
Code Section #  R403.5.5

Brief Description:

Correct the language to not require insulation under electric water heaters in heated spaces.

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.)

R403.5.5 Electric water heater insulation. All electric water heaters in unheated spaces or in unconditioned spaces, or on concrete floors, and located in an unheated in conditioned spaces, shall be placed on an incompressible noncompressible, insulated surface with a minimum thermal resistance of R-10.

Purpose of code change:

The provisions for requiring insulation underneath an electric water heater was intended to apply to those located in unheated spaces only. As it is currently written, it would require insulation be placed under a water heater installed on any concrete floor, regardless of the location. For instance, this would require an electric water heater that is installed in a 2nd story apartment unit’s closet to be placed on R-10 insulation where the rated floor assembly incorporates a concrete layer for the upper membrane. This requires then that insulation be added where there is no benefit. By making the change, the code will apply the provision more appropriately and help the building official apply the code more consistently.

Your amendment must meet one of the following criteria. Select at least one:

☐ Addresses a critical life/safety need.
☐ The amendment clarifies the intent or application of the code.
☐ Addresses a specific state policy or statute.  
(Note that energy conservation is a state policy)
☐ Consistency with state or federal regulations.
☐ Addresses a unique character of the state.
☐ Corrects errors and omissions.

Check the building types that would be impacted by your code change:

☑ Single family/duplex/townhome  ☑ Multi-family 4 + stories  ☑ Institutional
☐ Multi-family 1 – 3 stories  ☐ Commercial / Retail  ☐ Industrial

June 3, 2019/May 9, 2019
Economic Impact Data Sheet

Briefly summarize your proposal’s primary economic impacts and benefits to building owners, tenants and businesses.

Primary economic impact would be a savings to the owner of approximately $15/dwelling unit where previously required to comply with the unnecessary provision. Savings may be much greater in cases where the insulation had to be installed upon issuance of a correction notice by an inspector whereas the cost for the installation of the foam would be hundreds of dollars greater due to the amount of time needed to obtain the insulation, mobilization to the site, and the time to drain a water heater or other incidental costs needed to make the necessary room / piping adjustments due to the raising of the water heater. No annual energy savings/costs apply.

Provide your best estimate of the construction cost (or cost savings) of your code change proposal? (See OFM Life Cycle Cost Analysis tool and Instructions; use these Inputs, Webinars on the tool can be found Here and Here)

$0.01/square foot (For residential projects, also provide $15/ dwelling unit)

Show calculations here, and list sources for costs/savings, or attach backup data pages

Typical unit contains (1) water heater. If the unit contains an electric water heater, and has concrete floors, there would be the savings for the cost of the insulation IF located in a jurisdiction that previously interpreted the code to require the insulation in conditioned spaces. The cost for 2’ x 2’ of R-10 foam board, with installation, is approximately $15.

Provide your best estimate of the annual energy savings (or additional energy use) for your code change proposal?

NA

Show calculations here, and list sources for energy savings estimates, or attach backup data pages

NA

List any code enforcement time for additional plan review or inspections that your proposal will require, in hours per permit application:

NA