

MONTANA ENERGY CODE



SUMMARY OF KEY RESIDENTIAL ENERGY CODE REQUIREMENTS

The 2021 IECC was adopted with amendments in Montana effective **June 20, 2022**. This document summarizes changes to the building envelope-related requirements in the updated code for Montana.



CODE CHANGE HIGHLIGHTS

- Mechanical system piping, service hot water system insulation and hot water pipe insulation requirements were amended to align with the Uniform Plumbing Code (UPC) requirements.
- The ceiling U-factor in Table R402.1.2 was amended to U-0.026 but the minimum ceiling R-value in Table R 402.1.3 was left unamended at R-60.
- The Montana Department of Labor and Industry encourages owners, design professionals, and builders to voluntarily implement greater levels of energy efficiency in building design and construction than those required by the International Energy Conservation Code.

BUILDING ENVELOPE AND DUCT REQUIREMENTS

PRESCRIPTIVE	CLIMATE ZONE 6	MAXIMUM ENERGY RATING INDEX (ERI)	
Wood Frame Wall	R-21 or R-13+5ci or R-13+10ci or R-15ci / U-0.045	CLIMATE ZONE	MEASUREMENT
Ceilings	R-60 / U-0.026	6	54
Crawl Space Walls	R-19 or R-15 ci or R-13+5 ci / U-0.055	AIR LEAKAGE (IF TESTED)	
Fenestration	U-0.30	CLIMATE ZONE	MEASUREMENT
Floor	R-30 / U-0.033	6	4 ACH50
Mass Wall ^a	R-15/20 / U-0.060	DUCT R-VALUE	
Slab R-value	R-10ci / 4 ft.	R-8 ^b	
Basement Walls	R-19 or R-15 ci or R-13+5 ci / U-0.050		
DUCT LEAKAGE			
MEASUREMENT	CFM25 / 100 SQ. FT.		
Rough-in (installed air handler)	4		
Rough-in (air handler not installed)	3		
Post-construction	4		

a. The second R-value/U-factor applies where > 50% of the insulation is on the interior.
b. R-6 is allowed for ducts < 3 inches.

MORE INFORMATION ON THE MONTANA ENERGY CODE CAN BE FOUND HERE:

https://bsd.dli.mt.gov/_docs/building-codes-permits/ProposedRuleAmendments.pdf#page=20



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.

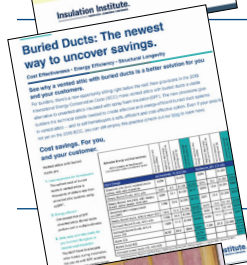
INSULATION INSTITUTE RESOURCES



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.

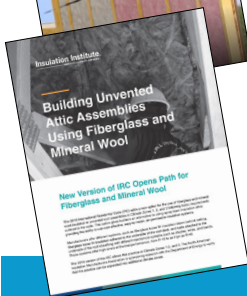
<https://insulationinstitute.org/wp-content/uploads/2019/03/N087-Buried-Ducts-The-newest-way-to-uncover-savings.pdf>



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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