2021 Washington State Energy Code (WSEC) Residential

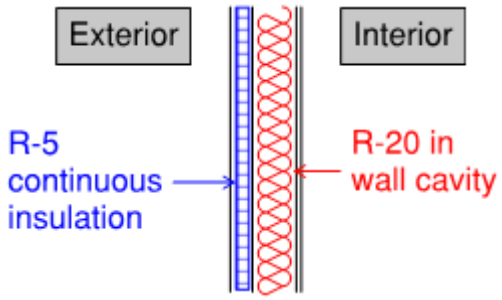
Significant Changes: Wall Insulation

BEGINNING MARCH 15, 2024

The previous edition of the energy code (the 2018 WSEC) required R-21 cavity insulation only in walls. In the 2021 WSEC, a typical wood framed wall assembly now requires continuous insulation in addition to cavity insulation. There are two prescrpitive options:

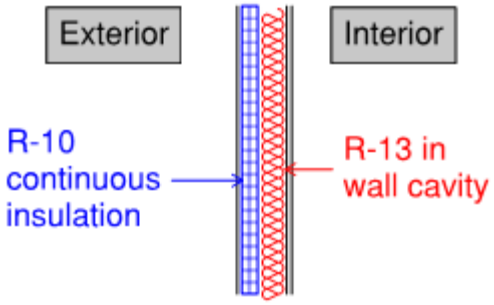
Option 1:

R-20 cavity insulation **plus**
R-5 continuous insulation



Option 2:

R-13 cavity insulation **plus**
R-10 continuous insulation



Continuous insulation is often rigid foam but could be other materials such as mineral wool or cork. Intermediate framing remains required.

Why continuous insulation?

Wood is much more conductive than insulation, so the wood studs in a wall allow for a path of least resistance for heat transfer, called a “thermal bridge”. Wood framing can make up close to ¼ of the wall area, so this thermal bridging effect can be a major contributor to heat loss in the building, resulting in higher energy use required for space heating (and cooling) and lower occupant comfort. *For full code text, see 2021 WSEC Table R402.1.3 & Section 402.2.1*

Installation Considerations

- Continuous insulation must be installed in accordance with manufacturer’s installation instructions
- The manufacturer's R-value mark must be readily observable for inspection. Depending on the project, *an additional exterior insulation inspection may be required to achieve this.*
- Installation of cladding over continuous insulation will required special care in selection and installation of fasteners.

This handout summarizes one significant change in the 2021 Washington State Energy Code (WSEC) for those buildings defined in the code as *Residential Buildings*. See complete code text for details.