



ILLINOIS BUILDING ENERGY CODE

SUMMARY OF KEY RESIDENTIAL ENERGY CODE REQUIREMENTS

The 2024 IECC was adopted with amendments in Illinois and will be mandatory as of **November 30, 2025**. This document summarizes the changes to the building envelope-related requirements in the updated code for Illinois.



CODE CHANGE HIGHLIGHTS

- Phius is a compliance option but it also must meet R409.
- R408.2.9 which allows a wall insulation reduction trade-off was deleted.
- The residential provisions apply to buildings 4 stories and less in jurisdictions with 1,000,000+ population.
- Fenestration is more stringent in climate zone 5.

BUILDING ENVELOPE AND DUCT REQUIREMENTS

PRESCRIPTIVE	CLIMATE ZONE 4		CLIMATE ZONE 5	
Wood Frame Wall	R-30 or R-20+5ci or R-13+10ci or R-0+20ci / U-0.045			
Ceilings	R-49 / U-0.026			
Crawl Space Walls	R-13 or R-10 ci / U-0.065		R-19 or R-15 ci / U-0.055	
Fenestration	U-0.30 / SHGC-0.40		U-0.028 / SHGC-No Requirement	
Floor	R-19 or R-13+5ci or R-15ci / U-0.047		R-30 or R-19+7.5ci or R-20ci / U-0.033	
Mass Wall ^a	R-8/13 / U-0.098		R-13/17 / U-0.082	
Slab R-value and Depth	R-10, 3 feet			
Basement Walls	R-13 or R-10 ci / U-0.059		R-19 or R-15ci or R-13+5ci / U-0.050	

TOTAL SYSTEM DUCT LEAKAGE ^b	CFM25 / 100 SQ. FT.	DUCT R-VALUE	AIR LEAKAGE	
		R-VALUE	CLIMATE ZONE	MEASUREMENT
HVAC equipment, not installed	3	R-8 ^c	ALL CLIMATE ZONES	3 ACH 50
HVAC equipment, installed	4			
HVAC not installed, but in conditioned space	6			
HVAC installed, in conditioned space	8			

MAXIMUM ENERGY RATING INDEX (ERI)	
CLIMATE ZONE	MAXIMUM ERI
4	53
5	54

a. The first R-value applies where > 50% of the insulation is on the interior side.

b. 3+ returns and/or dwelling <1000 sq. ft. changes targets per Table R403.3.8.

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

ACCESS MORE INFORMATION ON THE ILLINOIS BUILDING ENERGY CODE HERE:

<https://cdb.illinois.gov/business/codes/illinois-energy-codes.html>

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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.



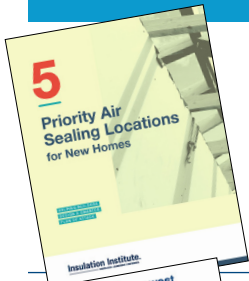
ENERGY-EFFICIENT, COST-EFFECTIVE CONSTRUCTION WITH FIBERGLASS AND MINERAL WOOL INSULATION



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.

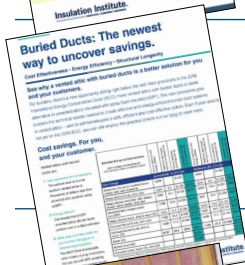
INSULATION INSTITUTE RESOURCES



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.

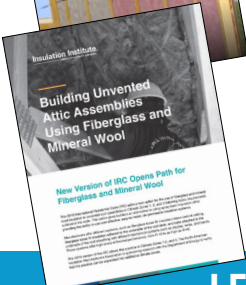
<https://insulationinstitute.org/wp-content/uploads/2019/03/N087-Buried-Ducts-The-newest-way-to-uncover-savings.pdf>



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 TO SEE HOW THE ENERGY CODE SAVES YOU MONEY:

<https://insulationinstitute.org/wp-content/uploads/2024/10/Modern-Energy-Codes-Save-Money-Infographic.pdf>

Get the Facts for a Stronger Business

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



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