



## Water Heater Drainage Pan Continued

**Why it changed:** The previous language did not clearly address installations on an attic-ceiling assembly, floor-ceiling assembly, or floor-subfloor assembly which is the intent of this section of the code, and has caused confusion within the industry in regards to the application and enforcement of this section. The depth of the pan is important for ensuring enough space is provided for the drain connection fitting generally located on the side of the pan.

## Lead Content

**What changed: Section 604.2 Lead Content;** The maximum allowable lead content in pipes, pipe fittings, plumbing fittings, and fixtures intended to convey or dispense water for human consumption shall be not more than a weighted average of 0.25 percent with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures. For solder and flux, the lead content shall be not more than 0.2 percent where used in piping systems that convey or dispense water for human consumption.

### **Exceptions:**

Pipes, pipe fittings, plumbing fittings, fixtures or backflow preventers used for non-potable water systems.

Flush valves, fill valves, flushometer valves, tub fillers, shower valves, service saddles, or water distribution main gate valves that are 2 inches in diameters or larger.

**Why it changed:** Section 1417 of the Safe Water Act (42 U.S.C. 300g-6) was amended by Senate Bill 3874-2010. This Bill changed the definition of lead free in the Safe Drinking Water Act from not more than 8 percent lead to not more than a weighted average of 0.25 percent. The effective date of the SDWA revision is January 4, 2014.

## Control Valve

**What changed: Section 606.5 Control Valve;** A control valve shall be installed immediately ahead of each water-supplied appliance and immediately ahead of each slip joint or appliance supply. Parallel water distribution systems shall provide a control valve either immediately ahead of each fixture being supplied or installed at the manifold, and shall be identified with the fixture being supplied. Where parallel water distribution system manifold are located in attics, crawl spaces, or other locations not readily accessible a separate shutoff valve shall be required immediately ahead of each individual fixture or appliance served.

**Why it changed:** The 2012 code language allowed for the installation of a manifold in an attic or crawl space with no shutoff valve at the fixture. This can result in a condition whereas a homeowner may develop a leak in a faucet or supply pipe, and not be able to shutoff the water to that fixture or appliance.

## Expansion Tanks and Combination Temperature and Relief Valves

**What changed: Section 608.3 Expansion Tanks and Combination Temperature and 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 size expansion tank or other approved device having a similar function to control thermal expansion. Such expansion tank or other approved device shall be installed on the building side of the check valve, backflow preventer, or other device and shall be sized and installed in accordance with the manufacturer's installation instructions.

**Why it changed:** There is a misunderstanding throughout the industry that, if a tankless water heater is installed, an expansion tank is not necessary, this is not true except for instantaneous heaters having an inside diameter of not more than 3-inches. These small units having practically no storage capacity do not have significant thermal expansion. Other than this exception, the above revision clarifies that, regardless of the type of water heater that is installed, thermal expansion tank can still occur in the cold water supply line. Therefore, an approved expansion tank or other approved device needs to be installed.

## Sediment Trap

**What changed: Section 1212.8 Sediment Trap;** Where a sediment trap is not incorporated as a part of the appliance, a sediment trap shall be installed downstream of the appliance shutoff valve as close to the inlet of the appliance as practical, but before the flex connector, where used at the time of appliance installation. The sediment trap shall be either a tee fitting with a capped nipple in the bottom outlet, or other device recognized as an effective sediment trap. Illuminating appliances, ranges, clothes dryers, decorative appliances for installation in vented fireplaces, gas fireplaces, and outdoor grills shall not be required to be so equipped.

**Why it changed:** This code section was added to clarify the language referring to sediment trap placement. Downstream of the shutoff and as close as practical to the appliance would not mean after the flex connector due to the sediment resting in the corrugated appliance connector before it had a chance to settle into the sediment trap. This would mean the entire connector would need to be replaced. By placing the drip leg prior to the connector the sediment can settle into the bottom of the tee and actually be removed or serviced.

# Significant Changes to the 2016 Plumbing Code

## Freezing Protection

**What changed:** *Section 312.6 Freezing Protection;* No water, soil, or waste pipe shall be installed or permitted outside of a building, in attic or crawl spaces, or in exterior wall unless, where necessary, adequate provisions is made to protect such pipe from freezing. Piping can be protected by using insulation or heat tapes.

**Why it changed:** The current text in the code did not account for locations such as attics and crawl spaces that may be susceptible to freezing temperatures.

## Exposed PVC Piping

**What changed:** *Section 312.14 Exposed PVC Piping;* PVC piping shall not be exposed to direct sunlight:

### **Exceptions:**

PVC piping exposed to sunlight that is protected by water based synthetic latex paints.

PVC piping wrapped with not less than 0.04 inch thick tape or otherwise protected from UV degradation.

**Why it changed:** The installation standards and manufacturer's instruction did not allow for PVC pipe to be exposed to direct sunlight except for short periods of time during construction.



## Trenches

**What changed:** *Section 314.1 Trenches;* Trenches deeper than the footing of a building or structure, and paralleling the same, shall be located not less than 45 degrees from the bottom exterior edge of the footing, or as approved in accordance with Section 301.0.

**Why it changed:** The text in the current code section was not clear and was commonly misunderstood. This led to many installers and inspectors performing this measurement from the wrong point.

## Non-water Urinals

**What changed:** *Section 412.1.1 Non-water urinals;* Non-water urinals shall have a barrier liquid sealant to maintain a trap seal. Non-water urinals shall permit the uninhibited flow of waste through the urinal to the sanitary drainage system. Non-water urinals shall be cleaned and maintained in accordance with the manufacturer's instructions after installation. Where non-water urinals are installed, not less than one water supplied fixture rated at not less than 1 water supply fixture unit (WSFU) shall be installed upstream on the same drain line to facilitate drain line flow and rinsing. Where non-water urinals are installed they shall have a water distribution line rough-in to the urinal location to allow for the installation of an approved backflow prevention device in the event of a retrofit.

**Why it changed:** Water is needed to clean the waste line from the non-water urinal in the horizontal position. Without it, sediment matter from urine, known as struvite, will collect and solidify in the drain piping leading away from the fixture. Over time, this can create a blockage in the pipe requiring either mechanical cleaning out of the pipe or replacement.

## Bottle Filling Stations

**What changed:** *Section 415.2 Drinking Fountain Alternatives;* Where food is consumed indoors, water stations shall be permitted to be substituted for drinking fountains. Bottle filling stations shall be permitted to be substituted for drinking fountains up to 50 percent of the requirements for drinking fountains. Drinking fountains shall not be required for an occupant load of 30 or less.

**Why it changed:** This change will allow the use of standalone bottle filling stations (without being attached to a drinking fountain) as the market trends towards the use of these drinking water devices. In addition, these devices are preferred because they are: (1) more hygienic, (2) save up to 50 percent of the water that is generated as wastewater when compared to using a traditional drinking fountain, and (3) will aid in diverting waste generated from plastic bottles by providing a method to refill them or other drinking containers.

## Location of Floor Drains

**What changed:** *Section 418.3 Locations of Floor Drains;* Floor drains shall be installed in the following areas:

1. Toilet rooms containing two or more water closets or a combination of one water closet and one urinal, except in a dwelling unit.
2. Commercial kitchens and in accordance with Section 704.3.
3. Laundry rooms in commercial buildings and common areas
4. Laundry facilities' in multi-family dwelling buildings.
5. Boiler rooms.

**Why it changed:** Floor drains in boiler rooms have been required by the Uniform Mechanical Code for years. Floor drains and associated piping are plumbing items and they are now represented in the plumbing code.

## Floor Sinks

**What changed:** *Section 421.2 Floor Sinks Strainers;* The waste outlet of a floor sink shall be provided with an approved strainer or grate that is removable and accessible.

**Why it changed:** Strainers and grates must be accessible and removable for cleaning and maintenance purposes. The presence of a strainer in this application is to prevent the entrance of large objects and creating a stoppage of the floor sink drainage system, thus preventing flooding.

## Water Heater Drainage Pan

**What changed:** *Section 507.5 Drainage Pan;* Where a water heater is located in an attic, in or on an attic-ceiling assembly, floor-ceiling assembly, or floor-subfloor assembly where damage results from a leaking water heater, a watertight pan of corrosion-resistant material shall be installed beneath the water heater with not less than 3/4 of an inch diameter drain to an approved location. Such pan shall be not less than 1- 1/2 inches in depth.

