

specimens according to the manufacturer's installation instructions, using equipment, materials, and procedures representative of the manner in which the insulation is applied in the field. In the ANPR, the Commission indicated that the procedures in paragraph 5.1 of ASTM C 1149 ("Self-Supported Spray Applied Cellulosic Thermal Insulation") appear to be appropriate for preparing R-value test specimens of self-supported, spray-applied cellulose insulation products. The Commission proposed to amend the Rule to incorporate this test and solicited comments on the proposal. 64 FR at 48034.

Comments on Loose-Fill Insulations in Walls

NAIMA suggested that the Rule require manufacturers to demonstrate that their products do not settle in wall installations or to disclose the amount of any expected settling on Fact Sheets along with wall coverage charts similar to those required for attic installations. NAIMA recommended that wall coverage charts require R-values, coverages, bag counts, and area weights at standard wall cavity depths for at least 2x4 and 2x6 framing. Acknowledging that no validated test method exists to predict the settling of loose-fill insulations, NAIMA nevertheless maintained that settling in walls is more critical than settling in attics because settling in walls creates uninsulated voids at the top of wall cavities, while settling in attics does not create uninsulated areas. NAIMA claimed that wall insulation settling of 5% can reduce overall wall R-value by 15%.⁵⁸

Discussion of Loose-fill Insulation in Walls

The Commission understands that specific requirements for determining the appropriate density for the R-value test specimen and for disclosures on coverage charts for applications in enclosed wall cavities may provide some benefits to consumers. However, there does not appear to be any generally accepted procedure to determine the density of dry-applied loose-fill insulations when it is installed in enclosed wall cavities. Accordingly, at this time, the Commission is not proposing an amendment to the Rule in this regard, but reminds manufacturers to be careful and cautious about their claims for loose-fill insulation in walls.

Comments on Self-Supported Insulation in Walls

NAIMA encouraged an amendment to the Rule that would require the preparation of R-value test specimens of self-supported spray cellulose according to ASTM C 1149-97. NAIMA maintained that this standard provides adequate test specimen procedures.⁵⁹

Discussion of Self-Supported Insulation in Walls

For self-supported spray-applied cellulose insulation, the Commission proposes to amend the Rule to require the use of ASTM C 1149-97. The procedures in paragraph 5.1 of ASTM C 1149-97, which require that R-value test specimens be prepared using the manufacturer's recommended equipment and procedures and at the manufacturer's maximum recommended thickness, appear to be appropriate procedures for preparing R-value test specimens of self-supported, spray-applied cellulose insulation products. The Commission solicits comment regarding the accuracy and reliability of this procedure, how to define the products to which the procedures apply, and whether the same procedures (or others) should be required for other types of spray-applied insulations (e.g., mineral fiber insulations) that are used in residential applications. If comments indicate that this product is rarely used in the residential market, the Commission will reconsider the need for a specific requirement. The Commission also proposes to indicate that manufacturers must take into account the settling of self-supported insulation in determining the R-value of their products. The Commission accordingly seeks comments regarding the extent to which this insulation is used in the residential market. If the material is not used widely in the residential market, the Commission requests views on whether it is necessary to amend the Rule to specifically address this product.

In the ANPR, the Commission also proposed the incorporation of a portion of HUD UM-80 into the Rule.⁶⁰ The HUD bulletin has not been reviewed or amended since its publication in 1979. To avoid any confusion that may result from requiring two procedures, the Commission does not propose to require HUD UM-80.

⁵⁹ *Id.*

⁶⁰ U.S. Department of Housing and Urban Development Materials Bulletin No. 80 ("HUD UM-80"), dated October 31, 1979.

Discussion regarding the Use of Loose-fill Insulations and Self-supported Insulations in Wall Cavities of Manufactured Housing

As indicated in the ANPR (64 FR at 48035), industry members have raised questions regarding the current procedures for determining the settled density of dry-applied loose-fill insulations or self-supported insulations when they are used in wall cavities of site-built homes. At issue is whether the settling of these insulations, which are installed in wall assemblies in a factory and then transported to the site where the manufactured home will be located, settle more, or differently, than those used in site-built homes because of additional vibrations and other factors during transportation. Because no comments addressed this issue, the Commission is not proposing any amendments to the Rule in this regard.

3. Density Variations

The ANPR asked whether the Rule should require R-value testing of loose-fill insulations at each thickness claimed in order to take into account the density variations that may occur with variations in thickness. 64 FR at 48035. NAIMA recommended that the Commission revise the Rule to require manufacturers to consider density variations in preparing coverage charts.⁶¹ However, without specific data to demonstrate whether or how much the density of particular types of loose-fill varies with differences in thickness, the Commission does not believe that changes to the Rule on this issue would be appropriate. For this issue, the Commission is not proposing any amendments to the Rule.

4. Installations in Closed Cavities of Variable Thickness

The ANPR asked whether the Rule should specify how to determine and disclose R-values for insulation installed in cavities of variable thickness and density (e.g., in manufactured housing attics). 64 FR at 48035. NAIMA opposed a change to the Rule because it would unnecessarily confuse this issue, and venture into system performance and building design.⁶² No other significant comments were received on this issue. Accordingly, the Commission is not proposing any amendments to the Rule regarding this issue.

⁶¹ NAIMA (9), p. 18.

⁶² *Id.*

⁵⁸ NAIMA (9), p. 17.