

WASHINGTON STATE ENERGY CODE



SUMMARY OF KEY RESIDENTIAL ENERGY CODE REQUIREMENTS

The 2018 Washington State Energy Code is based on the 2018 IECC. The 2018 Washington State Energy Code goes into effect on **February 1, 2021**.



CODE CHANGE HIGHLIGHTS

- The basement wall requirement of 10/15/21 + 5TB is permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the wall.
- The total duct leakage test or leakage to the outdoors is not required for ducts and air handlers located entirely within the building thermal envelope.
- R403.3.6.1 and R403.3.7 outlines criteria that allow ducts to be buried in attics to be considered inside conditioned space.

BUILDING ENVELOPE REQUIREMENTS

CODE PATH	2018 WSEC	CHANGE SUMMARY
		CLIMATE ZONE 5 AND MARINE 4
Prescriptive	R402.1.2 – Wood Frame Wall	R-21 intermediate framing / U-0.056
	R402.1.2 – Ceilings	R-49 / U-0.026
	R402.1.2 – Basement Walls	10/15/21 + 5 TB ^{a,b} / U-0.042 at 2 ft, U-0.040 at 3.5 ft, U-0.035 at 7 ft.
	R402.1.2 – Slab	R-10, 2 ft. / F-factor – 0.54
	R402.1.2 – Fenestration	U-0.30

a. 10/15/21 + 5TB means R-10 continuous insulation on the exterior of the wall, R-15 continuous insulation on the interior of the wall, or R-21 cavity insulation plus a thermal break between the slab and the basement wall at the interior of the basement wall.

b. 5TB means R-5 thermal break between floor slab and basement wall.

AIR LEAKAGE

CLIMATE ZONE	MEASUREMENT
5 and Marine 4	5 ACH50

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

ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS

Each dwelling unit based on type and size must achieve a certain number of credits to achieve energy code compliance. The credits can be found in table R406.3. The table to the right determines the number of credits a dwelling must achieve.

SIZE	REQUIREMENT	CREDITS
Small Dwelling	Less than 1,500 sq. ft. with less than 300 sq. ft. of fenestration area. Additions to existing buildings that are greater than 500 but less than 1,500 sq. ft.	3
Medium Dwelling	All dwellings not considered small, large, or serving R-2 occupancies	6
Large Dwelling	Exceeding 5,000 sq. ft of conditioned floor area	7
R-2	Dwellings serving R-2 occupancies	4.5
Additions	Less than 500 sq. ft.	1.5

MORE INFORMATION ON WASHINGTON STATE ENERGY CODE:

https://sbcc.wa.gov/sites/default/files/2020-02/2018%20WSEC_R%20Final%20package.pdf

Insulation Institute
KNOWLEDGE. LEADERSHIP. CONFIDENCE.

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.



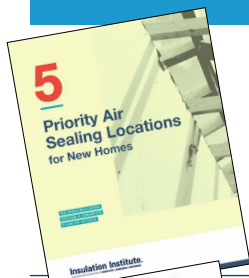
ENERGY-EFFICIENT, COST-EFFECTIVE CONSTRUCTION WITH FIBERGLASS AND MINERAL WOOL INSULATION



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.

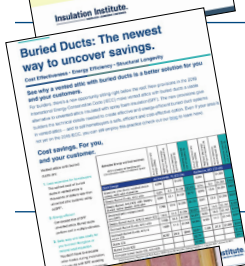
INSULATION INSTITUTE RESOURCES



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.

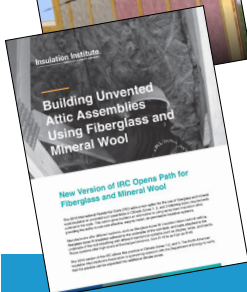
<https://insulationinstitute.org/wp-content/uploads/2019/03/N087-Buried-Ducts-The-newest-way-to-uncover-savings.pdf>



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:

www.energycodes.gov/resource-center/training-courses/2015-iecc-%E2%80%93-energy-rating-index-eri-compliance-alternative

Get the Facts for a Stronger Business

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

NAIMA
NORTH AMERICAN INSULATION
MANUFACTURERS ASSOCIATION

P.O. Box 1906 • Alexandria, VA 22315
InsulationInstitute.org • 703.684.0084