MASSACHUSETTS BUILDING ENERGY CODE

SUMMARY OF KEY RESIDENTIAL ENERGY CODE REQUIREMENTS

The Massachusetts Stretch Energy Code, based on the 2021 IECC, was adopted by 85% of the jurisdictions in the state and went into effect **January 1, 2023**. This document summarizes changes to the building envelope-related requirements in the updated code for Massachusetts.

CODE CHANGE HIGHLIGHTS

- Passive House (PHIUS or PHI) is specifically approved as a compliance path replacing the R405 Performance Path which has been deleted as an option.
- Insulation levels increased for walls and ceilings.
- R403.6 requires balanced ventilation.
- One of 3 additional efficiency options shall be selected per R408.

BUILDING ENVELOPE AND DUCT REQUIREMENTS

CODE PATH	2021 IECC CODE SECTION	CHANGE SUMMARY CLIMATE ZONE 5
Prescriptive	**R402.1.2 – Wood Frame Wall**	R-30 or R-20+5ci or R-13+10ci or R-20ci / U-0.045
	R402.1.2 – Ceilings	R-60 / U-0.024
	R402.1.2 – Basement Walls	R-19 or R-13+5ci or R-15ci / U-0.050
	R402.1.2 – Crawl Space Walls	R-19 or R-13+5ci or R-15ci / U-0.055
	R402.1.2 – Fenestration	U-0.30 / SHGC-0.40

DUCT LEAKAGE

MEASUREMENT	CFM25 / 100 SQ. FT.
Rough-in	4
Post-construction	4
Ducts within the thermal envelope	8

DUCT R-VALUE

R-VALUE
R-8[a]

AIR LEAKAGE

CLIMATE ZONE	MEASUREMENT
5	3 ACH50

TABLE R406.4 MAXIMUM ENERGY RATING INDEX (ERI)

CLEAN ENERGY APPLICATION	MAX HERS SCORE WITHOUT RENEWABLES		
	NEW CONSTRUCTION UNTIL JUNE 30, 2024	NEW CONSTRUCTION PERMITS AFTER JULY 1, 2024	MAJOR ALTERATIONS, ADDITIONS, OR CHANGE OF USE
Mixed-Fuel Building	52	42	52
Solar Electric Generation	55	42	55
All-Electric Building	55	45	55
Solar Electric Generation & All-Electric Building	58	45	58

a. R-6 is allowed for ducts <3 inches.

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

http://www.mass.gov/doc/225-cmr-2200-residential-specialized-stretch-energy-code/download

Insulation Institute™

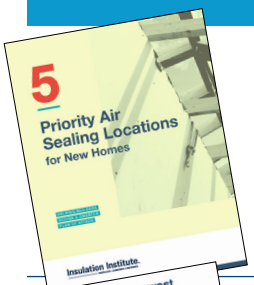
KNOWLEDGE. LEADERSHIP. CONFIDENCE.

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.

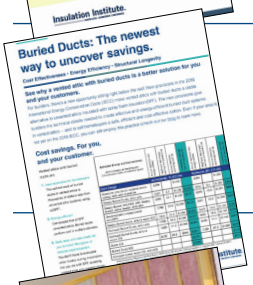
INSULATION INSTITUTE RESOURCES



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

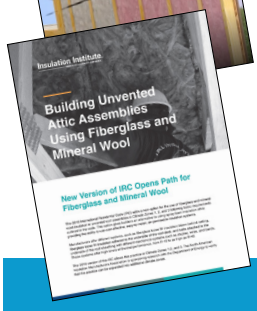
Deeply buried ducts in attics is an easy way to lower energy code compliance costs for builders using the simulated energy performance path. Homeowners can benefit from energy savings realized from lower-capacity, lower-cost HVAC systems.

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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