

## Residential Plumbing Final

This Tip Sheet reflects code requirements of the 2018 International Residential Code (IRC), 2018 Uniform Plumbing Code (UPC), 2020 National Electric Code (NEC) and the 2018 International Fire Code (IFC) with Washington State Amendments.

Please verify the following before calling for plumbing rough-in inspection.

### Permits and Plans

- Job address shall be posted in a visible location. (R319.1)
- Permit and approved plans are on site and accessible to the inspector. (R105.7, R106.1.1, R106.3.1)
- Permit information is correct (e.g., address, permit number, description of work, etc.). (R106.1.1)
- Confirm that all plumbing fixtures are included in over-the-counter (OTC) and electronic permits.
- When a separate sewer or septic permit is required, confirm that it has been signed off by the authority having jurisdiction.
- Water service and storm drainage system has been inspected and signed off.
- Review the notes from the previous plumbing inspections. Common notes might be that an air admittance valve has been installed which will require a grill to be installed at the location, or that shock arresters need to be installed at the final.
- When an irrigation system is installed check to see that a backflow prevention device has been properly installed and signed off by the AHJ.
- Obtain third party approved test reports for backflow devices such as RPBPs and DCVAs at required locations, such as irrigation systems, non-flow through fire sprinklers, boilers. (UPC 603.2)
- Check plans for any plumbing energy credit requirements.

### Plumbing Vents

- Plumbing vents shall extend at least 6 inches above the roof and to be 10 feet away or 3 feet above windows that open. When doing a walk through, look down on the roof below and check for test plugs left in the vent pipes. (UPC 906)

## Hosebibs

- All hose bibs shall have non-removable vacuum breakers of a self-draining type. Exterior hose bibs to have integral vacuum breakers and to be frost proof and caulked and secured at exterior walls. (UPC 312.8, UPC 603.5.7)
- Check water pressure at any hose bib to verify that it is 80 psi or less. If it is greater than 80 psi, a pressure-reducing valve is required. (UPC 608.2)

## Electric Water Heaters

- See Construction Tip Sheet 7, Water Heaters, for additional information.
- Hot water heaters shall meet first hour demand requirements. Non-storage water heaters shall meet those requirements and shall be capable of delivering hot water at the maximum system demand flow. (UPC Table 501.1(2)), as amended by Washington State)
- If a gas water heater has been installed which doesn't include any plumbing pipe modifications, it is a mechanical inspection and will be covered on the Residential Mechanical Final Checklist. If an electric water heater has been installed or a gas water heater including pipe modifications it will require a plumbing inspection.
- Temperature and pressure relief valve to be installed per manufacturer's instructions or listing. (UPC 505.2)
- The drain from the relief valve must be able to drain by gravity. No part of drain to be trapped. (UPC 608.5 as amended by Washington State)
- The pipe for the drain to be hard and full sized, no flex connectors or PEX piping. (UPC 608.5)
- The drain needs to terminate outside the building 6 inches to 24 inches above grade and shall have a soldered/glued on elbow as needed to direct the flow toward the ground or shall terminated at an approved drain. It may not be directly connected to a sanitary sewer. Retrofit water heaters may discharge 6 inches to 24 inches off of floor when a relief drain is not available. (UPC 608.5 as amended by WA State)
- Seismic strapping will be installed per Construction Tip Sheet 7, Water Heaters. Two straps, 1 in lower 1/3 and 1 in upper 1/3 and 3/4-inch wide. Straps to be 22-gauge metal with strap ends lag bolted onto two different studs. (UPC 507.2)
- A water heater when installed in the normal path of a vehicle requires protection in the form of a wheel stop, bollard or by elevating. (UPC) 507.13.1)

- Water heaters in attics, attic-ceiling assembly, floor-ceiling assembly, or floor-subfloor assembly where damage may result from a leaking water heater, a watertight pan of corrosion resistant material shall be installed with a 3/4-inch drain that is piped to an approved location. (UPC 507.5)
- Expansion tanks and combination temperature and pressure-relief valves. A water system provided with a check valve, backflow preventer or other normally closed device that prevents dissipation of building pressure back into the water main, independent of the type of water heater used, shall be provided with an approved, listed and adequately sized expansion tank. (UPC 608.3)
- When a mechanical room has a floor drain or a standpipe to receive discharge from a condensate drain or water heater relief drain, a trap primer is required. The trap primer valve is accessible. Check to see that it is working by verifying water is in the trap. (UPC 1007)

### **Plumbing Fixtures, Caulking, and Drains**

- Run water at all fixtures and check for leaks. (UPC 105.2) The water temperature shall be limited to 120 degrees Fahrenheit for showers and bathtubs (UPC 408.3, UPC 409.4) and 110 degrees Fahrenheit (UPC 410.3 for Bidets) by a device that complies with ASSE 1070/ASME A112.1070/CSA B125.70.
- Hot water at a temperature exceeding or equal 100-degree Fahrenheit. (Washington State UPC Amendment 210).
- Fixture hot water control located on the left-hand side of the fixture or per manufacturer's installation instructions. On soaking tubs, the hot water control is required on the left side as seen from inside of the tub. (UPC 417.5)
- Handheld sprayers at soaking tub valves shall default to the spout or be protected by other approved backflow device. (UPC 602.1 & 602.3)
- Motors on jetted tubs require access. (UPC 409.6)
- All fixtures caulked watertight. (UPC 402.2)
- Water closets require a minimum 21 inches clear space in front and 15 inches measured from the centerline of toilets to the finished wall on either side. (WA Amendment UPC 402.5)
- Shower door openings require a minimum 22 inches clear opening. (UPC 408.5)
- No underfloor cleanout to be located more than 20 feet from a crawl access door or trap door. (UPC 707.9 as amended by WA State Amendments)