



Success with 2012 NC Energy Conservation
Code in North Carolina:
Tech Tips for Builders

INSULATION



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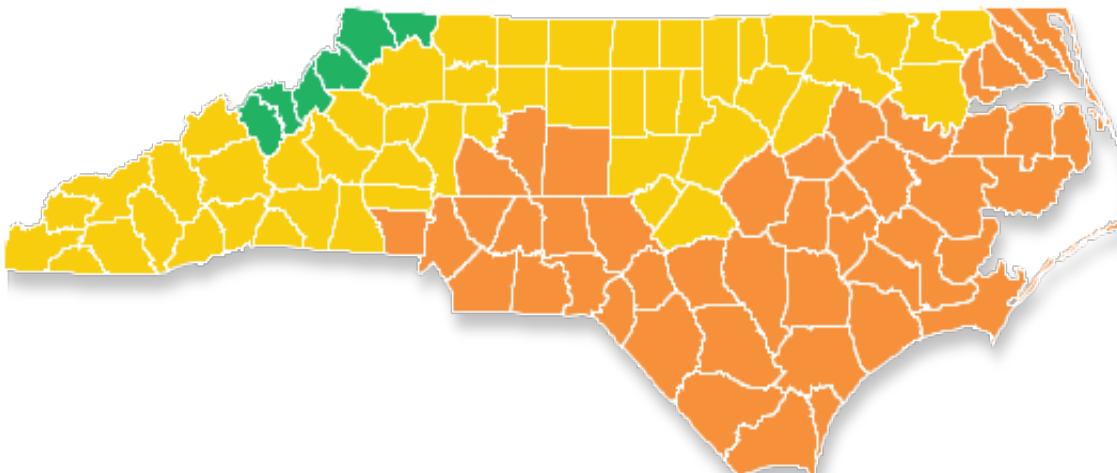
TECH TIPS:

INSULATION

Success with 2012 NC Conservation Code in North Carolina for Builders

1. Install insulation to meet the 2012 NC Energy Conservation Code R-value requirements.^a

CLIMATE ZONE	CEILING	FRAME WALL	MASS WALL ^c	FLOOR	BASEMENT WALL ^e	CRAWL SPACE WALL ^e	SLAB ^{g,h}
Zone 3	R-30	R-13	R-5/10	R-19	R-10/13 ^f	R-5/13	0
Zone 4	R-38 or R-30 cont.	R-15 or R-13+R.25 ^b	R-5/10	R-19	R-10/13	R-10/13	10, 2 ft.
Zone 5	R-38 or R-30 cont.	R-19 or R-13+R-5 or R-15+R3 ^b	R-13/17	R-30 ^d	R-10/13	R-15/19	10, 2 ft.



- a. R-Values are minimums.
- b. "R-13+R-5" means R-13 cavity insulation, plus R-5 insulated sheathing. If structural sheathing covers 25 percent or less of the exterior, insulated sheathing is not required where structural sheathing is used. If structural sheathing covers more than 25 percent of the exterior, structural sheathing shall be supplemented with insulation sheathing of at least R-2.
- c. The second R-value applies when more than half of the insulation is on the interior of the mass wall.
- d. Sufficient insulation to fill the cavity, R-19 minimum.
- e. "R-15/19" means R-15 continuous insulation sheathing on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. "R-10/13" means R-10 continuous insulated sheathing or R-10 cavity insulation on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.
- f. Basement wall insulation is not required in warm-humid locations defined by Figure 301.1 and Table 301.1 of the IECC.
- g. R-values are minimums.
- h. R-5 shall be added to the required slab edge R-values for heated slabs. Insulation depth shall be the depth of the footing or two feet, whichever is less in Climate Zones 1-3 for heated slabs.

Interactive Map:

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



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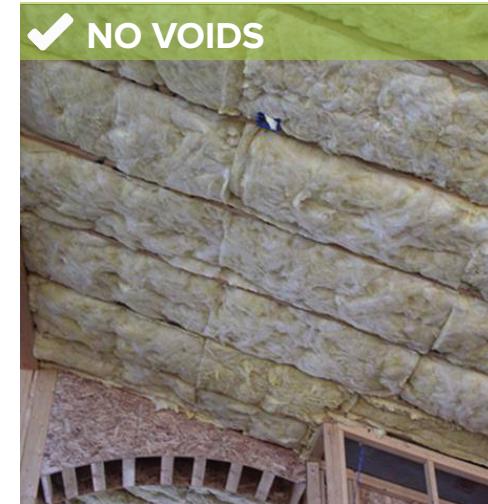
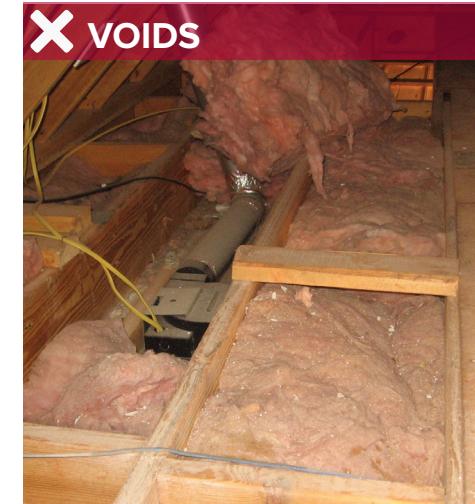
- 2.** Install insulation to fill the cavity between conditioned and unconditioned space without gaps, voids, misalignments or compression.



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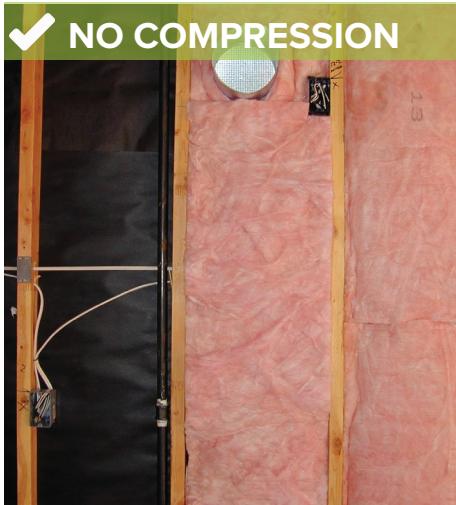
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- 3.** Cut and split insulation around blocking, plumbing, HVAC and electrical components.



X COMPRESSION

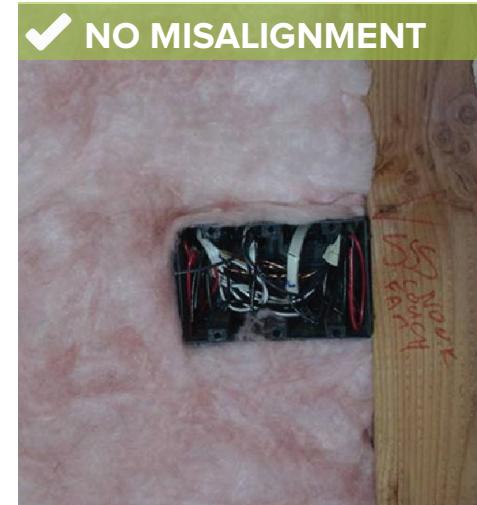


✓ NO COMPRESSION

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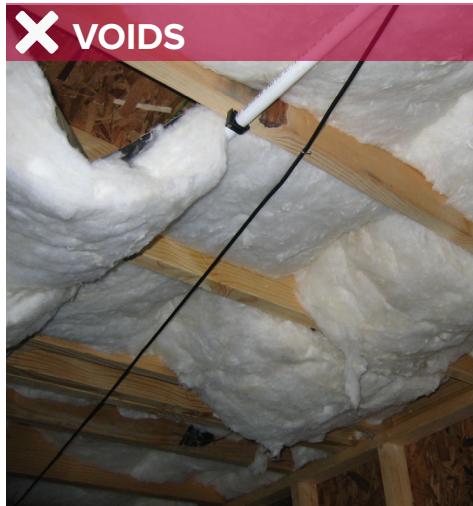


X MISALIGNMENT

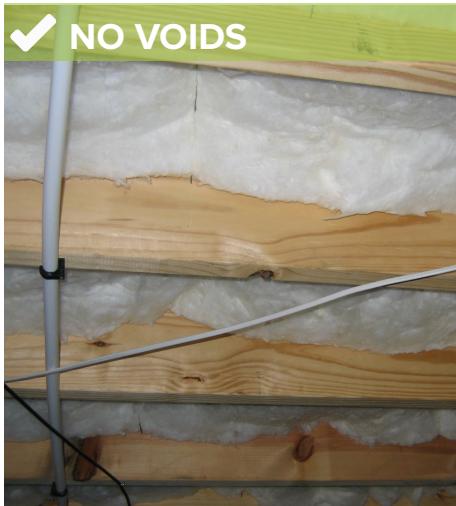


✓ NO MISALIGNMENT

- 4.** Install insulation to completely fill floor and/or cantilever framing or to maintain permanent contact with the subfloor.



X VOIDS



✓ NO VOIDS

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X GAPS



✓ NO GAPS



TECH TIPS: INSULATION

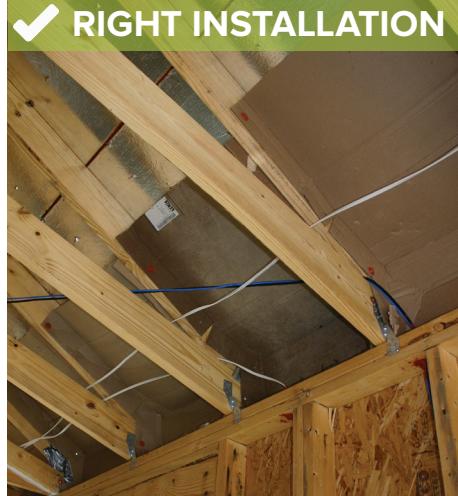
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- 5.** For vented attics, install wind baffles on top of all exterior walls, leaving room for insulation over top plates.

MISALIGNMENT



RIGHT INSTALLATION



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

INSULATION



SEAL



- 7.** Insulate the attic access and install weather stripping around the perimeter.

NO INSULATION



INSULATION



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NO INSULATION



INSULATION





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

✗ NO BAFFLES



✓ RIGHT INSTALLATION

