



Setting the Standards for Home Energy Efficiency

**Interpretation:** Core-filled CMU block walls cannot achieve Grade I

**Designation:** IR 301-2019-035

**Approved:** June 6, 2024 by RESNET SDC 300

**Effective Date:** July 6, 2024

**Reference:**

Standard ANSI / RESNET / ICC 301-2019

Page Number(s): \_\_\_\_\_

Sections(s): Section 4.2.2.2.1; Normative Appendix A-2.1.1.4; Normative Appendix B - Building Element: Wall Assembly / Rated Feature: Wall Insulation Installation

Table(s): \_\_\_\_\_

Relating to: Insulation installation grade for CMU block walls filled with site-installed insulation

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**Background Statement:** *Provided by person requesting the interpretation.*

Concrete Masonry Unit (CMU) blocks are commonly used to construct residential exterior walls in some parts of the country, such as Florida. One practice for insulating such walls is to fill the hollow cores. For example, this can be done by injecting spray foam through holes drilled into the side of the wall, as shown below.



For such installations, there is no opportunity for a Rater to visually inspect the insulation installation quality because it is concealed upon installation. For a typical installation, the Rater may only be able to visually verify that insulation is present at each injection hole.

ANSI / RESNET / ICC 301 does not define procedures specifically for CMU block walls that are site-filled with insulation. However, Section 4.2.2.2.1 states, in part, that “the insulation of the Rated Home shall either be inspected according to procedures equivalent to Appendix A or if confirmed to be present but not fully inspected, shall be modeled as Grade III... Thermographic inspection shall not be used to determine an assembly achieves a Grade I rating.”

Furthermore, the grading criteria in Appendix A, Section A-2.1.1.4 Closed-Cell Polyurethane Spray Foam, states in part that, “no more than 2 percent of the insulated area shall contain voids or be greater than ½ inch less than the specified thickness. The minimum installed thickness shall not be less than ¾ inch below the specified thickness at any point. Voids extending from the interior to the exterior of the intended insulation areas shall not be permitted.” Very similar criteria are defined for open-cell foam and loose fill insulation, which might also be used insulate the hollow cores. Such criteria cannot be assessed because it is not possible to observe the insulation.



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**Proposed Interpretation:** *Provided by person requesting the interpretation.*

Core-filled CMU block wall assemblies are not explicitly addressed in ANSI / RESNET / ICC 301. Because it is not possible to visually inspect the insulation within such assemblies, is it correct to state that the insulation installation of such an assembly cannot achieve Grade I?

Is it also correct to state that foam or other insulation applied to the exterior or interior side of a CMU block wall (i.e., not within the cores) has the potential to achieve Grade I insulation installation, because it is possible to visually inspect such insulation?

**SDC Response:**

Is the proposed interpretation correct?       Yes     No

**SDC Comments:**