

# Free of Leaks



**Mandatory Checklist Requirement:** There must be no detected leaks from any water-using fixtures, appliances, or equipment. Compliance shall be verified through pressure-loss testing and visual inspection.



## UNDERSTAND

- The average household's leaks can account for nearly 10,000 gallons of water wasted per year. Common types of leaks found in homes are from worn toilet flappers, dripping faucets, poor connections to hot and cold water lines, leaking irrigation system components, and other leaking valves. However, leaks can occur in new construction as well, and proactively identifying and fixing leaks leads to more satisfied customers and a more water-efficient home.
- To be eligible to receive the WaterSense® label, homes must be verified to be free of water leaks at the time of certification.



## BUILD

- **CONFIRM** valves and hoses for water-using fixtures and appliances are installed correctly throughout the home. Use plumber's tape when making threaded connections, such as with showerheads or some tub spouts.
- **CONDUCT** a pressure-loss test on all water supplies to check for leaks before the verification (see the Pressure-Loss Test Protocol at right). This will offer the opportunity to address leaks proactively and ensure the home is free of leaks before the verifier's visit.
- **REPAIR** leaks when they are identified outdoors and work with the irrigation installer to commission the system and replace leaky sections.



## VERIFY

- **VERIFY** the following requirements as part of the Mandatory Checklist for WaterSense Labeled Homes:
  - Pressure-loss test on all water supplies detects no leaks (see Pressure-Loss Test Protocol box above).
  - No visible leaks from toilet(s), as determined through visual assessment and by conducting a dye test in each toilet to ensure the flapper or flush valve seal is not leaking (see Toilet Leak Test Protocol at right).
  - No visible leaks from bathroom faucets.

### Pressure-Loss Test Protocol

- Attach a pressure gauge to the cold-water faucet for the washing machine or a hose bibb. Turn on the water to the fully open position and take a pressure reading.
- Turn off the water to the home or unit using the home's shutoff valve.
- The pressure should remain constant after 5 to 10 minutes.
- If the pressure drops, this indicates that the home has a leak.
- Work with the builder to find and fix any leaks before proceeding with the home verification.
- If the home or multifamily building has a separate water supply for irrigation, check both the indoor and outdoor water supply lines for leaks.

### Toilet Leak Test Protocol

1. Drop a dye tablet or a few drops of food coloring into each toilet tank.
2. Wait 5 to 10 minutes without flushing.
3. Check the toilet to see if the color leaked from the tank into the bowl.
4. If color is observed in the bowl, the flapper or flush valve seal is leaking and needs to be replaced.

**Note:** Flush the toilet within 5 to 10 minutes after inserting the dye to avoid staining.

- No visible leaks from showerheads.
- No visible leaks from bathroom tub spouts when showerhead(s) are activated, as determined through visual assessment after showerheads have been activated for one minute (see instructions at right).
- No visible leaks from kitchen and other sink faucet(s).
- No visible leaks from other fixtures or appliances (e.g., water heaters, clothes washers, dishwashers, hose bibbs, irrigation systems) at the point of use or point of connection to the water distribution system.
- **ENSURE** tight connections to hoses and valves that connect to fixtures and appliances.
- **CHECK** in-ground irrigation systems for broken sprinklers or nozzles spraying outside the landscaped area. Consider having the irrigation system designed, installed, and/or audited by a professional certified by a WaterSense labeled program. Find a certified professional in your area with WaterSense's Find a Pro tool at [www.epa.gov/watersense/find-pro](http://www.epa.gov/watersense/find-pro).

#### Bathroom Tub Faucets Leak Test

1. For all bathtub/showerhead combinations, turn on the water and divert flow so it is flowing only through the showerhead.
2. Wait one minute.
3. Observe whether a continual stream of water seepage (more than a few drips) comes from the tub spout while the shower is flowing.

*\*NOTE: Consult with the Home Certification Organization for specific verification protocols.*

#### Where to Look for Leaks

Check all of the fixtures and appliances listed in the table below to look for leaks, and visit the WaterSense Fix a Leak Week web page at [www.epa.gov/watersense/fix-leak-week](http://www.epa.gov/watersense/fix-leak-week) to learn more about identifying and fixing leaks.

Fixture or Appliance	What to Check
Water heater	<ul style="list-style-type: none"> <li>• Supply connections</li> </ul>
Toilets	<ul style="list-style-type: none"> <li>• Angle valve</li> <li>• Tank overflow tube</li> </ul>
Showers	<ul style="list-style-type: none"> <li>• Showerhead outlet</li> <li>• Shower arm and threaded connection</li> <li>• Tub faucet/spout</li> </ul>
Bathroom and kitchen faucets	<ul style="list-style-type: none"> <li>• Faucet outlet</li> <li>• Hot and cold water connection hoses and valves</li> </ul>
Dishwashers	<ul style="list-style-type: none"> <li>• Visible supply connections and valves</li> </ul>
Clothes washers	<ul style="list-style-type: none"> <li>• Visible supply connections and valves</li> </ul>
Irrigation systems	<ul style="list-style-type: none"> <li>• Landscape where irrigation is installed</li> <li>• At each sprinkler head/emitter</li> <li>• At the irrigation shut-off valve</li> </ul>
Hose bibbs	<ul style="list-style-type: none"> <li>• Hose bibb outlet</li> </ul>
Other (e.g., water softeners, drinking water treatment systems, evaporative cooling systems)	<ul style="list-style-type: none"> <li>• Visible water supply connections and valves</li> </ul>



This technical fact sheet is part of EPA's *Technical Reference Manual for WaterSense Labeled Homes*. For the full document and other tools and resources for homes, visit [www.epa.gov/watersense/tools-and-resources](http://www.epa.gov/watersense/tools-and-resources).

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