

information voluntarily to consumers as long as the claims are truthful and substantiated.

2. Performance of Building System Components That Include Insulation

Background

In the ANPR, the Commission sought comments on whether the Rule should require disclosure of thermal performance values of building system components that include insulation. Such systems generally involve structural insulation panels, which are building systems products that include insulation as a major component.

Comments

Three comments opposed requiring the thermal efficiency testing of insulation systems. PIMA asserted that the necessary information is not available to include testing requirements for these systems in the Rule. It contended that a great deal of testing and research would be needed to develop the necessary system evaluation methods.²⁵ EPSMA maintained that it would be difficult to draft testing and disclosure requirements that would be meaningful to consumers.²⁶ NAIMA adamantly opposed requiring disclosure of the overall thermal efficiency of building components because in its view, there is no consensus standard or test procedure capable of quantifying the overall thermal performance of structural insulation panels. NAIMA maintained that even the manufacturers of such products recognize that additional research and development would be necessary before requiring such disclosures. NAIMA explained that the performance of these systems is highly dependent on factors not under the control of the manufacturer, such as air-tightness of joints between the components and other parts of the building envelope (like windows and doors). In NAIMA's view, these factors are extremely difficult, if not impossible, to quantify in a fair and easy-to-understand disclosure that would benefit the general public. Finally, NAIMA pointed out that the Rule does not prevent manufacturers from providing additional information about their products' performance due to factors other than R-value.²⁷

DOE stated that thermal bridging (particularly due to steel studs), other wall elements (windows, doors, and corners), and other construction details all have major effects on actual thermal performance. The Department suggested

that the Commission address these issues by requiring additional disclosures. DOE recommended that the Commission adopt the whole wall rating system developed by ORNL.²⁸

Discussion

The Commission continues to believe that additional research would be required to develop the procedures necessary to implement a requirement that sellers include in their R-value disclosures information about the performance of their products when used in various types of construction. Even if such procedures were developed, as a practical matter, it might be very difficult to draft testing and disclosure requirements that could take the multiple variables involved into account in a manner that would result in a disclosure that would be meaningful to consumers. In addition, it would be difficult to ensure that the benefits from such procedures (e.g., better information for consumers) outweighed the additional costs that would be imposed on industry members (e.g., for additional testing and disclosures). See 64 FR 48029–30.

Accordingly, the Commission is not proposing to amend the Rule at this time to require the disclosure of insulation performance based on testing of home insulation products in different types of applications. Manufacturers and sellers may voluntarily provide additional information about how their products perform in actual use, if they substantiate their claims.

C. Disclosing R-Values That Account for Factors Affecting R-Value

1. Aging

a. Cellular Plastics Insulations

Background

Certain types of cellular plastics insulations (polyurethane, polyisocyanurate, and extruded polystyrene boardstock insulations) are manufactured in a process that results in a gas other than normal air being incorporated into the voids in the products. This gives the product an initial R-value that is higher than it would have if it contained normal air. A chemical process, known as aging, causes the R-value of these insulations to decrease over time as the gas is replaced by normal air. 44 FR at 50219–20. How long the aging process lasts depends on whether the product is faced or unfaced, the permeability of the facing, how well the facing adheres to the product, and other factors. 64 FR 48024 at 48030–31.

The current Rule addresses this aging process by requiring that R-value tests be performed on specimens that “fully reflect the effect of aging on the product's R-value.” Section 460.5(a)(1) of the Rule accepts the use of the “accelerated aging” procedure in General Services Administration (“GSA”) Purchase Specification HH–I–530A (which was in effect at the time the Commission promulgated the Rule) as a permissible “safe harbor” procedure, but also allows manufacturers to use “another reliable procedure.” See discussion at 44 FR at 50227–28. The “accelerated” procedure was designed to age these insulations in a shorter period than they would age under normal usage conditions. Under the “accelerated aging” method in the GSA specification, test specimens are aged for 90 days at 140° F dry heat.

GSA amended its specification in 1982 to allow the use of an optional aging procedure (in addition to the “accelerated” method) under which test specimens are aged for six months (“180 days”) at 73° F ± 4° F and 50 % ± 5 percent relative humidity (with air circulation to expose all surfaces to the surrounding environmental conditions). An industry group, the Roof Insulation Committee of the Thermal Insulation Manufacturers Association (“RIC/TIMA”), specified the use of similar conditions in a technical bulletin it adopted at about the same time. In response to adoption of the alternative 180-day aging procedure by GSA and RIC/TIMA, the Commission's staff advised home insulation sellers that the alternative procedure appeared to be reliable and could be used to age cellular plastics insulations. The staff cautioned, however, that manufacturers of insulations faced with materials that significantly retard aging may need to age test specimens for a longer period of time, and that the staff would consider whether the alternative procedure was acceptable for specific products on a case-by-case basis.²⁹

The Commission in the ANPR indicated that Dr. Wilkes from ORNL reported that ASTM was developing a new method of determining the aged R-value of unfaced cellular plastics boardstock insulations based on R-value tests of thin samples sliced from the center of the boards. This test procedure has since been published as ASTM C 1303–95. 64 FR at 48031.

²⁹ See, e.g., staff opinion letter dated May 5, 1983, to Manville Corporation. GSA thereafter rescinded its specification (along with other insulation specifications) and now requires that federally purchased insulations comply with ASTM insulation material specifications.

²⁵ PIMA (3), p. 10.

²⁶ EPSMA (6), p. 3.

²⁷ NAIMA (9), p. 10.

²⁸ DOE (20), p.2.