



# VERMONT RESIDENTIAL BUILDING ENERGY STANDARD

# SUMMARY OF KEY RESIDENTIAL ENERGY CODE REQUIREMENTS

The 2018 IECC was adopted with amendments in Vermont and went into effect on **September 1, 2020**. This document summarizes changes to the building envelope-related requirements in the updated code for Vermont.



## CODE CHANGE HIGHLIGHTS

- Builders must select additional points-based efficiency options from Table R402.1.2.3. The number of required points is calculated based on building type and size.
- Log home insulation requirements are found in Table R402.1.6.
- Unvented attic assemblies are permitted to use air-permeable insulation as long as the criteria under R402.2.2.1 is met.
- R403.3.6 allows for ducts to be buried under ceiling insulation.

## BUILDING ENVELOPE REQUIREMENTS

CODE PATH	2018 IECC CODE SECTION	CHANGE SUMMARY			
		PACKAGE 1 (STANDARD)	PACKAGE 2 (SIPS)	PACKAGE 3 (THICK WALL)	PACKAGE 4 (CAVITY ONLY)
Prescriptive	R402.1.2.1 – Wood Frame Wall	R-20 + 5 ci or R-13 + 10 ci / U-0.044	R-21 ci / U-0.044	R-20 + 12 ci / U-0.044	R-20 / U-0.044
	R402.1.2.1 – Ceilings	R-49 / U-0.022	R-28 ci / U-0.022	R-49 / U-0.022	R-60 attic / R-49 slope / U-0.022
	R402.1.2.1 – Basement Walls	R-20 or R-15 ci or R-13 + 5 ci / U-0.035	R-20 or R-15 ci or R-13 + 5 ci / U-0.035	R-13 + 10 ci or R-20 ci / U-0.035	R-13 + 10 ci or R-20 ci / U-0.035
	R402.1.2.1 – Crawl Space Walls	R-20 or R-15 ci or R-13 + 5 ci / U-0.035	R-20 or R-15 ci or R-13 + 5 ci / U-0.035	R-13 + 10 ci or R-20 ci / U-0.035	R-13 + 10 ci or R-20 ci / U-0.035
	R402.1.2.1 – Fenestration	U-0.30	U-0.30	U-0.30	U-0.28
<b>DUCT LEAKAGE</b>		<b>AIR LEAKAGE</b>			
<b>MEASUREMENT</b>	<b>CFM25 / 100 SQ. FT.</b>	<b>CLIMATE ZONE</b>		<b>MEASUREMENT</b>	
Rough-in	3	ALL		3 ACH50	
Post-construction	4				
<b>TABLE R406.4 MAXIMUM ENERGY RATING INDEX (ERI)</b>					
		<b>CLIMATE ZONE</b>	<b>MAXIMUM ERI</b>		
		ALL	61		

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

**MORE INFORMATION ON THE VERMONT RESIDENTIAL BUILDING ENERGY STANDARD CAN BE FOUND HERE:**

[https://publicservice.vermont.gov/sites/dps/files/documents/2020%20RBES%20CLEAN\\_Final%20Proposed-for%20LCAR\\_added%20language%20R402.1.5.pdf](https://publicservice.vermont.gov/sites/dps/files/documents/2020%20RBES%20CLEAN_Final%20Proposed-for%20LCAR_added%20language%20R402.1.5.pdf)



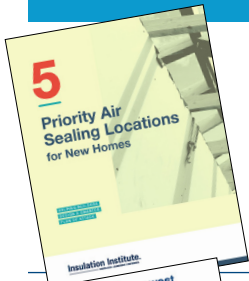
# ENERGY-EFFICIENT, COST-EFFECTIVE CONSTRUCTION WITH FIBERGLASS AND MINERAL WOOL INSULATION



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.

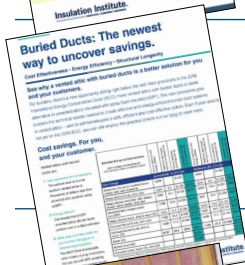
## INSULATION INSTITUTE RESOURCES



### 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.

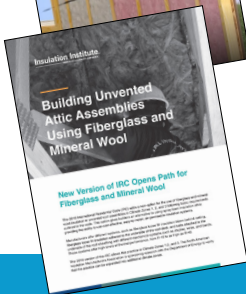
<https://insulationinstitute.org/wp-content/uploads/2019/03/N087-Buried-Ducts-The-newest-way-to-uncover-savings.pdf>



### 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](http://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](http://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](http://InsulationInstitute.org)



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