Oregon Residential Energy Code

Frequently Asked Questions

The following are typical answers to typical questions. Each specific circumstance may warrant a different answer.

Heated Detached Accessory Buildings

Q We are building a detached garage for our single family home. The garage will be heated. Am I required to insulate the building to the levels specified in the Residential Code?

A No. Heated detached garages and storage buildings are considered non-residential buildings (Oregon Residential Specialty Code, R101.2 – 7). Follow the building envelope requirements specified for "Other" buildings in Chapter 13 of the Oregon Structural Specialty Code.

Insulation on the Exterior of Basement Walls

Q I am installing rigid insulation on the exterior of a basement wall. Is the required insulation value R-15?

A Yes, code states that when R-15 insulation is applied on exterior side of a basement wall, all of the following apply:

- Insulation is a material approved for below ground applications and tested to less than 1 percent for "Water Absorption (max. vol. %)" under ASTM C-272.
- Insulation is installed from the top of the concrete wall to the top of the footing.
- The wall between the top of the concrete wall and bottom of the above-grade subfloor is insulated to R-21 or whatever level of insulation is being used to comply for exterior wall insulation.
- Insulation is protected adequately from the elements (ultraviolet and mechanical) per manufacturer's specifications.
- Top of insulation is installed in a manner that allows water run-off and prevents pooling.

Door U-Factors

Q What is the U-factor requirement for the door between the house and garage for Standard Base Case?

A Standard Base Case specifies a U-factor of 0.20 for the exterior doors. It allows for a door (no larger than 28 square feet) to have a U-factor of 0.54. This is the default U-factor for an untested, unglazed wood door. This door can be located anywhere on the exterior wall. The remainder of the doors must have a U-value of 0.20 or less (better).

Loose-Fill Insulation in Vaulted Ceilings

Q Is there a minimum slope for a scissors truss for installation of loose-fill insulation?

A In effect, yes. The Building Code defines a vaulted ceiling as having a 2-in-1 or greater slope.

If you use loose-fill insulation in a ceiling slope greater than 3-in-12, you risk insulation sloughing downward, leaving the top with a greatly reduced insulation level that will not meet code.

Glass Block

Q How can I use glass block in my exterior walls?

A Glass block is considered a window. Its default U-factor is 0.51, which does not comply with Standard Base Case. Glass block can comply with energy code requirements two ways:

- 1 percent of the total exterior wall area can be designated decorative or unique architectural-feature glazing, which need not comply with U-factor requirements.

- If glass block or other decorative glazing area exceeds 1 percent of the total exterior wall, you can demonstrate compliance using thermal performance calculations, in Table N1104.1(1). Use U-0.51 for glass block U-factor, unless the manufacturer has a tested assembly U-value as "National Fenestration Rating Council (NFRC) certified product."

Skylights

Q Overhead glazing in my new house will exceed 2 percent of the heated-space floor area. How do I comply with energy code requirements?

A Overhead glazing is now NFRC certified in the overhead plane. These U-factors are higher than windows, which are certified in a vertical application. Skylight U-factor of 0.60 is required, which corresponds to and Energy Star rated skylight and there is not an area limitation. Skylight area may be reduced to 2 percent of heated-space floor area when either it is wood, vinyl, or aluminum with thermal break frame having a double pane with low-*e* coating; or is NFRC certified at U-0.75.