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Code of Federal Regulations Title 16, Part 460 and insulated core CMU assemblies

Code: 2018 NC Energy Conservation Code

Date: 02/03/2026

Section: C303.1.4, Table C402.1.4

Question:

Are claims of R-values for CMU assemblies containing foam insulation in the cores subject to the advertising claim requirements of CFR Title 16, Part 460ⁱ?

Answer:

Yes, for assemblies that meet the wording highlighted in CFR Title 16, Part 460, Section 460.4, shown below. Section 460.4 refers the reader to Section 460.22, which in turn directs the reader to Section 460.5. Within Section 460.5, there are several methods listed and the required method depends on the product or assembly being considered. The highlighted ASTM C1363-11 test for an envelope assembly would be the appropriate test.

§ 460.4 When the rules in this part apply.

You must follow the rules in this part each time you import, manufacture, distribute, sell, install, promote, or label home insulation. You must follow them each time you prepare, approve, place, or pay for home insulation labels, fact sheets, ads, or other promotional materials for consumer use. You must also follow them each time you supply anyone covered by this part with written information that is to be used in labels, fact sheets, ads, or other promotional materials for consumer use. Testing labs must follow the rules unless the industry members tell them, in writing, that labels, fact sheets, ads, or other promotional materials for home insulation will not be based on the test results. You must follow the requirements in [§ 460.22](#) each time you make an R-value claim for non-insulation products marketed in whole or in part to reduce residential energy use by slowing heat flow.

§ 460.22 R-value claims for non-insulation products.

If you make an R-value claim for a product, other than a fenestration-related product, that is not home insulation and is marketed in whole or in part to reduce residential energy use by slowing heat flow, you must test the product pursuant to [§ 460.5](#) using a test or tests in that section [appropriate to the product](#). Any advertised R-value claims must fairly reflect the results of those tests. For the purposes of this section, fenestration-related products include windows, doors, and skylights as well as attachments for those products.

§ 460.5 R-value tests.

R-value measures resistance to heat flow. R-values given in labels, fact sheets, ads, or other promotional materials must be based on tests done under the methods listed in paragraphs (a) through (d) of this section.

(a) All types of insulation except reflective insulation must be tested with ASTM C177-13, “Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus;” ASTM C518-17, “Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus;” ASTM C1363-11, “Standard Test Method for Thermal Performance of Building Materials and Envelope Assemblies by Means of a Hot Box Apparatus” or ASTM C1114-06, “Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Thin-Heater Apparatus.” The tests must be done at a mean temperature of 75 degrees Fahrenheit and with a temperature difference of 50 degrees Fahrenheit plus or minus 10 degrees Fahrenheit. The tests must be done on the insulation material alone (excluding any airspace). R-values (“thermal resistance”) based upon heat flux measurements according to ASTM C177-13 or ASTM C518-17 must be reported only in accordance with the requirements and restrictions of ASTM C1045-07, “Standard Practice for Calculating Thermal Transmission Properties Under Steady-State Conditions.”

Follow up Question #1:

Does “home insulation” include any commercial applications?

Answer:

Yes, see CFR Title 16, Part 460, Section 460.2. The scoping is very broad, and contains categories that are commercial, or could be used in commercial and industrial buildings.

§ 460.2 What is home insulation.

Insulation is any material mainly used to slow heat flow. It may be mineral or organic, fibrous, cellular, or reflective. It may be in rigid, semirigid, flexible, or loose-fill form. Home insulation is for use in old or new homes, condominiums, cooperatives, apartments, modular homes, or mobile homes. It does not include pipe insulation. It does not include any kind of duct insulation except for duct wrap. It also includes insulation developed and marketed for commercial or industrial buildings that is also marketed for and used in residential buildings.

Keywords: transverse isothermal, thermal bridge

¹CFR Title 16, Part 460 is readily available online for free viewing. A standard web browser should get a reader to the site if “CFR Title 16, Part 460” is used as the start of the search.