

**NC Department of Insurance
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Rim Joists Between Stories

Code: 2012 NC Residential Code
Section: N1102.2.12

Date: Aug. 7, 2013

Code: 2012 NC Energy Conservation Code
Section: 402.2.12

Question:

On single-family residential construction, is an air barrier or rigid material required to encapsulate the insulation installed at the perimeter rim joists between stories in order to satisfy section N1102.2.12 of the 2012 NC Residential Code, or section 402.2.12 of the 2012 NC Energy Conservation Code?

Answer:

The answer is no. Section N1102.2.12 of the 2012 NC Residential Code is repeated below:
***N1102.2.12 Framed cavity walls.** The exterior thermal envelope wall insulation shall be installed in substantial contact and continuous alignment with the building envelope air barrier. Insulation shall be substantially free from installation gaps, voids, or compression. For framed walls, the cavity insulation shall be enclosed on all sides with a rigid material or an air barrier material. Wall insulation shall be enclosed at the following locations when installed on exterior walls prior to being covered by subsequent construction, consistent with Appendix E-2.3 of this code:*

- 1. Tubs*
- 2. Showers*
- 3. Stairs*
- 4. Fireplace units*

Enclosure of wall cavity insulation also applies to walls that adjoin attic spaces by placing a rigid material or air barrier material on the attic space side of the wall on the attic space side of the wall.

Section N1102.2.12 of the 2012 NC Residential Code requires the cavity insulation be enclosed on all sides of framed walls. However, the rim joist is not part of a framed wall cavity that this section is intended to address. Specific wall elements targeted by this section and intended to be enclosed are further defined in the section. Specifically, wall insulation shall be enclosed at the following locations when installed on exterior walls consistent with the Appendix E-2.3 details for tubs, showers, stairs, and fireplace units, and also walls adjoining attic spaces. This is required where these walls are a part of the building thermal envelope.

Since the rim joist is not identified in the list prescribed in Section N1102.2.12, the enclosure is not required.

A continuous air barrier, per NC Residential Code N1102.4.1 (402.4.1 NC ECC) is required, but the code minimum does not require the insulation at the rim joists to be encapsulated.

Keywords: