



Success with 2009 IECC in Georgia:
Tech Tips for Builders

INSULATION



Copyright ©2014 Advanced Energy. All Rights Reserved





TECH TIPS: INSULATION

1. For vented attics, install wind baffles on top of all exterior walls, leaving room for at least 4 inches of insulation over top plates and ventilation above.

MISALIGNMENT



RIGHT INSTALLATION

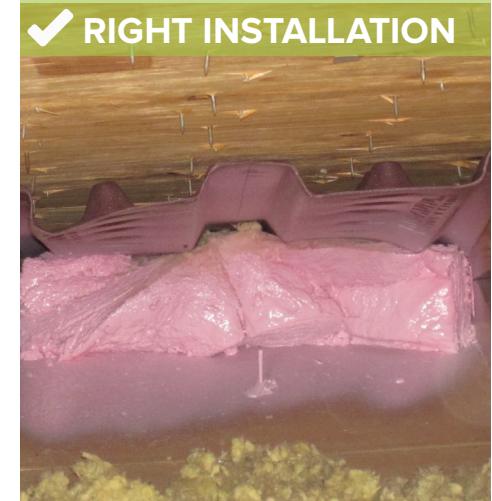


1. For vented attics, install wind baffles on top of all exterior walls, leaving room for at least 4 inches of insulation over top plates and ventilation above.

WIND WASHING



RIGHT INSTALLATION



Success with 2009 IECC in Georgia for Builders



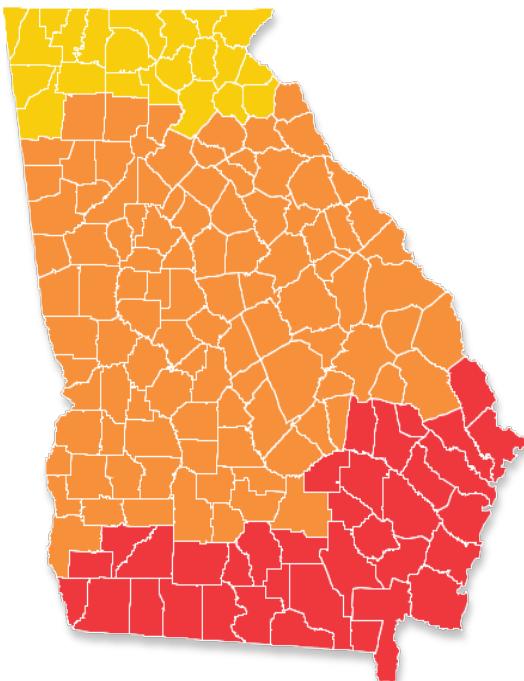
TECH TIPS:

INSULATION

Success with 2009 IECC in Georgia for Builders

2. Install insulation to meet the Georgia R-value requirements.^a

CLIMATE ZONE	CEILING ^c	ATTIC KNEE WALLS	FRAME WALL ^d	MASS WALL ^f	FLOOR ^g	BASEMENT WALL ^{h,k}	CRAWL SPACE WALL ^{j,k}	SLABI
Zone 2	R-30	R-18	R-13	R-4/6	R-13	R-0	R-0	0
Zone 3	R-30	R-18	R-13	R-5/8	R-19	R-5/13	R-5/13	0
Zone 4	R-38	R-18	R-13	R-5/10	R-19	R-10/13	R-10/13	0



- a. R-values are minimums. U-factors and SHGC are maximums. R-19 shall be permitted to be compressed into a 2 x 6 cavity. Non-fenestration U-factors shall be obtained from measurement, calculation or an approved source.
- b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration, including doors 50 percent or more glazed. One door or window (or up to 15 square feet [1.4 m²] of glazed fenestration) may be exempt from meeting the U-factor and SHGC (Does not apply to attic access doors) See Section 402.2.3 'Fenestration access hatches and doors' of these Georgia State Supplements and Amendments.

- c. Ends and sides of ceiling joist cavity shall be blocked with an approved air barrier. Flat ceiling insulation shall be in substantial contact with the ceiling. Ceiling areas without attic space in Climate Zone 4 may be R-30 (maximum of 20 percent of ceiling area or 500 square feet, whichever is less). For HVAC platform and floored access path areas, refer to Section 402.2.1 'Ceilings with attic spaces' of these Georgia State Supplements and Amendments.
- d. All vertical air-permeable insulation shall be in substantial contact with an air barrier on all six (6) sides. Exception: Unfinished basements and fireplaces (insulation shall be restrained to stay in place).
- e. R-13 + R-5 insulated sheathing, R-15 + R-3 insulated sheathing, or R-19 compressed into a 2 x 6 cavity is deemed to meet R-18 minimum requirement. Attic side shall have a sealed air barrier.
- f. The second R-value applies when more than half the insulation is on the interior side of the mass wall.
- g. Floor insulation shall be installed to maintain continuous permanent contact with the underside of the subfloor decking, and insulation ends shall be blocked. Cantilevered floors shall be R-30 and band area above exterior wall shall be blocked.
- h. R-5 and R-10 are continuous and R-13 is cavity and band. For basements with no direct conditioning, either the floor or all of the basement walls shall be insulated. For basements with direct conditioning, all of the basement walls shall be insulated.
- i. Applies to unheated slabs. Heated slabs shall have exterior edge insulated to R-5 to a depth of 2 feet (610 mm). Insulation located below grade shall be in compliance with Section 402.2.7.
- j. R-5 and R-10 are continuous and R-13 is cavity and band. See Section 402.2.9 'Crawl Space Walls' of these Georgia State Supplements and Amendments.
- k. Consideration should be given for mold and moisture, and for termite inspection and treatment.
- l. Where impact rated fenestration is required under Section R301.2.1.2 of the International Residential Code or Section 1609.1.2 of the International Building Code, the maximum U-factor shall be 0.75 in Zone 2 and 0.65 in Zone 3.

Interactive Map:
<http://energycode.pnl.gov/EnergyCodeReqs/>



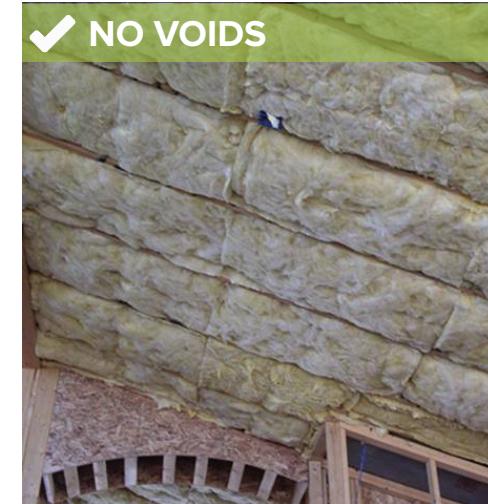
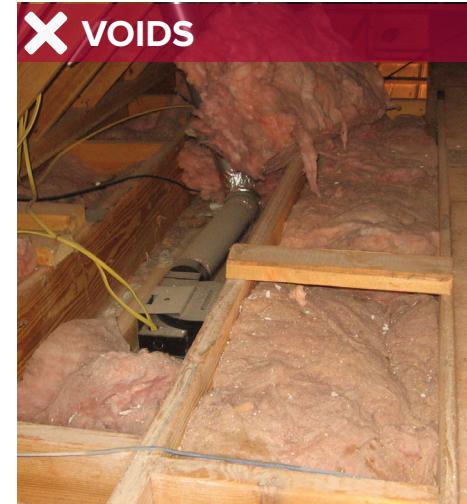
TECH TIPS: INSULATION

Success with 2009 IECC in Georgia for Builders

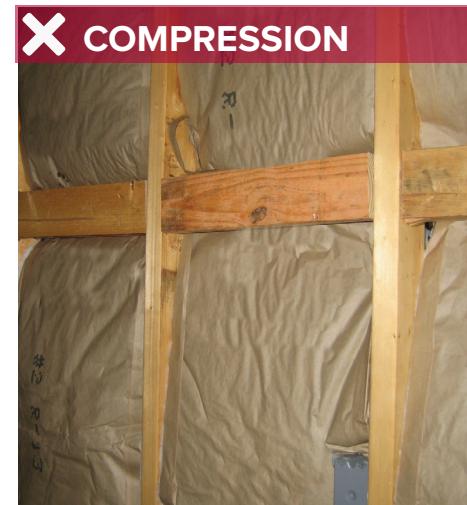
3. Install insulation to fill the cavity between conditioned and unconditioned space without gaps, voids, misalignments or compression.



3. Install insulation to fill the cavity between conditioned and unconditioned space without gaps, voids, misalignments or compression.



3. Install insulation to fill the cavity between conditioned and unconditioned space without gaps, voids, misalignments or compression.





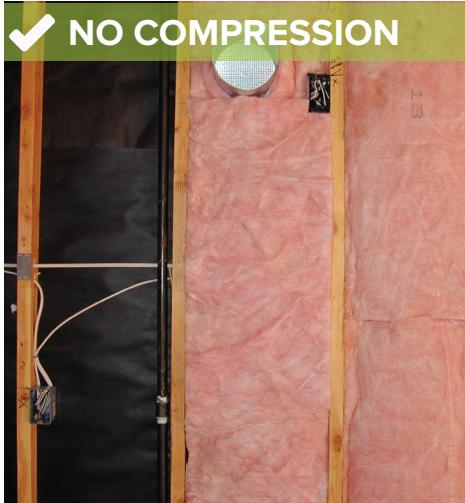
TECH TIPS: INSULATION

Success with 2009 IECC in Georgia for Builders

4. Cut and split insulation around blocking, plumbing, HVAC and electrical components.



✗ COMPRESSION

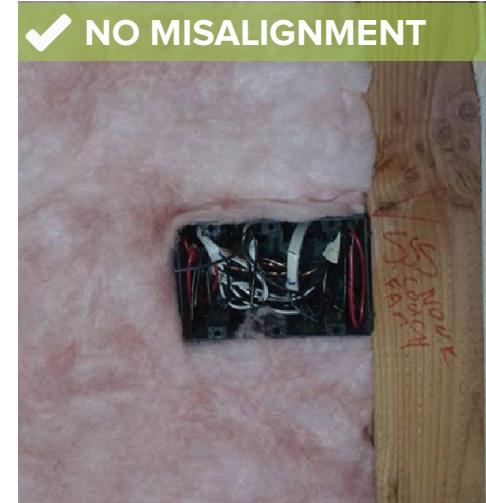


✓ NO COMPRESSION

4. Cut and split insulation around blocking, plumbing, HVAC and electrical components.



✗ MISALIGNMENT



✓ NO MISALIGNMENT

5. Install insulation to completely fill floor framing or to maintain permanent contact with the subfloor.



✗ VOIDS

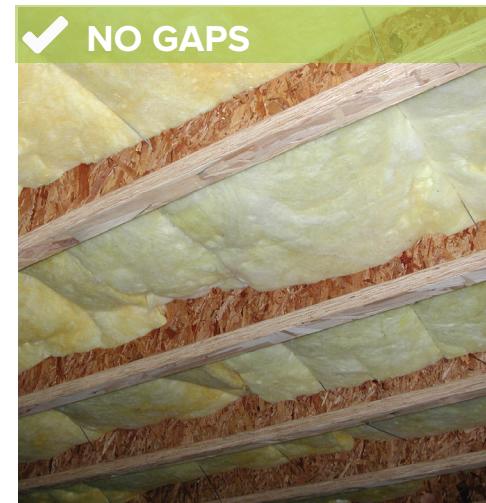


✓ NO Voids

5. Install insulation to completely fill floor framing or to maintain permanent contact with the subfloor.



✗ GAPS



✓ NO GAPS



TECH TIPS: INSULATION

Success with 2009 IECC in Georgia for Builders

6. For cantilever floors, frame to allow for at least R-30 and encapsulate with an exterior rigid air barrier and air sealing.

NO RIGID AIR BARRIER



SEALED BARRIER



7. Air seal around windows and doors using backer rod, caulk or low expansion foam.

INSULATION



SEAL



8. Insulate the attic access and install weather stripping around the perimeter.

NO INSULATION



INSULATION

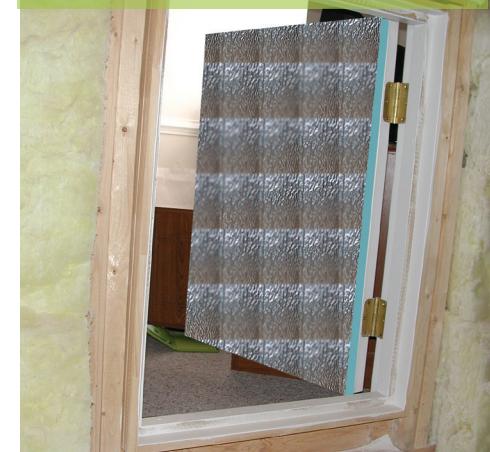


8. Insulate the attic access and install weather stripping around the perimeter.

NO INSULATION



INSULATION





TECH TIPS: INSULATION

Success with 2009 IECC in Georgia for Builders

9. For attics with loose fill insulation, install baffles around the attic access opening.

X NO BAFFLES



✓ RIGHT INSTALLATION

