

ARIZONA BUILDING ENERGY CODE



SUMMARY OF KEY RESIDENTIAL ENERGY CODE REQUIREMENTS

The 2018 IECC was adopted with amendments in Phoenix and Tucson, Arizona. This document summarizes changes to the building envelope-related requirements in the updated code for Phoenix and Tucson.



CODE CHANGE HIGHLIGHTS

- Under the 2018 IECC, when using the Energy Rating Index pathway and if a builder is using on-site renewable energy, then the level of efficiency must meet or exceed the levels of efficiency in the 2015 IECC.
- In Phoenix, if a builder implements R-19 insulation in the walls, the duct insulation can be reduced to R-6.
- The 2018 IECC allows for buried ducts to be considered inside conditioned space if the criteria in R403.3.7 is met.

BUILDING ENVELOPE REQUIREMENTS

CODE PATH	2018 IECC CODE SECTION	CHANGE SUMMARY	
		PHOENIX	TUCSON
Prescriptive	R402.1.2 – Wood Frame Wall	R-13 / U-0.084	R-13 / U-0.084
	R402.1.2 – Ceilings	R-38 / U-0.030	R-38 / U-0.030
	R402.1.2 – Slab	N/A	N/A
	R402.1.2 – Crawl Space Walls	N/A	N/A
	R402.1.2 – Fenestration	U-0.40	U-0.40

DUCT LEAKAGE

AIR LEAKAGE

MEASUREMENT	PHOENIX & TUCSON	JURISDICTION	MEASUREMENT
Rough-in (air handler installed)	4 CFM25 / 100 SQ. Ft.	PHOENIX	5 ACH50
Rough-in (air handler not installed)	3 CFM25 / 100 SQ. Ft.	TUCSON	5 ACH50
Post-construction	4 CFM25 / 100 SQ. Ft.		

TABLE R406.4 MAXIMUM ENERGY RATING INDEX (ERI)

JURISDICTION	MAXIMUM ERI
PHOENIX	64
TUCSON	57

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

MORE INFORMATION ON ARIZONA BUILDING ENERGY CODE:

<https://www.phoenix.gov/pdd/devcode/buildingcode> | <https://www.tucsonaz.gov/pdsd/building-codes>



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.



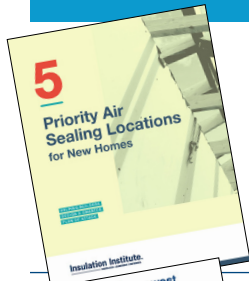
ENERGY-EFFICIENT, COST-EFFECTIVE CONSTRUCTION WITH FIBERGLASS AND MINERAL WOOL INSULATION



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.

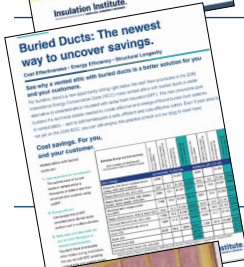
INSULATION INSTITUTE RESOURCES



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.

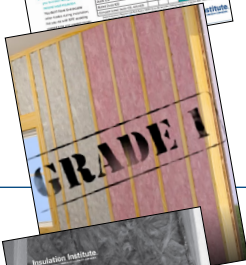
<https://insulationinstitute.org/wp-content/uploads/2018/05/N090-5-Air-Sealing-Locations-for-New-Homes.pdf>



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.

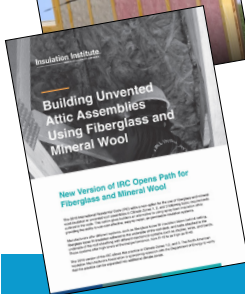
<https://insulationinstitute.org/wp-content/uploads/2019/03/N087-Buried-Ducts-The-newest-way-to-uncover-savings.pdf>



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 ABOUT THE ERI COMPLIANCE PATH HERE:

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

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