 §261.1(b).

¿Cuáles son las “mejores practicas de gestión” para el tratamiento de desechos domésticos de LBP?

Aunque los desechos domésticos están excluidos de los reglamentos de desechos peligrosos, la EPA insta a los residentes y contratistas que trabajen con desechos domésticos de LBP a que tomen medidas para minimizar la generación de polvo con plomo, limitar el acceso a desechos almacenados de LBP, lo que incluye escombros, y mantener la integridad del material de empaque de desechos durante el transporte de desechos de LBP. En particular, continuamos con la aprobación de los pasos básicos que se detallan en las propuestas de 1998 para la manipulación y eliminación apropiada de los desechos de LBP (Registro Federal 63 70242) como las mejores prácticas de gestión (BMP, por sus siglas en inglés), entre los que se encuentran:

- La recogida de cáscaras y polvo de pintura, tierra y cascotes en bolsas de basura plásticas para su eliminación.
- El almacenamiento de grandes piezas de escombros arquitectónicos de LBP en contenedores hasta que estén listos para su eliminación.
- La consideración del uso de un contenedor de escombros cubierto y que sea móvil (como un contenedor rodado) para el almacenamiento de escombros de LBP hasta que el trabajo esté terminado.
- La comunicación con municipalidades locales u oficinas de desechos sólidos del condado para determinar dónde y cómo se pueden eliminar los escombros de LBP.

Además, los contratistas que trabajen en viviendas residenciales están sujetos a uno o a ambos de los siguientes requisitos:

- La orientación del Departamento de Vivienda y Urbanismo (HUD, por sus siglas en inglés) para contratistas que lleven a cabo proyectos de rehabilitación o renovación con fondos públicos en viviendas públicas. (Consulte Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing [Pautas para la evaluación y el control de peligros de pinturas a base de plomo en viviendas] del Departamento de Vivienda y Urbanismo de los Estados Unidos, junio de 1995). Se puede acceder a las pautas del HUD a través de Internet en:
<http://www.hud.gov/lea/learules.html>
- Requisitos de la Ley para el Control de Sustancias Tóxicas 402/404 para la capacitación y certificación. (Consulte el Código de Regulación Federal 40 Parte 745, Registro Federal 61 45778, de agosto de 1996) y los estándares de gestión en la obra sugeridos por la TSCA (consulte el Código de Regulación Federal 40 Parte 745, Subparte P, Regulación Federal 63 70227 a 70230, 18 de diciembre de 1998). [La EPA espera emitir la regla final el próximo año.]

Las mejores prácticas de gestión doméstica mencionadas anteriormente, son similares a aquellas que se incluyen en las pautas de HUD para personas que controlan los peligros de LBP en viviendas. El HUD exige que los contratistas que utilicen el financiamiento de HUD cumplan las pautas para el control de peligros. Si no se respetan estas pautas, esto podría (potencialmente) ocasionar la pérdida del financiamiento.

¿Se aplica esta interpretación en mi estado o localidad?

Instamos a los contratistas y residentes a que se comuniquen con su gobierno estatal, local o tribal para determinar si alguna de las restricciones se aplica a la eliminación de desechos domésticos de LBP. Esta verificación es necesaria ya que, según la RCRA, los gobiernos estatales, locales y tribales pueden exigir reglamentos que sean más estrictos o amplios en cuanto a su alcance en comparación con los requisitos federales. Por lo tanto, en dichas circunstancias, los desechos domésticos de LBP aún pueden regularse como desechos peligrosos según los reglamentos estatales.

Distribuimos este memorándum en los 56 estados y territorios, además de programas tribales y distintas asociaciones comerciales. Incentivamos a los estados a que hagan tareas de coordinación para la implementación de la interpretación que se analiza en este memorándum, y así facilitar las reducciones domésticas de LBP en sus estados para que las viviendas residenciales estén seguras con relación al plomo. Instamos a que las asociaciones comerciales informen a sus miembros sobre este memorándum y que les enseñen las formas de tratar los desechos domésticos de LBP.

¿Con quién debo comunicarme para obtener más información?

Si tiene alguna duda adicional sobre la situación normativa de los desechos que se generen de actividades con pintura a base de plomo en residencias, comuníquese con la Sra. Rajani D. Joglekar, que es parte de mi personal, llamando al 703-308-8806 ó también puede llamar al Sr. Malcolm Woolf a la Oficina del Asesor Legal de EPA al 202-564-5526.

cc: Contactos clave de RCRA, regiones 1 a 10
 Contactos de consejeros regionales de RCRA, regiones 1 a 10
 Contactos de consejeros regionales fiscalizadores de RCRA, regiones 1 a 10
 Asociación de Funcionarios de Gestión Estatal y Territorial de Desechos Sólidos
 (ASTSWMO)

Apéndice 9:

Para obtener más información

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Si usted es una persona con problemas de oído o de lenguaje oral, puede comunicarse con los siguientes números de teléfono mediante TTY, llamando al Servicio de Información Federal al 1-800-877-8339.

¿Dónde se pueden obtener copias del folleto **Renovar correctamente: Información importante para familias, proveedores de cuidado infantil y escuelas acerca del peligro del plomo**, en inglés o español?

- ✓ Descargue copias electrónicas en: <http://www.epa.gov/lead/pubs/renovation.htm>.
- ✓ Para copiar el folleto puede usar las copias listas para reproducir del Centro Nacional de Información sobre el Plomo, siempre y cuando reproduzca el texto y los gráficos en su totalidad: 1-800-424-LEAD (5323).
- ✓ Haga un pedido de copias al por mayor a la Oficina Gubernamental de Impresión, (GPO, por sus siglas en inglés), cuyo costo es de US\$53.00 por un paquete de 50 folletos: 202-512-1800; consulte el folleto según su nombre o haga un pedido en línea en <http://bookstore.gpo.gov>.

¿Dónde se pueden obtener copias de la **Guía de cumplimiento destinada a entidades pequeñas para renovar correctamente**?

- ✓ Descargue copias electrónicas en formato PDF en <http://www.epa.gov/lead/pubs/renovation.htm>.
- ✓ Comuníquese con el Centro Nacional de Información sobre el Plomo en el: 1-800-424-LEAD (5323)

¿Dónde se puede encontrar información y recursos adicionales relacionados con la pintura a base de plomo?

- ✓ Centro Nacional de Información sobre el Plomo: 1-800-424-LEAD (5323)
- ✓ Oficina de Prevención de la Contaminación y Sustancias Tóxicas (OPPT, por sus siglas en inglés) de EPA: www.epa.gov/lead
- ✓ Oficina de Viviendas Saludables y Control de Peligros por Plomo de HUD: www.hud.gov/offices/lead o por correo electrónico a lead.regulations@hud.gov.