

MASSACHUSETTS BUILDING ENERGY CODE



SUMMARY OF KEY RESIDENTIAL ENERGY CODE REQUIREMENTS

The 2018 IECC was adopted with amendments in Massachusetts and went into effect on **August 7, 2020**. This document summarizes changes to the building envelope-related requirements in the updated code for Massachusetts.



CODE CHANGE HIGHLIGHTS

- Energy Star 3.1 and Passive House (PHIUS or PHI) are both specifically approved compliance paths whereas R405 Performance Path has been deleted as an option.
- Massachusetts adopted a stretch code to improve the efficiency of new construction. The stretch code, which is based on the ERI, has been adopted in 90%+ of the jurisdictions in the state.
- R402.4.1.1 specifically requires all insulation to be installed at Grade I quality per ICC/RESNET 301.
- R407 requires one additional efficiency option to be selected.

BUILDING ENVELOPE REQUIREMENTS

CODE PATH	2018 IECC CODE SECTION	CHANGE SUMMARY
		CLIMATE ZONE 5
Prescriptive	R402.1.2 – Wood Frame Wall	R-20 or R-13+5 ci / U-0.060
	R402.1.2 – Ceilings	R-49 / U-0.026
	R402.1.2 – Basement Walls	R-19 or R-15 ci / U-0.050
	R402.1.2 – Crawl Space Walls	R-19 or R-15 ci / U-0.055
	R402.1.2 – Fenestration	U-0.30

DUCT LEAKAGE

AIR LEAKAGE

MEASUREMENT	CFM25 / 100 SQ. FT.	CLIMATE ZONE	
Rough-in	4	5	3 ACH50
Post-construction	4		

TABLE R406.4 MAXIMUM ENERGY RATING INDEX (ERI)

CLIMATE ZONE	MAXIMUM ERI
5	55

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

MORE INFORMATION ON THE MASSACHUSETTS BUILDING ENERGY CODE CAN BE FOUND HERE:

[https://www.mass.gov/info-details/building-energy-code#energy-efficiency-provisions-of-the-state-building-code-\(780-cmr\)-](https://www.mass.gov/info-details/building-energy-code#energy-efficiency-provisions-of-the-state-building-code-(780-cmr)-)



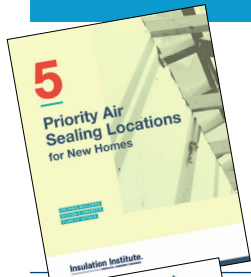
ENERGY-EFFICIENT, COST-EFFECTIVE CONSTRUCTION WITH FIBERGLASS AND MINERAL WOOL INSULATION



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.

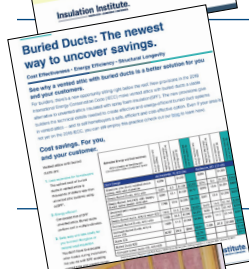
INSULATION INSTITUTE RESOURCES



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.

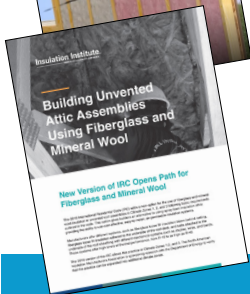
<https://insulationinstitute.org/wp-content/uploads/2019/03/N087-Buried-Ducts-The-newest-way-to-uncover-savings.pdf>



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



2013 Olde Regent Way • Suite 150, Box 120 • Leland, NC 28451
InsulationInstitute.org • 703.684.0084