**ICC PLUMBING CODE SECTION 607 HOT WATER SUPPLY SYSTEM

607.1 Where required.**
In residential *occupancies,* *hot water* shall be supplied to plumbing fixtures and equipment utilized for bathing, washing, culinary purposes, cleansing, laundry or building maintenance. In nonresidential *occupancies, hot water* shall be supplied for culinary purposes, cleansing, laundry or building maintenance purposes. In nonresidential *occupancies,* *hot water* or *tempered water* shall be supplied for bathing and washing purposes.

**607.1.1 Temperature limiting means.**
A thermostat control for a water heater shall not serve as the temperature limiting means for the purposes of complying with the requirements of this code for maximum allowable hot or tempered water delivery temperature at fixtures.

**607.1.2 Tempered water temperature control.**  *Tempered water* shall be supplied through a water temperature limiting device that conforms to ASSE 1070 and shall limit the *tempered water* to a maximum of 110ºF (43ºC). This provision shall not supersede the requirement for protective shower valves in accordance with Section 424.3.

**607.2 Hot or tempered water supply to fixtures.**
The developed length of hot or tempered water piping, from the source of hot water to the fixtures that require hot or tempered water, shall not exceed 50 feet (15 240 mm). Recirculating system piping and heat-traced piping shall be considered to be sources of hot or tempered water.

**[E] 607.2.1 Hot water system controls.**
Automatic circulating hot water system pumps or heat trace shall be arranged to be conveniently turned off, automatically or manually, when the hot water system is not in operation.

**607.2.2 Recirculating pump.**
Where a thermostatic mixing valve is used in a system with a hot water recirculating pump, the *hot water* or *tempered water* return line shall be routed to the cold water inlet pipe of the water heater and the cold water inlet pipe or the hot water return connection of the thermostatic mixing valve.

**607.3 Thermal expansion control.**
A means of controlling increased pressure caused by thermal expansion shall be provided where required in accordance with Sections 607.3.1 and 607.3.2.

**607.3.1 Pressure-reducing valve.**
For water service system sizes up to and including 2 inches (51 mm), a device for controlling pressure shall be installed where, because of thermal expansion, the pressure on the downstream side of a pressure-reducing valve exceeds the pressure-reducing valve setting.

**607.3.2 Backflow prevention device or check valve.**
Where a backflow prevention device, check valve or other device is installed on a water supply system utilizing storage water heating equipment such that thermal expansion causes an increase in pressure, a device for controlling pressure shall be installed.

**607.4 Flow of hot water to fixtures.**
Fixture fittings, faucets and diverters shall be installed and adjusted so that the flow of hot water from the fittings corresponds to the left-hand side of the fixture fitting.  **Exception:** Shower and tub/shower mixing valves conforming to ASSE 1016 or ASME A112.18.1/CSA B125.1, where the flow of hot water corresponds to the markings on the device.  **[E] 607.5 Pipe insulation.**
Hot water piping in automatic temperature maintenance systems shall be insulated with 1 inch (25 mm) of insulation having a conductivity not exceeding 0.27 Btu per inch/h • ft2 •°F (1.53 W per 25 mm/m2• K). The first 8 feet (2438 mm) of hot water piping from a *hot water* source that does not have heat traps shall be insulated with 0.5 inch (12.7 mm) of material having a conductivity not exceeding 0.27 Btu per inch/h • ft2 • °F (1.53 W per 25 mm/m2• K).

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