



Washington State Building Code Council

Improving the built environment by promoting health, safety and welfare

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98504
(360) 407-9280 • fax (360) 586-5366 • e-mail sbcc@ga.wa.gov • www.ga.wa.gov/sbcc

STATE BUILDING CODE INTERPRETATION NO. 13-15

CODE: 2012 Washington State Energy Code, Residential

SECTION: R403.4.2

QUESTION: Apparently very few jurisdictions are enforcing insulation of hot water pipes within the conditioned building envelope. Furthermore, broad application of this provision is impractical since there is insufficient space to properly apply R-4 insulation to pipe runs within interior 2X4 wall cavities. Is it therefore the intent of Section R403.4.2 to require R-4 insulation on hot water piping both inside and outside the conditioned building envelope?

ANSWER: **Yes. The intent was to require insulation of all hot water piping to reduce heat loss and energy consumption. However, the insulation is allowed to be discontinuous where it passes through wall studs, floor joists or other structural members and where the pipes pass other piping, conduit or vents, provided the insulation is tight to either side of the obstruction. Also, if the piping is in an exterior wall cavity or other insulated space, no additional pipe insulation is needed if the insulation provides at least R-4 coverage around the piping.**

In the 2009 energy code, Table 5-12 required 1-inch thick pipe insulation for domestic hot water piping less than 1-1/2 inches in diameter, and 1.5 inch thick insulation for larger pipes. This was required by Section 503.11. In order to simplify compliance, the TAG selected one value (R-4) for residential domestic hot water pipe insulation, to roughly equal the previous 1-inch insulation requirement. The insulation is allowed to be discontinuous at framing and other obstructions by this interpretation, so that plumbers do not have to cut large holes through studs and so that hot water pipes can pass by vent pipes within a stud space.

SUPERSEDES: None

REQUESTED BY: City of Shoreline