

OREGON RESIDENTIAL SPECIALTY CODE



SUMMARY OF KEY RESIDENTIAL ENERGY CODE REQUIREMENTS

The 2021 Oregon Residential Specialty Code (ORSC) is based on the 2018 International Residential Code (IRC) and went into effect on **April 1, 2021**.



CODE CHANGE HIGHLIGHTS

- N1105.3 requires duct systems and air handling equipment to be fully within the building thermal envelope or deeply buried.
- Revised Table N1101.1(2) to include eight additional measures to choose for compliance.
- Reduced the required fenestration U-factor in Table N1101.1(1) from U-0.30 to U-0.27.

BUILDING ENVELOPE REQUIREMENTS

| CODE PATH | 2021 ORSC N1101.1(1) | PRESCRIPTIVE ENVELOPE REQUIREMENTS |
|--------------|-------------------------------|--|
| Prescriptive | Wall Insulation - Above Grade | R-21 / U-0.059 ^a |
| | Wall Insulation - Below Grade | R-21 or R-15 ci / C-0.063 |
| | Flat Ceilings | R-49 / U-0.021 |
| | Vaulted Ceilings | R-30 rafter or R-30 scissor truss ^{b,c} / U-0.033 |
| | Under Floors | R-30 / U-0.033 |
| | Slab-edge Perimeter | R-15 / F-0.52 |
| | Windows | U-0.27 |

- a. Wall insulation requirements apply to all wood-framed, concrete or masonry walls above grade including cripple walls and rim joists. N1104.5.2 requirements also apply.
- b. Vaulted ceiling surface area exceeding 50 percent of the total heated space floor area shall have a U-factor no greater than U-0.026.
- c. Advanced framing per N1104.6 required.

AIR LEAKAGE (IF TESTED)

MEASUREMENT

4 ACH50

Note: All R-values are minimums and U-factors maximums.

ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS

| REQUIREMENT | DESCRIPTION |
|-------------------------------|--|
| High Efficiency HVAC | Gas AFUE 94% or Heat Pump HSPF 10 / 14 SEER or Ground source HP |
| High Efficiency Water Heating | Gas UEF .90 or HPWH COP 2.0 or Tankless + drain heat recovery |
| Advanced Envelope | Windows U-0.21, Ceiling R-60/U-0.017, Floors R-38/U-0.026 or Slab F-0.48 |
| Ductless Heat Pump | HSPF 10T |
| Improved Envelope UA | 8% lower than code UA |
| Reduced Glazing Area | Less than 12% of floor area |
| 3ACH + Efficient Ventilation | Ventilation with heat recovery |

MORE INFORMATION ON OREGON RESIDENTIAL SPECIALTY CODE:

<https://www.oregon.gov/bcd/codes-stand/pages/residential-structures.aspx>

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This summary is offered for informational purposes only. It does not purport to be an exhaustive analysis of code changes or provide advice that will ensure guaranteed compliance with any energy code provision. Please consult with local authorities before finalizing your installation plans.



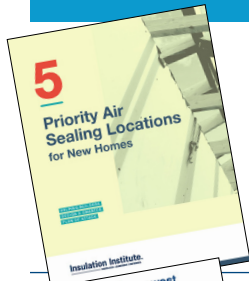
ENERGY-EFFICIENT, COST-EFFECTIVE CONSTRUCTION WITH FIBERGLASS AND MINERAL WOOL INSULATION



As code levels advance, **keep informed about innovative practices** to meet or exceed code requirements using cost-effective fiberglass and mineral wool insulation.

The following resources in the table below are just a subset of the many guides available from the **Insulation Institute** to help you achieve new performance requirements with proven approaches.

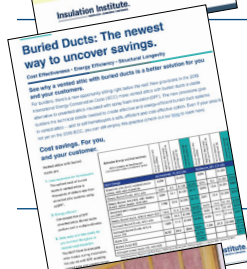
INSULATION INSTITUTE RESOURCES



Air Leakage

As states adopt more stringent energy codes, some builders may experience challenges meeting new mandatory air leakage requirements. Fiberglass and mineral wool insulation is the low-cost solution for homebuilders to meet or surpass code air leakage rate requirements of 3 or 5 air changes per hour depending on climate zone. For homeowners, an airtight building envelope results in energy savings and increased thermal comfort.

<https://insulationinstitute.org/wp-content/uploads/2018/05/N090-5-Air-Sealing-Locations-for-New-Homes.pdf>



Ducts Buried Within Ceiling Insulation

Deeply buried ducts in attics is an easy way to lower energy code compliance costs for builders using the simulated energy performance path. Homeowners can benefit from energy savings realized from lower-capacity, lower-cost HVAC systems.

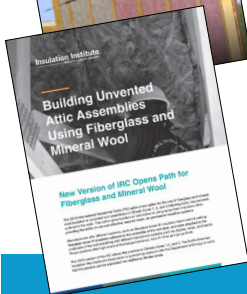
<https://insulationinstitute.org/wp-content/uploads/2019/03/N087-Buried-Ducts-The-newest-way-to-uncover-savings.pdf>



Proper Installation of Insulation

Grade I installation delivers superior energy efficiency and is increasingly required by state energy codes. Insulation installation jobs that fail to meet Grade I criteria can mean construction delays due to callbacks, HERS rating penalties, and failed code inspections. Grade I installation is readily achievable by following basic guidelines as recommended by manufacturers. NAIMA offers free online training for installers.

www.grade1insulation.org



Unvented Attics Using Fiberglass and Mineral Wool Insulation

Unvented attics can be constructed by installing fiberglass or mineral wool insulation below the roof deck instead of using more costly materials like spray foam. In addition, fiberglass and mineral wool insulation products are green certified and do not carry recommended occupancy restrictions due to product off-gassing after installation. Starting with the 2018 IRC, this practice is outlined in detail within the code. Homeowners benefit from lower construction costs and the use of a safe product.

<https://insulationinstitute.org/wp-content/uploads/2018/05/BuildingUnventedAtticAssemblies-N089.pdf>

LEARN MORE ABOUT THE ERI COMPLIANCE PATH HERE:

<https://www.energycodes.gov/technical-assistance/training/courses/2015-iecc-energy-rating-index-eri-compliance-alternative>

Get the Facts for a Stronger Business

Learn more about fiberglass and mineral wool insulation at InsulationInstitute.org



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