

GEW159-14

702.8, 702.8.1, 702.8.2, Table 702.8.2, 702.8.2.1

Proponent: Gary Klein, representing self (gary@aim4sustainability.com)

Delete and substitute as follows:

~~**702.8 Efficient hot and tempered water distribution.** Hot and tempered water distribution shall comply with either the maximum pipe length or maximum pipe volume limits in this section. Hot and tempered water shall be delivered to the outlets of individual showers, combination tub-showers, sinks, lavatories, dishwashers, washing machines and hot water hose bibbs in accordance with Section 702.8.1 or Section 702.8.2. For purposes of this section, references to pipe shall include tubing. For purposes of this section, the source of hot or tempered water shall be considered to be a water heater, boiler, circulation loop piping or electrically heat-traced piping.~~

702.8 Efficient heated water supply piping. Heated water supply piping shall be in accordance with Section 702.8.1 or Section 702.8.2. The flow rate through 1/4 inch piping shall not exceed 0.5 gpm (1.9 Lpm). The flow rate through 5/16 inch piping shall not exceed 1 gpm (3.8 Lpm). The flow rate through 3/8 inch piping shall not exceed 1.5 gpm (5.7 Lpm).

Revise as follows:

702.8.1 Maximum allowable pipe length method. For fixtures other than public lavatory faucets, the maximum allowable pipe piping length from the nearest circulation loop pipe or an electrically heat-traced pipe source of hot or tempered water to the termination of the fixture supply pipe shall be in accordance with the maximum pipe length columns in Table 702.8.2. Where the length contains more than one size of pipe, the largest size shall be used for determining the maximum allowable length of the pipe in Table 702.8.2.

702.8.2 Maximum allowable pipe volume method. The water volume in the piping shall be calculated in accordance with Section 702.8.2.1. For fixtures other than public lavatory faucets, the maximum volume of heated water in the piping from the nearest hot or tempered water in the piping to public lavatory faucets, metering or nonmetering, shall be 2 ounces (0.06 L). For fixtures other than public lavatory faucets, the maximum volume shall be 64 ounces (1.89 L) for hot or tempered water from a water heater or boiler; and 24 ounces (0.7 L) for hot or tempered water from a circulation loop pipe or an electrically heat-traced pipe shall be 24 ounces (0.7 L).

**TABLE 702.8.2
PIPE VOLUME AND MAXIMUM PIPING LENGTH OF PIPE OR TUBE**

NOMINAL PIPE OR TUBE SIZE (inch)	LIQUID OUNCES PER FOOT OF LENGTH	MAXIMUM PIPE OR TUBE PIPING LENGTH (feet)		
		System without a circulation loop or heat-traced line (feet)	System with a circulation loop or heat-traced line (feet)	Lavatory faucets – public (metering and nonmetering) (feet)
1/4 ^a	0.33	50	16	6
5/16 ^a	0.5	50	16	4
3/8 ^a	0.75	50	16	3
1/2	1.5	43	16	2
5/8	2	32	12	4

NOTE: This version of the code change proposal has been updated to include all reported errata.

3/4	3	24	8	0.5
7/8	4	16	6	0.5
1	5	13	5	0.5
1 1/4	8	8	3	0.5
1 1/2	11	6	2	0.5
2 or larger	18	4	1	0.5

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 gallon per minute = 3.785 L/m, 1 ounce = 29.6 ml.

- a. The flow rate for 1/4 -inch size pipe or tube is limited to 0.5 gallons per minute; for 5/16-inch size, it is limited to 1 gpm; for 3/8-inch size, it is limited to 1.5 gpm.

702.8.2.1 Water volume determination. The volume shall be the sum of the internal volumes of pipe, fittings, valves, meters and manifolds between the circulation loop pipe or an electrically heat-traced pipe source of hot water and the termination of the fixture supply pipe. The volume shall be determined from the liquid ounces per foot column of Table 702.8.2. The volume contained within fixture shutoff valves, flexible water supply connectors to a fixture fitting, or within a fixture fitting shall not be included in the water volume determination. ~~Where hot or tempered water is supplied by a circulation loop pipe or an electrically heat-traced pipe, the~~ The volume shall include the portion of the fitting on the branch source pipe that supplies water to the fixture.

Reason: The reason for this proposal is to correlate the provisions with what was approved for inclusion in the 2015 IECC-CE. CE 274 and CE 275 were approved. The effect of this is to remove two columns from the table, and the associated text from the section.

What remains are the provisions that limit the volume to 24 ounces from a circulation loop pipe or a heat traced pipe to plumbing fixtures or appliances. This will result in reduced hot water delivery times, less wasted water and less wasted energy. We have not done anything to change the volume requirements from water heaters (or boilers) that have been approved for use in the 2015 IECC.

Cost Impact: Will not increase the cost of construction. These provisions were already in the IgCC. The proposal correlates them with the 2015 IECC.

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