

Indoor airPLUS Version 2 Highlights

Summary of Proposed Updates - 2nd Public Comment



The following is a summarized list of proposed changes to “Version 2” of the Indoor airPLUS program requirements following Version 1 (Revision 04). The list below is not exhaustive but intends to capture the most notable changes. Please refer to the referenced documents to review specific text changes and proposed updates for public comment.

General Updates to Eligibility and Certification System

- EPA proposes a tiered certification system with two specifications for Indoor airPLUS Certified and Indoor airPLUS Gold labels.
 - Residential buildings of all heights are eligible for the Indoor airPLUS (IAP) Certified label.
 - Buildings eligible for the ENERGY STAR Single-Family New Homes or Multifamily New Construction (MFNC) programs are also eligible for the Indoor airPLUS (IAP) Gold label.
- EPA proposes a Home Certification Organization (HCO) model aligned with ENERGY STAR and WaterSense Labeled Homes.
- EPA proposes a 5-year expiration date to the Indoor airPLUS label, with optional recertification by the home/building owner.

General Updates to Specifications Format

- Specification sections and items have been re-numbered for ease of reference.
- Terminology is updated in some cases (e.g., Section 4 uses the term “HAC” rather than “HVAC” in many instances, underscoring the importance of ventilation, often as a separate system from heating/cooling).
- Requirements for newly installed features are differentiated from existing features in some instances, improving options and specificity for gut-rehabs.
- For all Multifamily buildings, requirements apply to common space where noted.

Specification Updates

GOLD is noted below where the item only applies to the IAP Gold specification. Otherwise, the change is applicable to both specifications.

1. Moisture Control

- 1.3 A trapped drain or moisture monitoring system located in the lowest area of basement or crawlspace.
- 1.4.6 **GOLD only:** Capillary break installed under or on top of newly installed footers (e.g. poly, bituminous membrane, liquid waterproofing, or entire stem wall and sill is encapsulated).
- 1.6 Moist (A) & Marine (C) Zones include dehumidification in basements/crawlspaces by HAC or supplemental system.
- 1.11.2 More explicit requirements for newly installed low sloped or flat roofs (<2:12 pitch), including insulated drains.
- 1.12.1 Ice dam prevention: Climate Zones 4 & higher include ice flashing over the sheathing (w/ alternatives for gut rehabs).
- 1.13 Interior roof deck inspection: Visual verification of no active water leaks in accessible attic and roof assemblies.
- 1.19 Moisture management inspections: Visual verification that interior building cavities and exterior wall surfaces (e.g., fenestrations, siding, flashing, roof-to-wall connections) are free from degradation or moisture intrusion.

2. Radon

- 2.1 Radon testing required for buildings in all Radon Zones, except for buildings with no ground contact locations.
 - Where radon testing results in ≥ 4 pCi/l, either a long-term test is performed/confirmed OR active system is installed and retested.

3. Pest Barriers

- 3.1 Visual inspection to verify no signs of termite infestation or structural damage.
- 3.1.3 **GOLD only:** For foundations in “Moderate to Heavy” termite areas as designated by AHJ, use solid concrete or masonry walls with reinforcing rods and slabs with welded wire fabric.
- 3.1.4 **GOLD only:** In “Very Heavy” termite areas, a termite shield is required. Foam plastic insulation is not permitted on the exterior face of below-grade walls or under slabs. Where installed on above-grade foundation walls, foam must be protected. Where foam is installed on crawlspace interior walls, a 3” viewing strip is included.
- 3.2.4 **GOLD only:** Screens provided for all operable windows.
- 3.3 **Multifamily only:**
 - Pest Management Plan or contract in place; guidance included in Owner/tenant manual.
 - **GOLD only:** Sanitary floor drains in common trash/recycle rooms.
- 3.4 Visual inspection to verify no evidence of pest-contaminated materials in the walls, floor systems, and attics. Where pest infestation is found/suspected, an IPM certified professional must inspect and/or remediate.

4. Heating, Cooling and Ventilation Systems

Heating and Cooling Design and Inspection

- 4.1 For newly installed HAC systems in dwelling unit and common spaces, regardless of system type, heating and cooling design loads are required to be calculated. Equipment that was previously exempt, such as boilers and mini-splits, are also required to be properly sized. **Multifamily only:** Use ANSI/ASHRAE/ACCA Standard 183 for common space load calculations and right-size the HAC systems based on those loads.
- 4.1.4 Existing HAC system components shall be assessed in accordance with ACCA Standard 4 and cleaned and repaired where visual inspection reveals significant issues.
- 4.2.1 Humidity monitoring device provided in the dwelling unit; in multifamily, remote RH monitoring is permitted.
- 4.2.2 Requirement to install dehumidification equipment is expanded into Moist (A) CZ 4, with modeling exception.
- 4.3.2 **Multifamily only:** In common spaces, all newly installed HAC duct systems sized using ASHRAE Handbook of Fundamentals. While duct leakage testing is not required, visual inspections for duct sealing are required.
- 4.3.4 Inspection of ductwork to verify ducts and duct boots are dry, clean, and in good condition.
- 4.3.7 Updates to total duct leakage and leakage to outside testing requirements for dwelling units.
- 4.4 **GOLD only:** All dwelling-unit HAC air handling equipment and ductwork installed within the thermal and air barrier boundary of the dwelling unit (with exceptions).
- 4.5 Pressure balanced bedroom requirements still included, with thresholds based on climate zone.

Mechanical Ventilation

- 4.6.1 **GOLD only:** Dwelling-unit mechanical ventilation must be balanced; however, energy/heat recovery is not required.
- 4.6.5 Ventilation rates aligned with ASHRAE 62.2-2019.
GOLD only: Outdoor air supplied to the dwelling unit shall be measured.
- 4.6.6 Outdoor air passes through a MERV 11 filter (**GOLD only: MERV 13**).
- 4.6.7 Dwelling unit mechanical ventilation fans located within the dwelling unit shall be rated for sound at a maximum of 1.0 sone, with some exceptions.
- 4.7.4 Dwelling-unit bathroom exhaust fans include manual timer or occupancy/humidity sensor if not run continuously.
GOLD only: Manual timer not permitted.
- 4.8 Dwelling-unit kitchen exhaust is demand-controlled and located at the cooktop for one- and two-family homes/townhouses.
GOLD only: Exhaust airflow measurements taken at speed setting which meets the sound rating requirement (≤ 2 sones).

Multifamily only: Dwelling units may still use continuous exhaust if it has a MERV 3 or washable filter and a recirculating range hood above the cooktop has charcoal filter installed.

Continuous kitchen exhaust fans are rated for sound at a maximum of 1 sone.

- 4.9 **Multifamily only:** Common spaces are required to meet ASHRAE 62.1-2019 for minimum outdoor air and exhaust and the outdoor air must pass through a MERV 11 filter (**GOLD only: MERV 13**).

Filtration and Air Cleaning

- 4.11 Filtration requirements expanded to include ducted HAC systems serving common spaces. Ducted HAC systems include minimum 2" filter slot and filter rating increases to MERV 11 (**GOLD only: MERV 13**). Lower MERV ratings permitted, but only if paired with portable air cleaners.
- 4.12 **GOLD only:** Homes with no ducted HAC systems include either a non-ducted system with filter rated \geq MERV 13, or stand-alone portable air cleaners, or transfer fan with \geq MERV 13 filter.
- 4.14 Where provided, Ultraviolet Germicidal Irradiation (UVGI) or other electronic air cleaners do not exceed ozone emission limits of 0.005 ppm.

5. Pollutant Control

- 5.1 **GOLD only:** Combustion furnaces, boilers, and water heaters within the building's pressure boundary are mechanically drafted or direct-vented.
- 5.4 All detached homes $> 1000 \text{ ft}^2$, air infiltration is no greater than 5 ACH50.
 - **GOLD only:** No greater than 3 ACH50.All other dwelling units, air infiltration is no greater than 0.3 CFM50 per square foot of dwelling unit enclosure area.
 - **GOLD only:** No greater than 0.23 CFM50 per square foot.
- 5.5 In all detached one- and two-family homes and townhouses either:
 - Verify that the garage-to-house air barrier can maintain a pressure difference $> 45 \text{ Pa}$ while the house maintains a 50 Pa difference WRT outdoors; OR
 - Install an exhaust fan in the garage, minimum 100 cfm (rater verified).

6. Building Materials

- 6.2 Interior Paints, Finishes, Coatings meet emission limits of California Department of Public Health (CDPH) Standard Method V1.2-2017 and VOC content limits, including colorants, per SCAQMD Rule 1113 or CARB's Suggested Control Measure for Architectural Coatings (May 2020).
- 6.3 Carpet and carpet cushions meet emission limits of CDPH Standard Method V 1.2-2017.
- 6.4 Adhesives and sealants meet emission limits of CDPH Standard Method V1.2-2017 and VOC limits in SCAQMD Rule 1168.
- 6.5 Hard surface flooring meet emission limits of CDPH Standard Method V1.2-2017.
- 6.6 Interior gypsum board and joint compound meet emission limits of CDPH Standard Method V1.2-2017.
- 6.7 Insulation products meet emission limits of CDPH Standard Method V1.2-2017 (with exceptions).
- 6.8 Asbestos: Visual inspection for asbestos containing material (ACM). Where found, ACM is addressed by qualified professional.
- 6.9 Lead Paint: Homes and multi-family buildings built before 1978 have a lead-based paint inspection.