



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

2015 Washington State Energy Code Development Energy Code Proposal Short Form

For editorial **Coordination, Clarifications & Corrections** only,
without substantive energy or cost impacts

Log No. 046
Proponent Rev
05/13/22

Code being amended: [Commercial](#) Provisions [Residential](#) Provisions
(A MS Word version of the code is linked to the name)

Code Section # R403.5.X, [R403.5.4](#)

Brief Description:

This new section uses the same Water Volume Determination that already exists in the WSEC-C in section C404.3.2.1 and Table C404.3.2.1. This update has been provided to most easily align residential and commercial hot water service volume calculations in piping. This is only a description and not a requirement or prescriptive measure, no energy savings or penalties are involved.

Proposed code change text: (Copy the existing text from the Integrated Draft, linked above, and then use underline for new text and ~~strikeout~~ for text to be deleted.)

R403.5.4 Water Volume Determination

~~The volume shall be the sum of the internal volumes of pipe, fittings, valves, meters, and manifolds between the nearest source of heated water and the termination of the fixture supply pipe. Water heaters, circulating water systems and heat trace temperature maintenance systems shall be considered to be sources of heated water. The volume in the piping shall be determined from Table R403.5.4.1. The volume contained within fixture shutoff valves, within flexible water supply connectors to a fixture fitting and within a fixture fitting shall not be included in the water volume determination. Where heated water is supplied by a recirculating system or heat traced piping, the volume shall include the portion of the fitting on the branch pipe that supplies water to the fixture.~~

The water volume in the piping shall be calculated in accordance with this section. Water heaters, circulating water systems and heat trace temperature maintenance systems shall be considered to be sources of heated water. The volume shall be the sum of the internal volumes of pipe, fittings, valves, meters and manifolds between the nearest source of heated water and the termination of the fixture supply pipe. The volume in the piping shall be determined from Table R403.5.4. The volume contained within fixture shutoff valves, within flexible water supply connectors to a fixture fitting and within a fixture fitting shall not be included in the water volume determination. Where heated water is supplied by a recirculating system or heat-traced piping, the volume shall include the portion of the fitting on the branch pipe that supplies water to the fixture.

Table R403.5.4.1

INTERNAL VOLUME OF VARIOUS WATER DISTRIBUTION TUBING

May 13, 2022

