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Labeling and Advertising of Home Insulation: Trade Regulation Rule; Final Rule

FEDERAL TRADE COMMISSION

16 CFR Part 460

Labeling and Advertising of Home Insulation: Trade Regulation Rule

AGENCY: Federal Trade Commission.

ACTION: Final rule.

SUMMARY: The Federal Trade Commission (''Commission'') amends its Trade Regulation Rule Concerning the Labeling and Advertising of Home Insulation (''R-value Rule'' or ''Rule'') to streamline and increase the benefits of the Rule to consumers and sellers, minimize its costs, and respond to the development and utilization of new technologies to make American homes more energy efficient and less costly to heat and cool. This document provides background on the R-value Rule and this proceeding; discusses the public comments the Commission received; and describes the amendments the Commission is making based on the record.

DATES: These amendments will become effective November 28, 2005. The incorporation by reference of certain publications listed in this rule is approved by the Director of the Federal Register as of November 28, 2005.

ADDRESSES: Requests for copies of this document are available from: Public Reference Branch, Room 130, Federal Trade Commission, 600 Pennsylvania Avenue, NW., Washington, DC 20580. The complete record of this proceeding is also available at that address. Relevant portions of the proceeding, including this document, are available at *http://www.ftc.gov*.

FOR FURTHER INFORMATION CONTACT: Hampton Newsome, (202) 326–2889, Division of Enforcement, Bureau of Consumer Protection, Federal Trade Commission, 600 Pennsylvania Avenue, NW., Washington, DC 20580.

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I. Introduction

The R-value Rule specifies substantiation and disclosure requirements for thermal insulation products used in the residential market, and prohibits certain claims unless they are true.[1] The primary disclosure required is the insulation product's ''R-value.'' R-value is the numerical measure of the ability of an insulation product to restrict the flow of heat and, therefore, to reduce energy costs—the higher the R-value, the better the product's insulating ability. To assist consumers, the Rule requires sellers (including insulation manufacturers, professional installers, new home sellers, and retailers) to disclose the insulation product's R-value and related information, before retail sale, based on uniform, industry-adopted standards.[2] This information enables consumers to evaluate how well a particular insulation product is likely to perform, to determine whether the cost of the insulation is justified, and to make meaningful, cost-benefit based purchasing decisions among competing products.

II. Overview Of The Rule

A. Products Covered

The R-value Rule covers all ''home insulation products.'' Under the Rule, ''insulation'' is any product mainly used to slow down the flow of heat from a warmer area to a cooler area, for example, from the heated inside of a house to the outside during the winter through exterior walls, attic, floors over crawl spaces, or basement. ''Home insulation'' includes insulation used in all types of residential structures. The Rule automatically covers new types or forms of insulation marketed for use in the residential market, whether or not the Rule specifically refers to them. The Rule does not cover pipe insulation, or any type of duct insulation except for duct wrap. The Rule does not cover insulation products sold for use in commercial (including industrial) buildings. It does not apply to other products with insulating characteristics, such as storm windows or storm doors.

Home insulation includes two basic categories: ''mass'' insulations and ''reflective'' insulations. Mass insulations reduce heat transfer by conduction (through the insulation's mass), convection (by air movement within and through the air spaces inside the insulation's mass), and radiation. Reflective insulations (primarily aluminum foil) reduce heat transfer when installed facing an airspace by increasing the thermal resistance of the airspace and reducing radiative heat transfer. Within these basic categories,

[1] The Commission promulgated the R-value Rule on August 29, 1979 under section 18 of the Federal Trade Commission Act (''FTC Act''), 15 U.S.C. 57a. The Rule became effective on September 30, 1980. See Final Trade Regulation Rule (''Statement of Basis and Purpose'' or ''SBP''), 44 FR 50218 (1979).

[2] Home insulation sellers should be aware that additional Commission rules or guides may also apply to them. For example, the Commission's Rules concerning Disclosure of Written Consumer Product Warranty Terms and Conditions, and the Pre-sale Availability of Written Warranty Terms, 16 CFR parts 701 and 702, specify requirements concerning warranties; the Commission's Guides for the Use of Environmental Marketing Claims, 16 CFR part 260, address the application of section 5 of the FTC Act, 15 U.S.C. 45, to environmental advertising and marketing claims (*e.g.*, claims concerning the amount of recycled material a product contains). Further, section 5 of the FTC Act declares that unfair or deceptive acts or practices are unlawful, and requires that advertisers and other sellers have a reasonable basis for advertising and other promotional claims before they are disseminated. See *Deception Policy Statement*, Letter from the Commission to the Honorable John D. Dingell, Chairman, Committee on Energy and Commerce, U.S. House of Representatives (Oct. 14, 1983), reprinted in *Cliffdale Assocs., Inc.*, 103 F.T.C. 110 (1984); *Statement of Policy on the Scope of the Consumer Unfairness Jurisdiction,* Letter from the Commission to the Honorable Wendell H. Ford, Chairman, Consumer Subcommittee, Committee on Commerce, Science, and Transportation, U.S. House of Representatives, and the Honorable John C. Danforth, Ranking Minority Member, Consumer Subcommittee, Committee on Commerce, Science and Transportation, U.S. Senate (Dec. 17, 1980), *reprinted in International Harvestor Co.*, 104 F.T.C. 949 (1984); and *Policy Statement Regarding Advertising Substantiation,* 49 FR 30999 (1984), *reprinted in Thompson Medical Co.*, 104 F.T.C. 839 (1984).

home insulation is sold in various types (''type'' refers to the material from which the insulation is made, *e.g.*, fiberglass, cellulose, polyurethane, aluminum foil) and forms (''form'' refers to the physical form of the product, *e.g.*, batt, dry-applied loose-fill, spray-applied, boardstock, multi-sheet reflective).

B. Parties Covered

The Rule applies to home insulation manufacturers, professional installers, retailers who sell insulation to consumers for do-it-yourself installation, and new home sellers (including sellers of manufactured housing). It also applies to testing laboratories that conduct R-value tests for home insulation manufacturers or other sellers who use the test results as the basis for making R-value claims about home insulation products.

C. Basis for the Rule

The Commission issued the R-value Rule to prohibit, on an industry-wide basis, specific unfair or deceptive acts or practices. When it issued the Rule, the Commission found that the following acts or practices were prevalent in the home insulation industry and were deceptive or unfair, in violation of section 5 of the FTC Act, 15 U.S.C. 45: (1) Sellers had failed to disclose R-values, and caused substantial consumer injury by impeding the ability of consumers to make informed purchasing decisions; (2) the failure to disclose R-values, which varied significantly among competing home insulation products of the same thickness and price, misled consumers when they bought insulation on the basis of price or thickness alone; (3) sellers had exaggerated R-values, often failing to take into account factors (*e.g.*, aging, settling) known to reduce thermal performance; (4) sellers had failed to inform consumers about the meaning and importance of R-value; (5) sellers had exaggerated fuel bill savings that consumers could expect, and often failed to disclose that savings will vary depending on the consumer's particular circumstances; and (6) sellers had falsely claimed that consumers would qualify for tax credits through the purchase of home insulation, or that products had been ''certified'' or ''favored'' by federal agencies. (44 FR at 50222–50224).

D. Requirements of the Rule

The Rule requires that manufacturers and others who sell home insulation determine and disclose each product's R-value and related information (*e.g.*, thickness, coverage area per package) on package labels and manufacturers' fact sheets. R-value ratings vary among different types and forms of home insulations and among products of the same type and form. The Rule requires that R-value claims to consumers about specific home insulation products be based on R-value test procedures that measure thermal performance under ''steady-state'' (*i.e.*, static) conditions.[3] Mass insulation products may be tested under any of the test methods the Rule specifies. The tests on mass insulation products must be conducted on the insulation material alone (excluding any airspace). Reflective insulation products must be tested according to tests that can determine the R-values of insulation systems (such as those that include one or more air spaces). The tests must be conducted at a mean temperature of 75 °F.

When it promulgated the Rule, the Commission found that certain factors, such as aging or settling, affect the thermal performance of home insulation products. (44 FR at 50219–50220, 50227–50228). To ensure that R-value claims take these factors into account, the Rule mandates that the required R-value tests for polyurethane, polyisocyanurate, and extruded polystyrene insulation products be conducted on test specimens that fully reflect the effect of aging, and for loose-fill insulation products on test specimens that fully reflect the effect of settling.

Specific disclosures must be made: (1) By manufacturers on product labels and manufacturers' fact sheets; (2) by professional installers and new home sellers on receipts or contracts; and (3) by manufacturers, professional installers, and retailers in advertising and other promotional materials (including those on the Internet) that contain an R-value, price, thickness, or energy-saving claim, or compare one type of insulation to another. Manufacturers and other sellers must have a ''reasonable basis'' for any energy-saving claims they make.[4]

[3] Section 460.5 of the Rule requires that the R-values of home insulation products be based on one of the test procedures specified in the Rule. Most of the test procedures in the Rule specify American Society for Testing and Materials (''ASTM'') standards.

[4] Although the Rule does not specify how energy-saving claims must be substantiated, the Commission explained that scientifically reliable measurements of fuel use in actual houses or reliable computer models or methods of heat flow calculations would meet the reasonable basis standard. (44 FR at 50233–50234). Sellers other than manufacturers can rely on the manufacturer's claims unless they know or should know that the manufacturer does not have a reasonable basis for the claims.

III. Procedural History

On April 6, 1995, as part of its ongoing regulatory review program, the Commission solicited public comments about the economic impact of and current need for the R-value Rule.[5] (60 FR 17492). At the same time, the Commission solicited comments on a petition (''Petition'') from Ronald S. Graves, who at that time was a Research Staff Member, Materials Analysis Group, Martin Marietta Energy Systems, Inc. (which operated Oak Ridge National Laboratory (''ORNL'') for the U.S. Department of Energy (''DOE'')). The Petition requested that the Commission approve an additional (fifth) ASTM R-value test procedure as an optional test procedure for determining the R-value of home insulation under the Rule.

Based on the comments in response to the 1995 Notice, the Commission determined that there was a continuing need for the Rule, published its determination to retain it, and adopted the test method suggested by Mr. Graves and several technical, non-substantive amendments to allow the use of the most current testing procedures available and to streamline the Rule.[6] (61 FR 13659, at 13659–13662, 13665 (March 28, 1996)). In 1999, the Commission published an Advance Notice of Proposed Rulemaking (''ANPR'') proposing limited amendments and requesting comments on other issues related to the Rule. (64 FR 48024 (Sept. 1, 1999)).

Based on information obtained in response to the ANPR, on July 15, 2003, the Commission published a Notice of

[5] The Commission previously reviewed the Rule in 1985 under the Regulatory Flexibility Act, 5 U.S.C. 610, to determine the economic impact of the Rule on small entities. Based on that review, the Commission determined that: There was a continuing need for the Rule; there was no basis to conclude that the Rule had a significant economic impact on a substantial number of small entities; there was no basis to conclude that the Rule should be amended to minimize its economic impact on small entities; the Rule did not generally overlap, duplicate, or conflict with other regulations; and technological, economic, and other changes had not affected the Rule in any way that would warrant amending the Rule. (50 FR 13246).

[6] These amendments: (1) Revised § 460.5 of the Rule to allow the use of an additional ASTM test procedure as an optional, but not required, test procedure to determine the R-value of home insulation; (2) revised § 460.5 to require the use of current, updated versions of other ASTM R-value test methods cited in the Rule; (3) added an Appendix summarizing the exemptions from specific requirements of the Rule that the Commission previously granted for certain classes of persons covered by the Rule; and (4) revised § 460.10 of the Rule to cross-reference the Commission's enforcement policy statement for foreign language advertising in 16 CFR 14.9 and deleted the previous Appendix to the Rule because it merely repeated the text of 16 CFR 14.9.

Proposed Rulemaking (''NPR'') requesting comment on proposed amendments to the rule. (68 FR 41872). The proposed amendments were designed to: (1) Require disclosure of the same R-value information for all types of loose-fill insulation products; (2) specify the use of current ASTM or other recognized procedures for preparing R-value test specimens of spray-applied insulations and for conducting R-value tests of reflective insulation products; (3) require manufacturers of loose-fill insulation to provide installers with information about the initial installed thickness required to yield certain R-values; (4) delete specific disclosure requirements for urea formaldehyde insulation; (5) eliminate affirmative disclosure requirements for radio ads; and (6) exempt retailers from certain disclosure requirements (*i.e.*, making available to consumers separate manufacturers' fact sheets) under certain circumstances.

The NPR also discussed numerous additional issues raised by commenters in response to the ANPR. These issues included whether the Commission should revise the Rule to: (1) Cover additional products (*i.e.*, residential pipe and duct insulations, and insulation sold for use in commercial buildings); (2) require the disclosure of in-use performance values, as opposed to values based on laboratory tests under static, uniform conditions, or of the performance of building systems; (3) adopt additional test specimen preparation requirements to account for various factors that affect R-values; (4) adopt additional or updated testing requirements; and (5) revise the disclosure requirements for manufacturers' labels and fact sheets, advertisements and other promotional materials, and for professional installers, new home sellers, and retailers. The NPR explained why the Commission did not propose amending the Rule to address these issues. The NPR also raised specific questions for comment to provide the Commission with additional information on the issues.

IV. Section-by-Section Description of Final Amendments

The following is a brief summary of the amendments to the R-value Rule the Commission is adopting in response to the comments received. The Commission believes that these amendments will help to update and improve the Rule to ensure that it continues to prohibit, on an industry-wide basis, specific unfair or deceptive acts or practices the Commission has previously identified.

Section 460.1 (What This Regulation Does)

Penalties: The Commission is amending the monetary penalty amount from $10,000 to $11,000 to reflect the current requirements of § 1.98 of the Commission's rules, which in turn, reflect statutory changes to the Commission's authority to obtain civil penalties (*see* 15 U.S.C. section 45(m)(1)(A)). This is a technical, conforming change.

Section 460.5(a) (R-value Tests)

Temperature Differential: The Commission is amending § 460.5, R-value Tests, to specify that tests conducted under § 460.5(a) must be done with a temperature differential of 50° F plus or minus 10° F in addition to the mean temperature requirement currently in the Rule [*see* section V.D.1. of this document].

Update Test Procedures: The Commission is updating references for many of the test procedures incorporated into the Rule. The affected procedures are listed in section V.F. of this document. In addition, the references to ASTM C 236–89 and ASTM C 976–90 have been eliminated and replaced with ASTM C 1363–97, ''Standard Test Method for the Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus.''

Section 460.5(a)(3) (R-value Tests)

Loose-Fill Settling: The Commission is amending § 460.5(a)(3) to eliminate the obsolete reference to the Government Services Administration (''GSA'') specifications for measuring the settling of loose-fill insulation and to insert language indicating that industry members must take into account the effects of settling on the R-value for loose-fill mineral wool, self-supported spray-applied cellulose and stabilized cellulose products [*see* section V.C.2. of this document].

Section 460.5(a)(4) (R-value Tests)

Tests for Spray-Applied Cellulose Insulation: The Commission is adding a new paragraph, § 460.5(a)(4), which requires that tests for self-supported spray-applied cellulose be conducted at the settled density determined pursuant to ASTM C 1149–02 (''Self-supported Spray Applied Cellulosic Thermal Insulation'') [*see* section V.C.2. of this document].

Section 460.5(a)(5) (R-value Tests)

Loose-Fill Initial Installed Thickness: A new provision (§ 460.5(a)(5)) requires loose-fill insulation manufacturers to determine initial installed thickness for their product pursuant to ASTM C 1374–03, ''Standard Test Method for Determination of Installed Thickness of Pneumatically Applied Loose-Fill Building Insulation,'' for R-values of 13, 19, 22, 30, 38, 49, and any other R-values provided on the product's label pursuant to § 460.12 [*see* section V.C.2.c. of this document].

Section 460.5(b) and Section 460.5(c) (R-value Tests)

The sections applicable to reflective insulations have been reorganized and amended as follows:

Tests for Single Sheet Aluminum Foil Systems: Section 460.5(c) is redesignated as § 460.5(b) and amended to require that single sheet systems of aluminum foil be tested under ASTM C 1371–04a [*see* section V.D.3. of this document].

Tests for Multiple Sheet Aluminum Foil Systems: Section 460.5(b) is redesignated as § 460.5(c) and amended to indicate that aluminum foil systems with more than one sheet, and single sheet systems of aluminum foil that are intended for applications that do not meet the conditions specified in the tables in the most recent edition of the ASHRAE Handbook, must be tested with ASTM C 1363–97, ''Standard Test Method for the Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus,'' in a test panel constructed according to ASTM C 1224–03, ''Standard Specification for Reflective Insulation for Building Applications,'' and under the test conditions specified in ASTM C 1224–03. Further, to obtain the R-value from the results of those tests, sellers must use the formula specified in ASTM C 1224–03. This amendment eliminates the references to ASTM C 236–89 and ASTM C 976–90 that are currently applicable to these products [*see* section V.D.3. of this document].

Section 460.5(d) (R-value Tests)

Insulation Material With Foil Facings and Air Space: Section 460.5(d)(1) is amended to eliminate references to ASTM C 236–89 and ASTM C 976–90 and replace them with ASTM C 1363–97, ''Standard Test Method for the Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus'' [*see* section V.D.3. of this document].

Section 460.5(e) (R-value Tests)

Incorporation by Reference: A new paragraph (e) is added to consolidate information regarding incorporation by reference approvals provided by the Office of the Federal Register [*see* section V.F. of this document].

Section 460.8

R-Value Tolerances for Manufacturers: The Rule's tolerance provision is amended to clarify that manufacturers of home insulation are prohibited from selling individual specimens of insulation with an R-value more than 10% below the R-value shown in a label, fact sheet, ad, or other promotional material for that insulation [*see* section V.D.2. of this document].

Section 460.12 (Labels)

Labels for Batts and Blankets: The Commission is amending the paragraph at § 460.12(b)(1) to indicate that it applies to batts and blankets of any type, not just to those made of mineral fiber [*see* section V.E.1.a. of this document].

Loose-Fill Labels: The Commission is amending § 460.12 to eliminate certain information requirements on charts for loose-fill cellulose insulation. The amendment requires charts for all forms of loose-fill insulation to show the minimum thickness, maximum net coverage area, number of bags per 1,000 square feet, and minimum weight per square foot at R-values of 13, 19, 22, 30, 38, and 49. The amendment also requires the labels for loose-fill insulation to display initial installed thickness information, determined pursuant to ASTM C 1374, ''Standard Test Method for Determination of Installed Thickness of Pneumatically Applied Loose-Fill Building Insulation,'' which installers must use for loose-fill products [*see* section V.E.1.b. of this document].

Section 460.13 (Fact Sheets)

Urea-Based Foam Insulations: Section 460.13 is amended to eliminate the requirements related to urea-based foam insulation [*see* section V.E.1.c. of this document].

Section 460.14 (How Retailers Must Handle Fact Sheets)

Retailers' Responsibilities for Fact Sheets: The Commission is amending this section to exempt retailers from making fact sheets available to customers, if they display insulation packages (containing the same information required in fact sheets) on the sales floor where insulation customers are likely to notice them [*see* section V.E.4. of this document].

Section 460.17 (What Installers Must Tell Their Customers)

Initial Installed Thickness: This section is amended to require installers to provide customers with initial installed thickness information for loose-fill insulation [*see* section V.C.2.c. of this document].

Sections 460.18 (Insulation Ads) and 460.19 (Savings Claims)

Affirmative Disclosures for Radio Ads: The Commission is eliminating the affirmative disclosure requirements for radio ads in §§ 460.18 and 460.19 [*see* section V.E.2. of this document].

Urea-Based Foam Insulations: Section 460.18 is amended to eliminate paragraph (e) which addresses urea-based insulation [*see* section V.E.1.c. of this document].

Section 460.23(a) (Other Laws, Rules, and Orders)

The Commission amends paragraph (a) to correct a typographical error.

V. Discussion of Comments and Final Amendments

The Commission received 16 comments in response to the NPR.[7] These comments and the final amendments are discussed below:

A. Disclosing Thermal Performance of Non-Residential Insulations

Background

In the NPR, the Commission indicated that it did not plan to extend the Rule to cover the sales of insulation products in the commercial market. (68 FR at 41876–41877). The Commission pointed out that professionals in the commercial field have greater knowledge than residential customers. In addition, there was no evidence indicating unfair and deceptive practices are prevalent in these markets. Accordingly, the Commission found that the potential benefits to commercial users would not justify the additional burdens that an extension of the Rule would impose.

[7] AFM Corporation; ASTM International; Advanced Foil Systems, Inc. (''AFS''); Cellulose Insulation Manufacturers Association (''CIMA''); ConsultMort, Inc. (''ConsultMort''); Expanded Polystyrene Molders Association (''EPSMA''); Extruded Polystyrene Foam Alliance (''XPSA''); U.S. Green Fiber (late-filed comment); Honeywell Chemicals; Insulation Contractors Association of America (''ICAA''); North American Insulation Manufacturers Association (''NAIMA'') (including initial comment and late-filed comment); Pactiv Building Products; Polyisocyanurate Insulation Manufacturers Association (''PIMA''); R&D Services, Inc. (including initial comment and late-filed comment); Rockwool International; and Spray Polyurethane Foam Alliance (''SPFA''). These comments are on the public record and are available online at *www.ftc.gov/energy*. Paper versions are also available for public inspection in accordance with the Freedom of Information Act, 5 U.S.C. 552, and the Commission's Rules of Practice, 16 CFR 4.11, at the Consumer Response Center, Public Reference Section, Room 130, Federal Trade Commission, 600 Pennsylvania Avenue, NW., Washington, DC. The comments are organized under the Labeling and Advertising of Home Insulation Rule (''The R-value Rule''), Matter No. R811001.

Comments

Two commenters urged the Commission to reconsider expanding the Rule's coverage to include insulation sold for commercial and industrial use. XPSA (pp. 4–5) recommended that the issue be reserved for a separate rulemaking in the future. XPSA believes that building professionals and architects mostly rely on manufacturers' claims and fact sheet information when preparing specifications involving foundation, wall or roof systems and do not necessarily understand the issue of long-term R-value. XPSA believes it is nearly impossible for an architect or specifier to keep up to date with the technical data underlying such R-value claims. Rockwool (p. 1) also supported the Rule's extension suggesting that the increased uniformity from such a change would be beneficial.

Discussion

For reasons detailed in the NPR, the Commission continues to believe that it is not appropriate to extend the Rule to the commercial or industrial market. The Commission will continue to consider developments in the market and has not foreclosed the possibility of revisiting this issue in the future. The Commission will continue to address concerns in this area as they arise pursuant to its general authority under the FTC Act.

B. Performance of Insulations in Actual Use

Background

In the ANPR, the Commission discussed earlier comments relating to seasonal factors and other variables that can affect the R-value of insulation products in actual use. (64 FR at 48027). Specifically, previous commenters identified factors that affect performance in attics during winter conditions and stated that the Rule does not sufficiently account for these factors. Some comments pointed to ORNL research that demonstrates a reduction in R-value of very low-density fibrous insulations installed in open or vented attics when the temperature difference between the heated area of a home and its cold attic becomes particularly great. This can occur during the most severe winter conditions in some portions of the United States. In the NPR, the Commission indicated that it did not plan to amend the Rule to address these concerns but explained that sellers may use advertising to distinguish their product's performance from others. (68 FR at 41877–41879).

Comments

Although the Commission did not specifically invite comments on this issue, two industry members submitted comments disagreeing with the Commission's position in the NPR. Both CIMA (p. 2) and Rockwool urged that the Rule be amended to account for the performance of insulation material in very cold climates. Rockwool acknowledged that the technical issues involved are very complex, but suggested that the Rule require insulations to be marked with a warning, ''Do not use below X °F.'' Rockwool explained that this ''cut off'' temperature could be calculated by a simple equation or measured according to ASTM practice. CIMA suggested that the Commission specifically acknowledge the existence of this phenomenon and require manufacturers to provide cold weather design information for their products. According to CIMA, ASTM C 1373 (''Standard Practice for Determination of Thermal Resistance of Attic Insulation Systems Under Simulated Winter Conditions'') can be used to assess the effect of cold weather on actual installed R-value. CIMA indicated that the State of Minnesota requires insulation manufacturers to provide cold weather design information for their products.

The Commission notes that, in response to the ANPR, NAIMA and PIMA opposed amendments to the Rule addressing the insulation performance at high temperature differentials. (*See* 68 FR 41877–41878). NAIMA contended that it would be impossible to specify new requirements to take these factors into account. It also believed that such disclosures would create consumer confusion rather than clarity. NAIMA asserted that past analysis on this issue suggests that very low temperatures rarely last long enough to result in significant energy loss or economic cost. Both NAIMA and PIMA indicated that ASTM C 1373 lacks application to a real home setting where conditions are variable and unpredictable.

Discussion

As discussed in detail in the NPR, the Commission understands that there are variables for which the uniform test methods specified in the Rule may not account, such as the design characteristics and geographical location of the building, the specific application in which the product is installed, outside and inside temperatures, air and moisture movement, installation technique, and others. (68 FR at 41877–41879). The Commission believes that accounting for variables (such as low temperature performance) in the Rule's requirements would significantly complicate both compliance and communication to consumers, without necessarily providing a commensurate level of benefit. Accordingly, the Commission again has concluded that the Rule should not be expanded to address on-site variables that might affect insulation performance.

Manufacturers and other sellers may voluntarily provide to consumers additional, truthful, substantiated information voluntarily to consumers about the manner in which their products (or their competitors' products) perform in actual use. If a product exhibits better performance at high temperature differentials than competing products, the manufacturer may provide that information to consumers as long as the claims are truthful and substantiated and otherwise consistent with the Rule.

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

1. Aging of 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 voids in the products. This gas gives the product an initial R-value that is higher than it would have if the product contained normal air. The aging process causes the R-value of these insulations to decrease over time as the gas is replaced by normal air through diffusion. The length of this process depends on whether the product is faced or unfaced, the permeability of the facing, the thickness of the product, and other factors.

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 allows the use of the ''accelerated aging'' procedure in paragraph 4.6.4 of 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* 44 FR at 50227–50228). 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% 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 GSA and RIC/TIMA adopting the alternative 180-day aging procedure, 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.[8]

As discussed in the NPR, some industry members have urged the Commission to incorporate two relatively new ''slicing and scaling'' test procedures into the Rule. (*See* 68 FR 41879–41882). These procedures are ASTM C 1303–00 ''Estimating the Long-Term Change in the Thermal Resistance of Unfaced Rigid Closed Cell Plastic Foams by Slicing and Scaling Under Controlled Laboratory Conditions'' and CAN/ULC–S 770 ''Standard for Determination of Long Term Thermal Resistance of Closed Cell Thermal Insulating Foams.'' Unlike the traditional accelerated aging tests, these newer procedures use specimens of reduced thickness (*i.e.*, slices of material) to measure the effects of aging. The measurements for these slices are then coupled with a scaling factor to estimate the R-value of full thickness boards. According to ASTM C 1303–00, the test is designed to avoid problems identified with the accelerated aging tests, namely that elevated temperatures may not significantly accelerate the aging process and that these higher temperatures may damage the cellular structure of these foams. ASTM C 1303–00 applies only to unfaced, homogenous materials. Its Canadian counterpart,

[8] 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.

CAN/ULC S770, applies to permeably-faced polyisocyanurate (polysio), polyurethane, and extruded polystyrene foam plastic insulations.

The comments submitted in response to the Commission's ANPR identified disagreements within the industry regarding the incorporation of ASTM C 1303 in the Rule. Some critics believe the relatively narrow scope of the test was a continuing concern while others criticized its cost and efficacy. In contrast, supporters argued it would improve the accuracy of the R-values calculated for products it covers.

In the NPR, the Commission did not propose to amend § 460.5(a)(1) of the Rule to require the use of ASTM C 1303 for homogeneous, unfaced, rigid closed cell polyurethane, polyisocyanurate, and extruded polystyrene insulations. Because ASTM C 1303 applies only to unfaced, homogenous material, the Commission observed that similar products (*e.g.*, insulation boards with paper facing) would have to continue to be tested under the older approach (the 180-day accelerated aging test). In essence, because it was unclear whether C 1303 is sufficiently broad and adequately developed, the Commission concluded it did not warrant incorporation into the Rule. Nevertheless, the NPR sought comments on this issue asking, in particular, about the scope of these standards and their likely impact on products sold in the residential market.

Although the Commission did not propose to incorporate ASTM C 1303 into the Rule, it proposed to amend the Rule to require tests for aging other types of polyurethane, polyisocyanurate, and extruded polystyrene insulation. These tests include ASTM C 1029–96 (''Standard Specification for Spray-Applied Rigid Cellular Polyurethane Thermal Insulation''), ASTM C 591–94 (''Unfaced Preformed Rigid Cellular Polyisocyanurate Thermal Insulation''), and ASTM C 578–95 (''Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation'').[9] For all other polyurethane, polyisocyanurate, and extruded polystyrene insulation subject to aging but not specifically covered by one of the procedures listed above, the NPR proposed that industry members use the procedure in paragraph 4.6.4 of GSA Specification HH–I–530A or another reliable procedure. The Commission sought comment on whether incorporating these procedures into the Rule would be appropriate and whether these procedures raise concerns like those associated with ASTM C 1303, as discussed above.

Comments

The comments on aging tests for cellular plastic insulations reveal continued divisions among industry members. Some commenters urged the Commission to incorporate the newer slicing and scaling tests (*i.e.*, ASTM C 1303–00 or Can/ULC–S 770), while others urged the Commission not to do so because of concerns with the adequacy and scope of the new procedures. As for the additional procedures (ASTM C 578, C 1029, and C 591) proposed by the Commission, one commenter questioned their inclusion in the Rule because they contain the traditional accelerated aging tests (*i.e.*, the 90 or 180-day tests).

Commenters urging the inclusion of ASTM C 1303 or CAN/ULC S770 in the Rule contended that the older accelerated aging methods, presently required by the Rule, are outdated and fail to provide accurate information about the effects of aging on R-value.[10] One commenter suggested that existing requirements have created inconsistencies in testing and data reporting.[11] Some of these commenters supported the adoption of CAN/ULC S770 while others urged the use of ASTM C 1303. Those advocating CAN/ULC S770 believe it will reduce confusion and provide a uniform method for all cellular plastics manufacturers.[12] Advocates of ASTM C 1303 argued that it is an appropriate method to use for plastics insulation, and its scientific basis has been established for decades.[13]

One commenter recommended that the Commission designate CAN/ULC S770 as an ''alternate method'' for all permeably faced and unfaced foam insulation. Like other advocates of the Canadian test, this commenter believes the procedure provides a significant, technically supported improvement over the 180-day test. Polyisocyanurate manufacturers currently use this test for permeably faced polyisocyanurate boards, some of which are sold in the residential market. In addition, the Canadian test is now an annex to ASTM C1289–02 (''Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board'') for permeably-faced polyisocyanurate insulation products. Accordingly, this commenter supports the incorporation of ASTM C 1289 into the Rule.[14]

Several commenters opposed any amendments that would require use of C 1303 or S770 either as a requirement or as an ''alternative method.'' These commenters agreed with the Commission's decision not to adopt these tests at this time.[15] They noted ongoing efforts to reexamine these newer tests and recommended that the FTC retain existing requirements until ASTM C 1303 and Canadian standard CAN/ULC S770 gain broader acceptance and are widely considered to be technically sound.[16] One commenter (ConsultMort) opposed the incorporation of ASTM C 1303 because it applies only to *unfaced* homogeneous materials, does not take into account all relevant factors, and does not establish a specific time frame for making product comparisons. The slicing and scaling methods, in ConsultMort's view, are better left to research, engineering and systems design professionals who are

[9] The Commission did not propose to require ASTM C 1289 (''Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board'') as suggested by some commenters. The current version of this test procedure, ASTM C 1289–02, requires the use of the Canadian test procedure for aging (S770), which appears in C 1289 as an annex. Because the Commission did not propose to include C 1303 (or S 770) in the Rule at this time, the Commission refrained from proposing to require the same or equivalent aging procedure through C 1289.

[10] AFM (p. 1); Rockwool (p. 1); and EPSMA (pp. 1–2).

[11] EPSMA (pp. 1–2).

[12] EPSMA (pp. 1–2); Honeywell (pp. 2–3); and AFM (p. 1). AFM stated, however, that the Rule should not require this procedure for foam plastics or non-permeable faced insulations because these materials do not exhibit aging.

[13] Rockwool (pp. 1–2); and R&D (pp. 1–2). According to R&D, the new test stems from twenty years of expensive government and industrial research. R&D recommended that the Commission specify a time period or product life span for reporting R-values pursuant to the test. R&D also noted that although the test is expensive, it has to be conducted only once for a specific product design.

[14] PIMA urged the Commission to adopt the Canadian test despite its limited coverage to unfaced products. In contrast, XPSA (pp. 4–5) opposed the adoption of the current version ASTM C 1289 due to its incorporation of CAN/ULC S770. PIMA (p. 18) did not support adding ASTM C 1303 to the Rule because this test method, which is limited to unfaced material, does not apply to most insulation products used in the market today. PIMA explained that polyiso products always have facings, either permeable (organic or glass facers) or impermeable (aluminum foil facers or facers with gas barriers).

[15] NAIMA (p. 3); XPSA (pp. 4–5); ConsultMort; and Pactiv (pp. 1–2). SPFA (pp. 1–2) cautioned against the improper use of the ASTM C–1303 and S770 procedures for spray polyurethane foam because there is no data to indicate these methods accurately predict aged R-values for that product.

[16] See discussion in NPR at 68 FR 41881. Pactiv (pp. 1–2) stated that an ASTM Task Group is working to resolve various technical issues associated with ASTM C 1303. Pactiv also said that the CAN/ULC S770 Task Group has revised S770 to provide information about a positive bias associated with the method. Pactiv concluded that there is still significant work to be done on both tests. XPSA (pp. 2–3) also stated that bias issues related to S770 are under examination by industry members and emphasized that such issues should be fully addressed before the test is incorporated into the Rule.

qualified to consider the exceptions referenced in these procedures.

Several commenters addressed the new tests' potential impact on the R-values of products commonly sold in the residential market. According to one commenter, ASTM C 1303 and CAN/ULC S770 cover products that encompass only a small percentage of residential products.[17] Another commenter reported that the various tests yield minimal differences in values for permeably faced polyiso boards at up to one inch thickness, but differences are apparent in thicker products.[18] The comments also suggested that the costs for performing C 1303 or S770 are significant, running about $5,000 to $6,000 per sample and that only two or three third-party test laboratories are capable of performing them.[19]

Several commenters also addressed the other aging tests the Commission proposed. These procedures, ASTM C 578, C 1029, and C 591, incorporate the traditional accelerated aging tests. NAIMA supported their incorporation, contending they are sufficiently developed to justify their incorporation and reflect testing improvements that will provide consumers with accurate information.[20] R&D Services (pp. 1–2), however, took issue with the three proposed tests. It stated that none of them are adequate for determining the long-term thermal resistance of the products covered because, in part, the time period for aging in these tests is not sufficient. In addition, R&D argued that C 1029 does not have specific controls on aging and testing. R&D also commented that ASTM C 1289, a test which applies to polyisocyanurate boards, is not adequate for determining long-term thermal resistance for these products if they have permeable facers.

Discussion

The Commission has considered the comments received on the issue of aging and determined not to amend the Rule with respect to this issue. Accordingly, the Commission is not adding *any* new tests governing the aging of cellular plastics to the Rule. The comments demonstrate that significant disagreement continues to exist regarding the newer long-term aging tests (ASTM C 1303 and CAN/ULC S770). The Commission understands that these tests are intended to address limitations with the traditional methods. The Commission does not believe, however, that requiring the use of these new methods is appropriate at this time. The comments highlight many concerns about the tests, including accuracy issues (potential bias in test results) and the need for more development with regard to the tests' specificity. In addition, several commenters suggested that their incorporation would have limited impact on the claimed R-value for products commonly sold in the residential market because the tests would make a difference in reported R-values for only a portion of the cellular plastic boards available. The Commission understands that the existing requirements do not specify uniform procedures under which cellular plastics insulation products must be tested. As a result, the Rule allows manufacturers of different products to base their R-values on different aging procedures and therefore they may not be fully comparable. The Commission recognizes that new slicing and scaling methods have the potential to improve the accuracy of required R-value disclosures. It is premature, however, to mandate the use of these tests as legal requirements until ongoing work on them is completed and existing problems are resolved. At the same time, the Commission does not find that these newer tests (ASTM C1303 and CAN/ULC S770) are ''unreliable'' under the Rule (despite the need for improvements). Therefore, industry members already using them may continue to do so, and others may use them if they choose. The Commission will continue to monitor efforts in this area as more research is conducted and the existing standards are further developed and may revisit this matter in the future.[21]

In addition, the Commission has decided not to include the three additional test procedures contained in the proposed rule, ASTM C 578,[22] C 1029, and C 591 for particular product types. Incorporation of the proposed tests would codify the traditional aging methods for specific products covered by these tests. This could limit the ability of manufacturers of these products to use newer, improved tests in the future. Accordingly, the Commission has determined not to amend the Rule with regard to aging tests at this time.

Similarly, the Commission has decided not to amend the Rule to require ASTM C 1289 for polyisocyanurate boards, which includes a version of CAN/ULC S770 as an annex. Although some industry members currently use this procedure for certain product types (namely, permeably faced polyisocyanurate boards), the Commission believes it would be inappropriate to *require* its use under the Rule (whether by itself or as part of another test or standard) and sees little benefit from identifying it as an alternative method in the Rule text at this time.

2. Loose-Fill and Stabilized Insulations

In the original rulemaking proceeding, the Commission determined that all dry-applied loose-fill insulation products tend to settle after installation in open (or unconfined) areas such as attics. (44 FR at 50228). Settling reduces the product's thickness, increases its density, and affects its total R-value. The amount of settling depends on several factors, including the raw materials and manufacturing process used, and the installer's application techniques (which affect the insulation's initial thickness and density).

To ensure that claims made to consumers are based on long-term thickness and density after settling, § 460.5(a)(2) of the Rule requires that the R-value of dry-applied loose-fill home insulations be determined at their ''settled density.'' Manufacturers of dry-applied loose-fill cellulose insulation for attic applications must test and disclose the R-value (as well as coverage area and related information) at the long-term, settled density determined according to paragraph 8 of ASTM C 739, commonly referred to as the ''Blower Cyclone Shaker'' (''BCS'') test.[23] Due to the lack of a consensus-based test procedure for the settled density of loose-fill mineral-fiber insulation, the Rule requires that industry members base the R-values for this product type on long-term thickness and density after settling, but does not specify how to determine a specimen's density. Since the Commission promulgated the Rule, new forms of

[17] XPSA (pp. 2–3). Pactiv (pp. 1–2).

[18] PIMA (p. 17).

[19] XPSA (p. 2); and Pactiv (p. 2). PIMA (p. 17), however, asserted that C 1303 is twice as expensive to perform as S770.

[20] NAIMA (pp. 3–4) also noted that because the GSA Specification HH–I–530A referenced in the Rule is no longer available, the Commission should not continue to use it as an R-value test standard.

[21] The Commission understands that GSA Specification HH–I–530A may have limited availability. the R-value Rule, however, only references one paragraph which states: ''4.6.4 *Thermal conductivity.* The thermal conductivity of insulation board shall be determined by the guarded hot plate method described in ASTM C 177 or by the heat flow method described in ASTM C 518. Tests shall be conducted on a 1-inch thick product at a mean temperature of 75 degrees F (23.8 degrees C) after 30 days and 90 days of conditioning at 140 degrees F (60 degrees C) dry heat.''

[22] The 2003 version of ASTM C 578 directs the use of a 90 or 180 day aging period but also states that ASTM C 1303 may be used if the blowing agent is intended to be retained for longer than 180 days.

[23] ''Standard Specification for Cellulosic Fiber Loose-Fill Thermal Insulation'' (ASTM C 739).

home insulation products have been introduced including ''stabilized'' cellulose and self-supported spray-applied cellulosic insulation.

a. Settling

In the NPR, the Commission addressed several issues related to the settling of loose-fill insulation in attics and stated it intended to retain the requirement that industry members use the BCS test to determine the settled density of cellulose loose-fill. (68 FR 41882–41886). The Commission proposed to update the current reference to ASTM C 739 in § 460.5(a)(2) to reflect the most current version (which is now the 2003 version). The Commission also stated that manufacturers who can demonstrate that the BCS procedure is inappropriate for their products can apply for an exemption that would allow them to determine their product's settled density under a more appropriate method (the exemption procedures are found in the Appendix to 16 CFR part 460).

Section 460.5(a)(2) of the Rule does not specify procedures for determining the settled density of loose-fill mineral fiber insulation products but instead requires that R-values for dry-applied loose-fill mineral fiber insulations be based on tests that take the adverse effects of settling into account. The Commission indicated in the ANPR that ORNL studies conducted during the 1980's demonstrate that certain loose-fill mineral fiber insulation products can settle following installation, resulting in a reduction of R-value. (64 FR at 48033). The settling results differed in amount and effect, depending on the type of mineral fiber insulations studied (*e.g.*, fiberglass versus rock wool products).

In the NPR, the Commission did not propose any specific test for measuring the settling of this insulation type because there is no consensus standard available. In its comments on the NPR, R&D (p. 3) asserted that a settled density test for fiberglass and rock wool insulations is needed to address the settling that is known to occur. The Commission understands R&D's concerns and reiterates that industry members must have a reasonable basis for their R-value claims and take into account the effects of settling when applicable. Although the Commission cannot require industry members to develop consensus standards, it will monitor practices and R-value claims related to settling.

The NPR proposed, however, to amend the Rule to eliminate the reference to an unnamed, future GSA procedure in § 460.5(a)(3) because GSA never issued such a procedure. The Commission also proposed to amend the Rule to specify that tests for self-supported, spray-applied cellulose insulation and stabilized cellulose must be done on samples that fully reflect the effect of settling on the products' R-value. The Commission received four comments favoring these amendments and none opposing. The Commission has incorporated these amendments into the final rule (*see* § 460.5(a)(3)).

b. Self-Supported Spray Applied Cellulose Insulation

Background

Self-supported spray applied cellulose insulations are generally sprayed onto walls, and are able to support themselves as applied. Such insulations are most often used on exposed walls. In the NPR, the Commission proposed to require the use of ASTM C 1149 (''Standard Specification for Self-Supported Spray Applied Cellulosic Thermal Insulation'') for this type of insulation. The procedures in paragraph 5.1 of ASTM C 1149 require the use of the manufacturer's recommended equipment, procedures, and maximum thickness when preparing test specimens. The Commission solicited comments regarding this proposed requirement.

Comments

The Commission received four comments favoring the proposed requirement related to self-supported spray applied cellulose insulation. Three commenters [24] supported the incorporation of ASTM C 1149 into the Rule but suggested replacing the term ''settled density'' with the term ''density'' because the former term is not applicable to this product. NAIMA (p. 4) agreed with the proposal to require ASTM C 1149 but urged the Commission also to address the impact of settling on wet cellulose.[25] It also suggested moisture problems may degrade the settled density of the cellulose insulation and, thus, affect R-value. NAIMA strongly recommended that the Commission require each cellulose manufacturer to provide consumers with reliable drying guidelines since this issue directly impacts R-value and settled density.

Discussion

The Commission has reviewed the comments and has decided to amend the Rule by adding § 460.5(a)(4) to require the use of ASTM C 1149 (''Standard Specification for Self-Supported Spray Applied Cellulosic Thermal Insulation'') for deriving the R-value of such insulation. The Commission agrees with the commenters that this is an appropriate method to apply to these products. The term ''settled'' has been eliminated from this part as it does not apply to this material. The Commission has also considered NAIMA's concerns regarding moisture and has decided not to amend the Rule with regard to this issue. The Commission is not willing to prescribe detailed requirements in this area absent further information and the opportunity for other industry members to address specific proposals on this issue. Further, if moisture damage is a problem if the material is not properly installed, manufacturers should provide installation instructions as a matter of good practice.[26]

c. Initial Installed Thickness

Background

As discussed in the NPR, the Commission is aware of industry concerns about the installation of loose-fill insulation. (68 FR 41891–41893). For loose-fill insulations, the Rule currently requires: (1) That each manufacturer determine the R-value of its home insulation product at settled density and construct coverage charts showing the minimum *settled* thickness, minimum weight per square foot, and coverage area per bag for various total R-values; and (2) that installers measure the area to be covered and install the number of bags (and weight of insulation material) indicated on the product's coverage chart for the total R-value desired. The Insulation Contractors Association of America (''ICAA'') has long believed that the Rule's requirements make it very difficult for contractors to ensure that they have installed the correct amount of insulation. (68 FR at 41891–41893). In the NPR, the Commission

[24] R&D (p. 2); CIMA (p. 1); and PIMA (p. 8).

[25] In initial comments and a late-filed comment (March 26, 2004), NAIMA submitted information suggesting that insulation installed in walls without proper drying times may lead to faster corrosion, more mold, and lower R-values.

[26] In the NPR, the Commission did not propose any specific test methods for determining the long-term density of *stabilized* cellulose insulation, a product usually used in attic applications. (68 FR 41884–41885). One commenter, R&D (p. 3), suggested that the Commission require the use of ASTM C 1497–01 (''Standard Specification for Cellulosic Fiber Stabilized Thermal Insulation'') for determining the R-value for stabilized cellulose insulation. Because the Commission did not seek comment on this method, we decline to include it in the final amendments. The Commission, however, agrees with R&D that this test appears to be an appropriate method to apply in deriving R-values for this type of insulation.

recognized that contractors may fail to install sufficient insulation either because they apply material at the minimum *settled* thickness by mistake or they simply provide an inadequate amount. (68 FR at 41892). In other instances, some installers inappropriately or inadvertently ''fluff'' their insulation by applying it with more air at a lower density. This practice increases thickness, at least initially, but reduces the necessary density and total R-value. It has been difficult for consumers to determine whether the correct insulation amount has been installed because they cannot rely on the installed thickness alone to assure they obtain the contracted-for R-value.

To address these concerns, the Commission proposed to require a relatively new procedure, ASTM C 1374 (''Standard Test Method for Determination of Installed Thickness of Pneumatically Applied Loose-Fill Building Insulation''). This procedure was specifically developed to aid manufacturers in determining a product's *initial* installed thickness, which in turn ensures that, long-term, consumers receive the claimed R-value. The Commission proposed to incorporate this procedure into the Rule and sought comments on the test. Specifically, the Commission proposed to:

- Amend § 460.5(a) to add a new subsection (5) that would require manufacturers of loose-fill insulation to determine the initial installed thickness of their product at certain R-values using ASTM C 1374 (''Standard Test Method for Determination of Installed Thickness of Pneumatically Applied Loose-Fill Building Insulation'').
- Amend § 460.12 (Labels) to require this initial installed thickness information on product labels.
- Amend § 460.5(a) to require manufacturers of loose-fill insulation to determine the blowing machine adjustments and feed rates necessary to achieve the initial installed thicknesses and indicate such information on the product label.
- Amend § 460.17 to require installers to comply with the initial installed thickness directions on product labels and to use the blowing machine adjustments and feed rates specified by the manufacturer.

Under the proposal, manufacturers would provide initial installed thickness information on labels and fact sheets pursuant to §§ 460.12 and 460.13. Pursuant to § 460.17, installers would have to follow the initial installed thickness information on the label to ensure the appropriate amount of insulation has been installed. They also would have to follow the manufacturer's instructions for blowing machine settings. The Rule would continue to require installers to show fact sheets to consumers (§ 460.15) and provide the consumer with initial installed thickness and R-value information for specific jobs (§ 460.17). To improve the clarity of existing language in the Rule, the Commission also sought comment on changing the term ''minimum thickness'' in § 460.12(b)(2) to ''minimum settled thickness.''

Although the Commission proposed to add disclosure requirements for initial installed thickness information, it indicated specifically that it did not plan to eliminate any of the existing disclosure requirements related to loose-fill, such as bag count and coverage area. The Commission indicated that this information is necessary to provide consumers and inspectors with an additional means to verify that installers have provided an appropriate amount of material. Under the proposed rule, loose-fill cellulose insulation manufacturers would continue to conduct their R-value tests at the settled density using ASTM C 739, as specified by § 460.5(a)(2). Manufacturers of other loose-fill material also would have to continue to conduct R-value tests based on samples that fully reflect the effect of settling on the product's R-value (*see* § 460.5(a)(3)). The Commission sought comments on questions related to the efficacy of ASTM C 1374, and the costs and benefits of the Commission's proposal.

Comments

The comments demonstrated general support for the Commission's proposed amendments with regard to initial installed thickness information, although several commenters raised specific concerns with regard to blowing machine settings and other issues.[27] ICAA (pp. 11–23) strongly supported the amendment stating that the changes will benefit all parties because they will help alleviate the problems installers face in providing the correct amount of insulation.[28] These include differences in ''as designed'' models and ''as built'' homes in large developments, resulting in the actual job site space differing from the ''contracted for'' space; increasingly complex new home plans that make measurements difficult; and problems in obtaining adequate measurements in some retrofit applications.[29]

ICAA (pp. 21–23) also indicated that incorporation of ASTM C 1374 into the Rule is unlikely to increase significantly, if it at all, the costs consumers will pay for loose-fill insulation. ICAA (p. 22) emphasized that the ASTM C 1374 amendment will not cause installers to use more loose-fill material or cause an increase in installation time on any given job because installers will now have an explicit thickness target for each attic, and therefore the overall variance (both overage and underage) may be reduced. ICAA also believes the proposal will not hinder the installers' ability to provide consumers coverage area information required by the Rule because contractors will continue to measure coverage area to estimate the volume and cost associated with each job.

R&D (pp. 3–4), while agreeing generally that the initial installed thickness information would be beneficial, stated that the Rule should continue to require installers to provide the minimum pounds per square foot to insure at least a minimum settled thickness. R&D also raised some specific concerns about ASTM C 1374, cautioning that ''there is no assurance that results from C 1374 will be consistent with the existing procedure for determining the settled density and R-value of loose-fill cellulose insulation.'' R&D's comments raise the possibility that the initial installed thickness results from ASTM C 1374 may not necessarily be consistent with, for instance, the settled density results for cellulose yielded from ASTM C 739. In other words, the instructions for initial installed thickness for a certain R-value could potentially fail to prescribe the insulation amount suggested by the label's area and bag count (*i.e.*, weight) information. Despite this uncertainty, R&D supported the inclusion of initial installed thickness information in the Rule as a

[27] ICAA (p. 15); NAIMA (p. 4); PIMA (p. 8), and CIMA (pp. 1–2). In a late-filed comment (July 8, 2004), U.S. Green Fiber (p. 3), the largest cellulose insulation manufacturer, indicated that the addition of ASTM C 1374 would be ''positive'' and recommended its incorporation into the Rule. Green Fiber also described a procedure it intends to follow in complying with ASTM C 1374. Given the late timing of Green Fiber's comment, the Commission has not addressed the procedure outlined in its letter.

[28] ICAA stated that there are no other test procedures that should be incorporated into the Rule in lieu of (or in addition to) ASTM C 1374 at this time. ICAA wrote that ASTM members are working on an update to the procedure that will involve only very slight, non-substantive modifications. (ICAA, p. 19).

[29] ICAA also suggested that, because the actual net weight in bags sometimes differs from the minimum net weight printed on the packaging, the amendment would allow customers to receive the contracted R-value regardless of bag weight deviations.

''recommendation'' by manufacturers and urged the Commission to require manufacturers to provide initial installed thickness information that is consistent with the results obtained from settled density tests.[30]

Several commenters raised concerns with the blowing machine setting requirements of the Rule. For instance, CIMA stated that because contractors use more than a hundred different blowing machines and a machine's performance changes with age and usage, it would be difficult for manufacturers to provide required blowing machine settings for all of them.[31] It suggested that the Commission allow manufacturers to select one blowing machine deemed to be ''representative'' and publish settings for just that machine. Otherwise, CIMA asserted, manufacturers, particularly smaller ones, would incur significant financial burdens if they have to provide blower settings for many machines.[32] ICAA interpreted the Commission's proposal as requiring the disclosure of blowing machine settings that conform to the reporting requirements of ASTM C 1374, section 11.1.4 which requires the manufacturer to provide information only about the machine settings used to conduct the test. ICAA suggested that the Commission delete reference to blowing machine settings in § 460.17 (installer requirements) because it is inconsistent with ASTM C 1374. ICAA also suggested modifying the proposed language in 460.17, applicable to initial installed thickness, to read: ''For loose-fill, you must follow the manufacturer's label instructions for initial installed thickness.''

Discussion

The Commission has decided to amend the Rule as proposed, with modifications to respond to the comments. The final rule indicates that manufacturers must provide blowing machine settings for the machine used in conducting the test (consistent with ASTM C 1374). This should address comments about the financial burden of testing with multiple blowing machines. Manufacturers, of course, may provide additional information (*e.g.*, settings for additional types of machines) to aid installers.

ASTM C 1374 provides a way to derive initial installed thickness measurements from the weight information (*i.e.*, bag count) on a manufacturer's package label (*see* sections 5.5 and 8.2) of the test method.[33] The test method itself does not require the generation of specific information about product density, settled thickness, weight, or R-value. It assumes that manufacturers have already developed this information before they conduct the initial installed thickness procedure. The data generated by ASTM C 1374 simply adds to existing information on the label by providing installers with guidance on the insulation amounts they should install.

The Commission has considered R&D's concern about possible inconsistencies between results yielded from a procedure for *initial* thickness and another for *settled* density. Because the record does not demonstrate that such inconsistencies will necessarily occur, this concern appears to reflect a potential issue rather than a proven flaw.[34] Other commenters, representing loose-fill manufactures and installers, supported the test method's use for labeling purposes. As proposed in the NPR, the Commission is retaining other information requirements (bags per square feet, etc.).[35] This information will help contractors to install appropriate amounts even if inconsistencies arise between the initial and settled thickness information. This other information (*e.g.*, bag count) also provides installers, consumers,[36] and inspectors an additional means to verify that the appropriate amount of material has been installed. It may also discourage unscrupulous installers from intentionally altering the blowing machine settings to ''fluff'' material (*i.e.*, increase thickness at the expense of density and total R-value). Although initial installed thickness will provide important guidance to installers, they still will have to pay attention to area measurements and bag counts to ensure they install the correct thickness *and* amount.

To avoid possible confusion, the Commission has not included in § 460.17 the proposed requirement that installers follow manufacturers' instructions for initial installed thickness information. In light of the comments, the Commission is concerned that such specific language may lead some installers to follow only the initial installed thickness information and ignore other important data on the bag label. Under the final rule, § 460.17 continues to direct installers to ''use the data the manufacturer gives you'' to ''figure out the R-value of the insulation.'' This language is sufficient to direct installers to follow the manufacturers' instructions including information about coverage area, weight, and initial installed thickness.[37]

D. Other Testing Requirements

1. Test Temperature Differential

Background

In the NPR, the Commission indicated that it did not propose to amend the Rule with regard to the required mean test temperature (75°) for R-value tests. (68 FR at 41887). The current Rule, however, does not require a specific temperature differential (*i.e.*, the temperature difference between the hot and cold surface during testing) in conducting the § 460.5(a) tests. In the NPR, the Commission proposed to require that tests be conducted with a temperature differential of 50 °F plus or minus 10 °F because the thermal properties of a specimen may change both with mean temperature and with the temperature difference across the test specimen.

Comments

The comments generally supported requiring the performance of tests using

[30] R&D supplemented its initial letter in a late filed comment (March 23, 2004) stating that ASTM C 1374 should ''be identified as a guide for determining installed thickness'' and not the sole criterion for installers to follow.

[31] See also R&D (pp. 3–4) and ICAA (pp. 17–18, and 20).

[32] R&D explained the costs arise from the significant capital investment in installation equipment required, and that a prescriptive requirement for blowing machine settings could double the cost of creating a coverage chart.

[33] For instance, section 5.5 of the Test Method states: ''The material blown for a given R-value as part of the installed thickness test equals the installed mass/unit area times the test chamber area. This mass can be calculated from information provided on the package label at the R-value prescribed.'' Section 8.2 states in part: ''From product label information, calculate the mass of insulation required to fill the test chamber for the R-value selected * * * .''

[34] The test method itself directs manufacturers to derive the initial installed thickness information using given R-values for the *mass* of material indicated on the package label (not the thickness). (See ASTM C 1374–03, section 5.5.) If experience demonstrates that there are significant inconsistencies between the results of the two tests, the Commission may consider revisiting this requirement.

[35] The NPR indicated that manufacturers will continue to provide information currently required on loose-fill labels such as minimum settled thickness, maximum new coverage area, number of bags per 1,000 square feet, and minimum weight per square foot at various R-values. (68 FR at 41893).

[36] Initial installed thickness information should make it easier for consumers to verify they have received adequate insulation because they can now use a ruler to measure the installed thickness. Consumers also will continue to receive information regarding minimum settled thickness.

[37] As indicated in the NPR (68 FR at 41893, n. 97), the Commission has decided to change the term ''minimum thickness'' in § 460.12(b)(2) to ''minimum settled thickness.'' This will improve the clarity of the existing language in the Rule.

a temperature differential of 50 °F plus or minus 10 °F.[38] PIMA (p. 5) supported the proposal but noted that the Rule allows reflective insulation testing at a temperature differential of 30 °F. Given the need for consistency in R-value test conditions, PIMA questioned the Commission's decision to exempt aluminum foil insulations from this standardized condition. Honeywell (pp. 1–2) also supported the proposal but recommended that the Rule require testing at a mean temperature of 40 °F, in addition to the mean temperature of 75 °F, to insure that consumers will use an adequate insulation amount in cold temperature regions.[39]

Discussion

The Commission has decided to amend § 460.5(a), as proposed, to require that tests be conducted with a temperature differential of 50 °F plus or minus 10 °F. This amendment will help ensure the comparability of R-value claims for competing home insulations. The Commission is not, however, revising the Rule's mean test temperature requirement, which is not intended to be representative of any particular geographical region, season, or actual performance conditions. Indeed, when the Commission initially promulgated the requirement, it concluded that requiring sellers to test and disclose R-values at a mean temperature representative of any specific geographical region, or season of the year, would yield R-value results that would be inappropriate for other regions or seasons. (44 FR at 50219 and 50227). Further, it concluded that requiring sellers to test and disclose R-values separately for different regions or seasons would yield multiple disclosures that could confuse consumers and perhaps discourage them from using R-values in making purchasing decisions. Although useful information may be derived by testing material at a lower mean temperature, the Commission believes that testing at additional mean temperatures could unduly complicate the testing and reporting of R-values. Manufacturers, of course, may take low temperature performance into account in advertising their products. (*See* 68 FR at 41878–41879).

The Commission also has decided not to alter the temperature differential requirements in the Rule for reflective insulations (*see* § 460.5(b) and (c) of the amended Rule) as PIMA suggested. The Rule's temperature differential requirements for reflective insulations are consistent with well-established procedures mentioned in the Rule itself. For single sheet reflective products, § 460.5(b) references tables in the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) Fundamentals Handbook that do not contain R-values for temperature differentials greater than 30 °F.[40] For multi-sheet reflective insulations, § 460.5(c) requires the use of ASTM 1224 which itself mandates a 30 °F differential (*see* 9.7.3). It would not be appropriate to issue amendments inconsistent with these industry consensus standards without additional information about any technical problems caused by such changes or the practical benefit, if any, such amendments will provide for consumers.

2. Tolerance

Background

In the ANPR (64 FR at 48037–48038), the Commission proposed to clarify that the 10% tolerance provision in § 460.8 applies to manufacturer claims and not to claims made by other sellers or installers who rely on R-value data provided by the manufacturer. Under the tolerance provision, the actual R-value of any insulation sold to consumers cannot be more than 10 percent below the R-value shown on a label, fact sheet, ad, or other promotional material for the product. The Commission solicited comments on whether it should amend the tolerance provision, and the benefits and burdens such an amendment would confer on consumers and insulation sellers. In addition, the Commission sought comments on whether the Rule should be changed with regard to sampling procedures.

After analyzing the comments received in response to the ANPR, the Commission proposed to amend § 460.8 of the Rule to clarify that the tolerance provision applies to manufacturers and the manufacturing process (not to installation). (68 FR at 41887). The Commission also proposed to amend § 460.8 to require that the mean R-value of sampled specimens of a production lot meet or exceed the R-value shown in a label, fact sheet, ad or other promotional material for that insulation. For the purposes of the proposed amendment, the Commission defined the term ''production lot'' as a definite quantity of the product manufactured under uniform conditions of production. In addition, the Rule would continue to specify that no individual specimen of that insulation may have an R-value more than 10% below the R-value shown in a label, fact sheet, ad, or other promotional material for that insulation.[41]

Comments

The Commission received five comments on the tolerance issue. No commenters opposed the Commission's proposal to clarify that the tolerance provision applies to manufacturers and not installers. Two commenters supported the proposal to require that the mean R-value of sampled specimens of a production lot meet or exceed the labeled R-value.[42] Rockwool, in contrast, believes the proposal allows too many sampled specimens to fall below the stated R-value.

NAIMA (pp. 5–6) generally supported the proposal to clarify that manufacturers should meet 100 percent of labeled R-value and that the mean R-values should meet or exceed the labeled R-value, but stated that the proposed rule language could lead to confusion. NAIMA warned that manufacturers, in attempting to meet the new requirement, would adjust their manufacturing process to yield mean R-values above the labeled R-value because normal production processes yield normal variations that may cause a failure to meet the literal requirements of the proposed language.[43] According to NAIMA, the Commission's proposal would necessitate product design changes that would render most insulation more expensive for consumers.

PIMA (pp. 10–11) urged the Commission to retain the current language in the Rule which ''is well

[38] NAIMA (p. 3) (Commission proposal is consistent with ASTM Standard Practice C 1058, ''Selecting Temperatures for Evaluating and Reporting Thermal Properties of Thermal Insulation'' and industry practice). See also, XPSA (pp. 3–4) and Pactiv (p. 1).

[39] Honeywell described past research suggesting that mean temperature has an effect on the thermal conductivity of rigid polyurethane foams. Honeywell noted that the European Union specifies a mean temperature of 50 °F to represent more adequately insulation requirements of their geographic region, which is similar to that of the northern regions of the U.S.

[40] See 2001 ASHRAE Fundamentals Handbook, Ch. 25, Table 3.

[41] The Commission did not propose a specific sampling procedure, stating that there was no clear indication that manufacturers' implementation of the tolerance provision results in the selection of test specimens that are not representative of ongoing production. (68 FR at 41888).

[42] XPSA (p. 4) and Pactiv (p. 2). XPSA indicated that this change will give flexibility to manufacturers and would not require a new, costly testing schedule.

[43] In addition, PIMA (pp. 10–11) explained that the precision and bias of commonly used R-value test methods, such as ASTM C 518, are in the ±3–5% range. It also stated that the Commission has not adequately defined the term ''production lot'' and should designate sampling procedures.

understood.'' NAIMA suggested, however, that the proposed rule specify that manufacturers must use valid statistical tests in their manufacturing process. In NAIMA's opinion, this would remove the potential for manufacturers to make inappropriate assumptions about lot size, sample size, or sampling frequency.

Rockwool International (pp. 1–2) explained that manufacturers interpret the existing Rule to allow the production to be run with a mean R-value equal to labeled R-value. As a result 50% of what is delivered to the market is equal or better than labeled, while the rest is below labeled R-value. Rockwool explained that the change ''will raise the fraction of what is at labeled R-value or better to approximately 75% of what is put on the market and approximately 25% will be below labeled R-value.'' Rockwool indicated that, ultimately, the tolerance rules reflect a policy decision but, in its view, it is reasonable to require that at least 90% of the production to be equal to or better than labeled R-value.

Discussion

The Commission is amending § 460.8 to clarify that the tolerance limit applies to manufacturers and the manufacturing process (not to installation). The Rule will continue to allow professional installers and new home sellers to rely on the manufacturer's installation instructions, unless they have reason to believe that the instructions are inaccurate or not based on the proper tests. The amendment clarifies that the tolerance is not intended to allow installers or new home sellers to deviate from the manufacturer's installation instructions.[44]

The Commission has decided not to include specific language in the Rule related to the mean R-value of sampled specimens in a production lot. As the comments indicate, the proposed language has created significant confusion. The proposed change was meant to clarify existing requirements and foster consistency in the tolerance provision's application, not to change the underlying tolerance requirement or cause changes to existing industry practices. The Commission's proposal sought to explain that the mean R-value of products must meet or exceed the labeled R-value. According to NAIMA, this is the way most manufacturers currently interpret the Rule. The Commission did not intend to require changes in existing production processes due to complications caused by normal variation. Although NAIMA has suggested language to clarify the Commission's intent, such language could also lead to confusion. In addition, any requirement related to the mean of samples in production lots would be difficult to implement and enforce without mandated sampling procedures. Given that the Commission is not amending the Rule in this regard, we note that the tolerance provision is designed to take the place of detailed quality control standards in the Rule. It does not give industry members a license to inflate their R-values above the amount determined through R-value testing. Rather, the testing sections impose two separate bases for potential liability. First, industry members will be liable if their stated R-values do not reflect the results of tests performed in accordance with the Rule. Second, if the Commission tests the manufacturer's product, the tested R-value must be within 10 percent of the R-value represented to consumers. If the product is not within this 10 percent tolerance, the manufacturer may be liable even if the stated R-value accurately reflects the manufacturer's test results. In that event, failure to pass the tolerance test indicates that the manufacturer's quality control procedures are insufficient to reasonably assure consumers that they are receiving the represented R-value. (*See* 45 FR at 68923).

3. Determining the Thermal Performance of Reflective Insulations

Background

There are two basic forms of reflective insulation products in the residential market: (1) Traditional single sheet and multi-sheet reflective insulations; and (2) single-sheet radiant barrier reflective insulations. Traditional reflective insulation products normally are installed in closed cavities, such as walls. The Rule requires that manufacturers of traditional reflective insulation products use specific test procedures to determine the R-values of their products, and that manufacturers and other sellers disclose R-values to consumers for specific applications. (*See* 64 FR at 48038–48039). Section 460.5(c) of the current Rule requires the use of ASTM E 408 for single sheet systems. For reflective systems with more than one sheet, § 460.5(b) requires use of ASTM C 236 and ASTM C 976.

In the NPR, the Commission proposed to reorganize §§ 460.5(b), (c), and (d) and make substantive changes to existing requirements. (68 FR at 41888–90). Proposed § 460.5(b) would require that single sheet systems of aluminum foil (*i.e.*, reflective material) be tested with ASTM C 1371, ''Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers'' or E 408 (as currently required). ASTM C 1371 tests the emissivity of the foil. To get the R-value for a specific emissivity level, air space, and direction of heat flow, the amendment would continue to refer industry members to the tables in the most recent edition of the ASHRAE Handbook, if the product is intended for applications that meet the conditions specified in the tables. Industry members would have to use the R-value for 50 °F, with a temperature differential of 30 °F.

In new § 460.5(c), the Commission proposed requiring that aluminum foil systems with more than one sheet, and single sheet systems of aluminum foil (*i.e.*, reflective insulation) that are intended for applications that do not meet the conditions specified in the tables in the most recent edition of the ASHRAE Handbook, be tested with (i) ASTM C 1363–97, ''Standard Test Method for the Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus,'' (ii) in a test panel constructed according to ASTM C 1224–03, ''Standard Specification for Reflective Insulation for Building Applications,'' and (iii) under the test conditions specified in ASTM C 1224–03. To get the R-value from the results of those tests, the amendment would require the use of the formula specified in ASTM C 1224–03. The tests must be done at a mean temperature of 75 °F, with a temperature differential of 30 °F.

Finally, the Commission proposed to amend § 460.5(d)(1) to insert a reference to ASTM C 1363–97, ''Standard Test Method for the Thermal Performance of Building Assemblies by Means of a Hot Box,'' in place of ASTM C 236–89 (Reapproved 1993), ''Standard Test Method for Steady-State Thermal Performance of Building Assemblies by Means of a Guarded Hot Box,'' and ASTM C 976–90, ''Standard Test Method for Steady-State Thermal Performance of Building Assemblies by Means of a Calibrated Hot Box.''

Comments

Five commenters generally supported the proposed amendments.[45] R&D (p. 4),

[44] For instance, the 10% tolerance provision does not apply to the thickness at which loose-fill insulation is installed. Under the current Rule, loose-fill insulation must be installed at a settled thickness equal to or greater than the minimum settled thickness specified by the manufacturer.

[45] SPFA (p. 1), PIMA (pp. 9–10), NAIMA (pp. 4–5), and Pactiv (p. 2) supported the Commission's proposals without elaboration. AFS noted that ASTM E–408 is not in use anymore and recommended that the Commission eliminate references to the test. AFS indicated that ASTM C

Continued

however, expressed concern that the proposed requirements for single sheet systems of aluminum foil are overly restrictive. Because the ASHRAE Handbook of Fundamentals references only four thicknesses for each heat flow direction, R&D urged the Commission to acknowledge that the footnotes in the Handbook allow for ''interpolation and moderate extrapolation'' from the data for those specified thicknesses.

Discussion

The Commission has determined to amend the Rule as proposed because the amendments account for recent improvements in the applicable test procedures. In response to R&D's concerns, the Commission notes that, in issuing these amendments, it does not intend to restrict the use of the tables only to those values specifically printed in the tables themselves. Rather, the Commission recognizes that explanatory information in the footnotes to the ASHRAE handbook allow for ''interpolation and moderate extrapolation'' and would expect industry members to use this guidance in complying with the Rule.[46]

E. Other Disclosure Issues

1. Disclosures on Labels and Fact Sheets

a. Disclosures for Batt, Blanket, and Boardstock Insulations

Background

Subsections 460.12(b)(1) and (4) of the Rule require manufacturers to label all packages of ''mineral fiber batts and blankets'' and all boardstock insulations with a chart showing the R-value, length, width, thickness, and square feet of insulation in the package, and § 460.13(c)(1) requires that they include the chart on manufacturer-provided fact sheets. As indicated in the ANPR, NAIMA recommended amending § 460.12(b)(1) to apply to all batt and blanket insulation products by deleting the reference to ''mineral fiber.'' (64 FR at 48041).

In the NPR, the Commission agreed that all types of batt and blanket insulations should be labeled with the same basic R-value and coverage area information, and that manufacturers' fact sheets for these insulation products should include these disclosures. Therefore, the Commission proposed deleting the phrase ''mineral fiber'' from § 460.12(b)(1). (68 FR at 41890–41891).[47]

Comments

Both PIMA (p. 11) and NAIMA (p. 7) supported the Commission's proposal to delete ''mineral fiber'' from § 460.12(b)(1) and to clarify that the coverage chart disclosure requirement applies to all types of batts and blanket insulation.

Discussion

For the reasons explained in the NPR and because no negative comments were received, the Commission has decided to amend § 460.12(b)(1) to require that all types of batt and blanket insulations to be labeled with the same basic R-value and coverage area information. This amendment also requires that manufacturers' fact sheets for these insulation products include these disclosures.

b. Required Disclosures for Loose-fill Insulations

i. R-value Disclosures

Background

Section 460.12(b) of the Rule requires that labels on loose-fill insulation packages disclose the minimum net weight of the insulation in the package and include a coverage chart disclosing minimum thickness (after settling), maximum net coverage area, minimum weight per square foot, and, for loose-fill cellulose insulation only, number of bags per 1,000 square feet for each of several specified total R-values for installation in open attics. The Rule specifies different total R-values for which the disclosures must be made for loose-fill cellulose insulations and other types of loose-fill insulations. To install an adequate amount of insulation, professional installers must calculate the number of square feet to be insulated and install the number of bags indicated on the manufacturer's coverage chart that are necessary for the desired R-value (commonly referred to as the ''bag count''). In the NPR, the Commission proposed to amend §§ 460.12(b)(2) and (3) to require the same coverage charts for all types of loose-fill insulation (not just cellulose) at R-values of 11, 13, 19, 22, 24, 32, and 40.

Comments

In general, commenters supported the Commission's proposal to require the same R-value information on labels and fact sheets for all types of loose-fill insulation. ICAA (pp. 9–10) said disclosures based on specified R-values would make it easier for contractors and ''do-it-yourself'' consumers to compare various products and would enhance competition in the market. ICAA and R&D (p. 3) believe any costs associated with this amendment will be small and will have little or no financial impact on manufacturers. ICAA and NAIMA (p. 5) suggested that the disclosure requirement for loose-fill insulations include R-values of 30, 38, and 49 because these values reflect DOE's most common R-value insulation recommendations.[48]

Because the proposed values differ from those traditionally used by cellulose manufacturers and specified in ASTM C 739 (''Standard Specification for Cellulosic Fiber Loose-Fill Thermal Insulation''), CIMA (p. 1) said that some cellulose insulation manufacturers would have to develop new coverage charts. To minimize the costs associated with developing these new charts, CIMA urged the Commission to give manufacturers a reasonable amount of time to comply with this change.

Discussion

After reviewing the comments, the Commission has determined to consolidate § 460.12(b)(2) and (3) into § 460.12(b)(2) and to require R-value disclosures at 13, 19, 22, 30, 38, and 49. The Commission agrees with NAIMA and ICAA's suggestions to include other values DOE most commonly recommends for different regions of the country.[49] Some of the proposed values, such as 24, 32, and 40, have not been included in the final rule because they do not appear in the DOE recommendations. Manufacturers, however, may include voluntarily these and other R-values on their labels.

The commenters provided differing opinions about the costs of such changes. Although the Commission has altered the final rule to be more consistent with commonly used R-values, the Commission recognizes that

1371 is the appropriate, updated test to use for measuring surface emittance.

[46] The Commission has decided to retain ASTM E 408 in the Rule. Although it may not be widely used and has largely been displaced by C 1371 (for measurements of emittance using portable emissometers), the commenters have not identified any negative impact from retaining this procedure in the Rule.

[47] Section 460.12(b) refers to ''mineral fiber'' batts and blankets because, when the Rule was promulgated, the batt and blanket insulation products being sold in the residential market were mineral fiber insulation products, primarily fiberglass. Since then, the market has expanded to include other types of batt and blanket insulations.

[48] See also R&D (p. 3) (specifying a minimum number of R-values that must be included in a coverage chart is appropriate, but voluntary disclosure of other R-values on the coverage chart should be allowed).

[49] See ''U.S. Department of Energy Recommended Total R-Values for New Construction Houses in Six Insulation Zones,'' *http://www.eere.energy.gov/consumerinfo/energy_savers/pdfs/rvalue_map.pdf.* See also ''Insulation Fact Sheet,'' DOE/CE–0180, Oct. 2002.

the amendment may require manufacturers to change their labels and complete any necessary calculations for these new values. Accordingly, the Commission is making the effective date of the amendments announced in this document 180 days after publication in the **Federal Register**.

ii. Initial Installed Thickness

As discussed in section V.C.2.c. of this document, the Commission has amended the Rule to require manufacturers to provide information on bag labels and fact sheets related to the ''initial installed thickness'' of loose-fill insulation. This requirement necessitates changes to § 460.12 (Labels) to require this new information on product labels.

c. Disclosures for Urea-Based Foam Insulations

In the NPR, the Commission proposed to delete the Rule's disclosure requirements related to urea-based foam insulations (§§ 460.13(d) and 460.18(e)) (*e.g.*, ''Foam insulation shrinks after it is installed. This shrinkage may significantly reduce the R-value you get''). Earlier comments recommended that the Commission revise the required statement to refer to ''urea-based foam insulation'' because the reference to ''foam insulation'' implies that all foam-type insulation products (including other types of cellular plastics insulations) shrink after installation, resulting in lower R-values than claimed. Because there is no indication that urea-based foam insulation is being sold, the Commission proposed to eliminate the provision completely.

NAIMA (p. 7) and PIMA (pp. 12–13) supported eliminating the Rule's requirements for urea-based foam insulation because the product is no longer available. Both, however, recommended that the Commission ensure that procedures are in place to reinstate this product category under the Rule should the product reappear. Given that commenters identified no reasonable expectation that such products will reappear on the market, the Commission has decided to amend the Rule as proposed. If necessary, ordinary rulemaking procedures can be used to address the issue if the product reappears.

2. Disclosures in Advertising and Other Promotional Materials

In the NPR (68 FR at 41894), the Commission proposed to eliminate current disclosure requirements for radio ads in §§ 460.18 and 460.19.[50] Three comments supported the Commission's proposal and none opposed.

The Commission has decided to amend the Rule as proposed. There is no indication that the absence of requirements for television ads, which are exempt from the affirmative disclosure requirements pursuant to §§ 460.18(f) and 460.19(g), has had an adverse impact on consumers over the years. Similarly, the Commission expects that the elimination of radio disclosure requirements will have little impact on consumers. In addition, the lengthy disclosures required by §§ 460.18 and 460.19 are arguably more burdensome for radio than television because the disclosures must necessarily displace significant portions of the ad's message or increase the duration of the ad and hence the advertiser's cost. Required information on fact sheets, labels, and print ads will continue to provide consumers with critical performance information when they shop for insulation or use installers.

3. Disclosures by Installers or New Home Sellers

As discussed in detail in section V.C.2.c. above, the Commission is amending § 460.17 to require loose-fill installers to provide information to customers about initial installed thickness in addition to information currently required by the Rule (*i.e.*, coverage area, R-value, minimum settled thickness, and bag count).[51] In response to comments, the Commission has decided not to include proposed language in § 460.17 about blowing machine settings and the specific requirement related to initial installed thickness instructions (*see* section V.C.2.c.). Existing rule language should provide sufficient direction to installers (§ 460.17 already requires installers to use manufacturer data to determine the installed insulation R-value). In its comments, CIMA (p. 2) urged the Commission to require installers to post ''attic cards'' for use by homeowners and building inspectors. Attic cards contain information about the installed insulation and are usually posted in the attic near the access opening for later reference by code inspectors and home owners. In the NPR, the Commission addressed this issue and suggested that requirements related to initial installed thickness information on the bag label would be a more direct approach to addressing the issue. (68 FR at 41895). Because the Commission is now requiring disclosures on customer receipts of initial installed thickness, the Commission has determined that the additional burden imposed by an attic card requirement is not warranted.

4. Disclosures by Retailers

Background

In the years since the Commission promulgated the Rule, the nature of retail sales to do-it-yourself consumers has changed. Now insulation packages are usually available to consumers before purchase. Section 460.14 of the Rule requires retailers who sell insulation to do-it-yourself consumers to make the manufacturers' fact sheets available to consumers before purchase in any manner the retailer chooses, as long as consumers are likely to notice the fact sheets. The ANPR explained that the purpose of this requirement is to ensure that consumers have the information about home insulation they need to make cost-based purchasing decisions. (64 FR at 48048). When the Commission promulgated the Rule, bulky insulation packages were not normally available on the retail sales floor, so the consumer would not see the disclosures on labels before purchase. Today, retailers often sell home insulation directly from warehouse-type sales floors where consumers select the packages themselves. The NPR solicited comments on whether to amend the Rule to exempt retailers from making separate fact sheets available at the point of purchase if all the required fact sheet disclosures are made on the insulation package and if the insulation packages are available on the sales floor for the consumer to inspect before purchase. (68 FR at 41896).

Comments

NAIMA (p. 7) supported the Commission's proposed amendment to exempt retailers from providing fact sheets when the very same information may be found on the bag label. It suggested, however, that the Rule clearly require manufacturers to supply retailers with the relevant fact sheets when labels lack the data required to

[50] XPSA (p. 4), NAIMA (pp. 7–8), and PIMA (p. 13). PIMA suggested that the FTC also consider issuing materials to educate consumers about the Rule and the information they need when purchasing home insulation. Over the years the Commission has developed a variety of consumer education items for insulation and other energy-related consumer products. Many of these materials can be found at *www.ftc.gov/energy*. The Commission plans to continue its efforts in this area as appropriate.

[51] The final rule language clarifies that installers must provide information on initial *and* settled thickness. As the Commission stated in the proposed notice, it did not intend to eliminate any existing disclosure requirements (which include settled thickness information) (*see* 68 FR at 41893).

appear on fact sheets. PIMA (p. 12) also supported the proposed change as long as the retailer is responsible for determining whether the package labels contain the necessary information.

Discussion

The Commission has determined to amend the Rule as proposed. This amendment does not change the manufacturers' responsibility to prepare and disseminate fact sheets (*see* § 460.13). Rather, it simply gives individual retailers an option not to make fact sheets available to consumers if the retailer determines the package labels contain the information that would otherwise be in the fact sheets and the packages are displayed in a way that customers can obtain the required information prior to purchase. If a retailer does not want to take the time to compare the labels with the fact sheets, it can always make the fact sheets available to customers as provided by the Rule.

F. Amendments To Update References to ASTM Standards

In addition to the amendments discussed herein, the Commission proposed to amend certain Rule provisions to update referenced ASTM Standards that ASTM has reviewed and updated since the Rule was amended in 1996. Several commenters expressed support for this proposal (*see* PIMA, p. 10, ASTM, and NAIMA, p. 3 and 5). ASTM provided information on the latest version of all the standards mentioned in the Rule. Therefore, the Commission is updating the references to all the ASTM procedures referenced in the Rule. These procedures include: ASTM C 177–04, ''Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus;'' ASTM C 518–04, ''Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus;'' ASTM C 578–03, ''Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation;'' ASTM C 591–01, ''Standard Specification for Unfaced Preformed Rigid Cellular Polyisocyanurate Thermal Insulation;'' ASTM C 739–03, ''Standard Specification for Cellulosic Fiber Loose-Fill Thermal Insulation;'' ASTM C 1029–02, ''Standard Specification for Spray-Applied Rigid Cellular Polyurethane Thermal Insulation;'' ASTM C 1045–01, ''Standard Practice for Calculating Thermal Transmission Properties from Steady-State Conditions;'' ASTM C 1114–00, ''Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Thin-Heater Apparatus;'' ASTM C 1149–02, ''Standard Specification for Self-Supported Spray Applied Cellulosic Thermal Insulation;'' ASTM C 1224–03, ''Standard Specification for Reflective Insulation for Building Applications;'' ASTM C 1363–97, ''Standard Test Method for the Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus'' (in place of ASTM C 236–89 and ASTM C 976–90); ASTM C 1371–04a, ''Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers;'' ASTM C 1374–03, ''Standard Test Method for Determination of Installed Thickness of Pneumatically Applied Loose-Fill Building Insulation;'' and ASTM E 408–71 (Reapproved 2002), ''Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques.''

The Commission has also added a new paragraph (e) in § 460.5 to consolidate information regarding incorporation by reference approvals from by the Office of the Federal Register.[52]

G. Comments on New Products

A few comments raised issues about the Rule's coverage of some new products in the market such as a low-density foam for home insulation called ''polyicynene'' and a weather resistant cellulose product with an aluminum facing called ''Thermo-ply.'' PIMA urged the Commission to reference polyicynene and Thermo-ply in the Rule to remove any doubt that these products are subject to FTC regulation.

The Commission is aware that new insulation product types frequently appear. The requirements of the R-value Rule apply to any material (unless specifically exempted) ''mainly used to slow down heat flow.'' (*See* § 460.2). To the extent that the products identified by the commenters meet this definition, manufacturers and other industry members selling such products must meet all applicable requirements of the Rule.[53] The fact that the Rule does not specifically mention a particular type of insulation does not exempt such products from the Rule's coverage. Therefore, no amendments are needed to address these new products at this time.

H. Effective Date of Amendments

As discussed above in section V.E.1.b., some commenters have indicated that any compliance costs associated with these amendments would be reduced if the Rule provides industry members with sufficient time to make necessary changes to their testing, labeling, or other practices. The Commission agrees with these commenters and has decided to make the effective date of these amendments 180 days after publication, rather than the standard 30 days usually provided.

VI. Regulatory Analysis and Regulatory Flexibility Act Requirements

Under section 22 of the FTC Act, 15 U.S.C. 57b, the Commission must issue a regulatory analysis for a proceeding to amend a rule only when it (1) estimates that the amendment will have an annual effect on the national economy of $100,000,000 or more; (2) estimates that the amendment will cause a substantial change in the cost or price of certain categories of goods or services; or (3) otherwise determines that the amendment will have a significant effect upon covered entities or upon consumers.

Several commenters addressed the economic impact of the proposed Rule. In general, the commenters indicated that the amendments would have a beneficial effect but did not indicate that the amendments would have an annual impact of more than $100,000,000, cause substantial change in the cost of goods, or otherwise have a significant effect upon covered entities or consumers. ICAA (pp. 24–32), which focused on changes to loose-fill labeling requirements, stated that the amendments are likely to reduce energy bills for consumers[54] but not increase their costs.[55]

ICAA (p. 27) acknowledged that there are ''some,'' but only nominal, costs associated with performing tests on loose-fill insulation products under ASTM C 1374 and maintaining related

[52] As indicated in the NPR, the Commission is also amending § 460.23 to correct a typographical error.

[53] For instance, for foamed-in-place insulations (such as polyicynene), sellers must show the R-value of the product at 3½ inches (*see* § 460.13(c)(1)).

[54] Using studies and reports about the deficiency of insulation amounts installed in the past, ICAA's 1992 and 2002 analysis estimated that, if the proposed loose-fill labeling requirement had been in place beginning in 1992, residential consumers would have realized a total economic benefit from energy savings between approximately $49 million and $500 million over that eleven-year period.

[55] ICAA indicated that the amendments for loose-fill insulation will allow home owners to verify installations easily by providing them with a less expensive method than alternatives such as the existing ''cookie-cutter'' test. In its view, this will also decrease the costs for builders and installers by making it easier for professional loose-fill installers to provide the contracted R-value.

records. It suggested that the initial installed thickness test (ASTM C 1374) ''is quite simple to apply and does not require complex or expensive apparatus.'' Because manufacturers modify product bag labels periodically, ICAA believes any costs associated with the amendments will be negligible and may well represent no incremental cost over current labeling requirements. ICAA also suggested that the initial cost of the amendments to manufacturers can be further minimized by allowing a phase-in period of up to 90-days for implementation of the amended rules.[56]

Finally, PIMA (pp. 21–22) commented generally that use of home insulation delivers a positive impact on the environment because it reduces the use of fossil fuels to heat and cool buildings. In its view, the R-value Rule provides a means to ensure the proper amount of insulation is installed and educates consumers on their insulation purchases. NAIMA and ICAA similarly provided general information about the benefits that insulation products have for pollution reduction, energy savings, and public health. The Commission has analyzed these comments and determined that the proposed amendments to the Rule will not have significant effects on the national economy, on the cost of home insulation products, or on covered parties or consumers.[57] In any event, to the extent, if any, these final rule amendments will have such effects, the Commission has previously explained above the need for, and the objectives of, the final amendments; the regulatory alternatives that the Commission has considered; the projected benefits and adverse economic or other effects, if any, of the amendments; the reasons that the final amendments will attain their intended objectives in a manner consistent with applicable law; the reasons for the particular amendments that the agency has adopted; and the significant issues raised by public comments, including the Commission's assessment of and response to those comments on those issues. See 15 U.S.C. 57b–3(a)(2).

The Regulatory Flexibility Act (''RFA''), 5 U.S.C. 601–12, requires that the agency conduct an analysis of the anticipated economic impact of the proposed amendments on small businesses. The purpose of a regulatory flexibility analysis is to ensure that the agency considers impact on small entities and examines regulatory alternatives that could achieve the regulatory purpose while minimizing burdens on small entities. Section 605 of the RFA, 5 U.S.C. 605, provides that such an analysis is not required if the agency head certifies that the regulatory action will not have a significant economic impact on a substantial number of small entities.

With respect to the Rule's impact on small businesses, ICAA (p. 32) stated that very few loose-fill manufacturers are likely to be ''small businesses'' as defined by the U.S. Small Business Administration (''SBA'').[58] Even so, ICAA believes that any possible adverse economic effects are likely to be small and did not identify any disproportionate impacts from the amendments on large and small builders or insulation contractors.[59]

Because the R-value Rule covers home insulation manufacturers and retailers, professional installers, new home sellers, and testing laboratories, the Commission believes that any amendments to the Rule may affect a substantial number of small businesses. Nevertheless, the proposed amendments would not appear to have a significant economic impact upon such entities. Specifically, the Commission is adopting only a few limited amendments that are designed to clarify the Rule, make disclosure requirements consistent for competing types of loose-fill insulation products as well as batt and blanket insulation products, require the most current procedures for preparing R-value test specimens and conducting R-value tests, provide consumers with information about the initial installed thickness of loose-fill insulation, and provide retailers with an optional method for satisfying the Rule's fact sheet disclosure requirement. The Commission concluded that the proposed amendments will not have a significant or disproportionate impact on the costs of small manufacturers, retailers, installers, new home sellers, and testers of home insulation products. Based on available information, therefore, the Commission certifies that the R-value Rule amendments published in this document will not have a significant economic impact on a substantial number of small businesses.

Nonetheless, to ensure that no such impact, if any, has been overlooked, the Commission has conducted the following final regulatory flexibility analysis, as summarized below.

A. Need for and Objectives of the Rule

As previously discussed, the Commission is issuing these amendments to streamline and increase the Rule's benefits for consumers and sellers, minimize its costs, and respond to the development and utilization of new technologies to make homes more energy efficient and less costly to heat and cool.

B. Significant Issues Raised by Public Comment, Summary of the Agency's Assessment of These Issues, and Changes, if any, Made in Response to Such Comments

The Commission has reviewed the comments received and made changes to the proposed rule as appropriate. Section V of this notice contains a detailed discussion of the comments and the Commission's responses.

C. Description and Estimate of Number of Small Entities Subject of the Final Rule or Explanation Why No Estimate Is Available

In general, under the size standards used by the SBA, the ''small business'' threshold (measured in number of employees or average annual receipts) in the manufacturing industry is 500 employees; wholesale trade, 100 employees; general and heavy construction, $28.5 million (avg. annual receipts); and special trade contractors, $12 million. See generally 13 CFR part 121. The Commission estimates that there are fewer than 170,000 small entities subject to the R-value Rule (*see* 67 FR 45734, 45736 (July 10, 2002)). These entities include insulation manufacturers and their testing laboratories, insulation installers, new home builders/sellers of site-built homes, manufactured housing dealers, and retail sellers.

D. Description of the Projected Reporting, Recordkeeping, and Other Compliance Requirements of the Rule, Including an Estimate of the Classes of Small Entities That Will Be Subject to the Rule and the Type of Professional Skills That Will Be Necessary To Comply

As discussed in the Paperwork Reduction Act analysis of this notice (section VII.), the amendments will make minor changes to the reporting,

[56] CIMA (p. 1) provided similar comments (*see* section V.E.1.b.i. of this document).

[57] As discussed at section V.H. of this document, the Commission plans to provide industry members 180 days to comply with the Rule?s new requirements.

[58] In general, under the size standards used by the SBA, the ''small business'' threshold (measured in number of employees or average annual receipts) in the manufacturing industry is 500 employees; wholesale trade, 100 employees; general and heavy construction, $28.5 million (avg. annual receipts); and special trade contractors, $12 million. See generally 13 CFR part 121; and *http://www.sba.gov/size/summary-whatis.html* (summary of SBA size standards).

[59] CIMA (p. 2) and R&D (pp. 3–4) commented that the proposed amendments related to blowing machine settings may have a significant impact on small businesses. The Commission, however, has altered the final amendments to address this concern.

recordkeeping, and other compliance requirements of the Rule. This may affect some small entities such as certain manufacturers and installers. In addition, some of the new testing requirements for manufacturers may require engineering skills (although it is likely that affected entities have access to such skills in their current operations). The incremental cost of the amendments is difficult to estimate. As suggested by the comments, however, the Commission expects that the added costs of the amendments will be very small.

E. Steps the Agency Has Taken To Minimize Any Significant Economic Impact on Small Entities, Consistent With the Stated Objectives of the Applicable Statutes, Including the Factual, Policy and Legal Reasons for Selecting the Alternative(s) Finally Adopted, and Why Each of the Significant Alternatives, if Any, Was Rejected

In response to comments, the Commission has extended the effective date of these amendments to 180 days after publication to minimize the Rule's impact on small entities. This extended date will provide manufacturers with more time to complete the new test required by the amendments. This should reduce the burden by allowing businesses to determine the best and most cost-effective means to comply. In developing these final amendments, the Commission has sought to minimize the burden on small businesses while achieving the intended objectives of the Rule. For example, the Commission has amended § 460.14 to exempt retailers from making separate fact sheets available at the point of purchase if all the required fact sheet disclosures are made on the insulation package and if the insulation packages are available on the sales floor for the consumer to inspect before purchase. In addition, the Commission has decided not to amend the tolerance provision (§ 460.8) as proposed to avoid confusion and unnecessary costs the changes could have imposed on companies subject to the Rule.

VII. Paperwork Reduction Act

The R-value Rule contains various information collection requirements for which the Commission has obtained clearance under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.*, Office of Management and Budget (''OMB'') Control Number 3084–0109. The Commission believed that the proposed rule amendments would not substantially or materially modify the collection of information and related burden estimates but sought comments on any paperwork burden related to the proposed changes to ensure that no significant paperwork burden was being overlooked. (68 FR at 41897). In response, PIMA (pp. 21–22) indicated that there would be no additional paperwork burdens associated with the proposed changes. Similarly, ICAA (p. 26) did not identify any paperwork burden requirements beyond those already identified by the Commission in the proposed rule. ICAA (p. 27) also acknowledged that there may be ''some costs'' associated with the new loose-fill requirements but such costs would be nominal.

The Commission is adopting a limited number of final rule amendments that are designed to clarify the Rule, make disclosure requirements consistent for competing types of loose-fill insulation products and batt and blanket insulation products, require the most current procedures for preparing R-value test specimens and conducting R-value tests, require initial installed thickness information for loose-fill insulations, eliminate disclosure requirements for radio ads, provide retailers with a method that decreases their compliance burden, and additional minor clarifications and changes.

The Commission believes that any additional burden resulting from certain amendments will be offset (or possibly exceeded) by other amendments that eliminate disclosure requirements for radio ads and relieve retailers from providing fact sheets for customers under certain circumstances. The new labeling, testing, and recordkeeping requirements for loose-fill manufacturers affect a subset of the manufacturers in the industry, and according to most comments, would not impose a significant burden. Although those few manufacturers producing batts or blankets from materials other than mineral fiber may have to add information to their coverage charts, the Commission believes, based on staff's knowledge of the industry that at least some of these entities voluntarily are providing this information already. In addition, ICAA, an installer association, did not identify an increase in paperwork burden for installers.

The rule amendments eliminating disclosure requirements for radio ads and relieving retailers from providing fact sheets in certain circumstances will decrease burden and will affect many more industry members than the small subset of loose-fill manufacturers who may have an increased burden. In sum, the net effect of the rule amendments will not increase burden under the Paperwork Reduction Act.

List of Subjects in 16 CFR Part 460

Advertising, Incorporation by reference, Insulation, Labeling, Reporting and recordkeeping requirements, Trade practices.

VIII. Final Rule Language

■ For the reasons set out in this document, the Commission is adopting the following amendments to 16 CFR part 460.

PART 460—LABELING AND ADVERTISING OF HOME INSULATION

■ 1. The authority citation for part 460 continues to read as follows:

Authority: 38 Stat. 717, as amended (15 U.S.C. 41 *et seq.*).

■ 2. Revise § 460.1 to read as follows:

§ 460.1 What this regulation does.

This regulation deals with home insulation labels, fact sheets, ads, and other promotional materials in or affecting commerce, as ''commerce'' is defined in the Federal Trade Commission Act. If you are covered by this regulation, breaking any of its rules is an unfair and deceptive act or practice or an unfair method of competition under section 5 of that Act. You can be fined heavily (up to $11,000 plus an adjustment for inflation, under § 1.98 of this chapter) each time you break a rule.

■ 3. Revise § 460.5 to read as follows:

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 below. They were designed by the American Society of Testing and Materials (ASTM). The test methods are:

(a) All types of insulation except aluminum foil must be tested with ASTM C 177–04, ''Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus;'' ASTM C 518–04, ''Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus;'' ASTM C 1363–97, ''Standard Test Method for the Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus'' or ASTM C 1114–00, ''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 differential 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 C 177–04 or ASTM C 518–04 must be reported only in accordance with the requirements and restrictions of ASTM C 1045–01, ''Standard Practice for Calculating Thermal Transmission Properties from Steady-State Conditions.''

(1) For polyurethane, polyisocyanurate, and extruded polystyrene, the tests must be done on samples that fully reflect the effect of aging on the product's R-value. To age the sample, follow the procedure in paragraph 4.6.4 of GSA Specification HH–I–530A, or another reliable procedure.

(2) For loose-fill cellulose, the tests must be done at the settled density determined under paragraph 8 of ASTM C 739–03, ''Standard Specification for Cellulosic Fiber Loose-Fill Thermal Insulation.''

(3) For loose-fill mineral wool, self-supported, spray-applied cellulose, and stabilized cellulose, the tests must be done on samples that fully reflect the effect of settling on the product's R-value.

(4) For self-supported spray-applied cellulose, the tests must be done at the density determined pursuant to ASTM C 1149–02, ''Standard Specification for Self-Supported Spray Applied Cellulosic Thermal Insulation.''

(5) For loose-fill insulations, the initial installed thickness for the product must be determined pursuant to ASTM C 1374–03, ''Standard Test Method for Determination of Installed Thickness of Pneumatically Applied Loose-Fill Building Insulation,'' for R-values of 13, 19, 22, 30, 38, 49 and any other R-values provided on the product's label pursuant to § 460.12.

(b) Single sheet systems of aluminum foil must be tested with ASTM E 408–71 (Reapproved 2002), ''Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques,'' or ASTM C 1371–04a, ''Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers.'' This tests the emissivity of the foil—its power to radiate heat. To get the R-value for a specific emissivity level, air space, and direction of heat flow, use the tables in the most recent edition of the American Society of Heating, Refrigerating, and Air-Conditioning Engineers' (ASHRAE) Fundamentals Handbook, if the product is intended for applications that meet the conditions specified in the tables. You must use the R-value shown for 50[degrees] Fahrenheit, with a temperature differential of 30[degrees] Fahrenheit.

(c) Aluminum foil systems with more than one sheet, and single sheet systems of aluminum foil that are intended for applications that do not meet the conditions specified in the tables in the most recent edition of the ASHRAE Fundamentals Handbook, must be tested with ASTM C 1363–97, ''Standard Test Method for the Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus,'' in a test panel constructed according to ASTM C 1224–03, ''Standard Specification for Reflective Insulation for Building Applications,'' and under the test conditions specified in ASTM C 1224–03. To get the R-value from the results of those tests, use the formula specified in ASTM C 1224–03.

(d) For insulation materials with foil facings, you must test the R-value of the material alone (excluding any air spaces) under the methods listed in paragraph (a) of this section. You can also determine the R-value of the material in conjunction with an air space. You can use one of two methods to do this:

(1) You can test the system, with its air space, under ASTM C 1363–97, ''Standard Test Method for the Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus,'' which is incorporated by reference in paragraph (a) of this section. If you do this, you must follow the rules in paragraph (a) of this section on temperature, aging and settled density.

(2) You can add up the tested R-value of the material and the R-value of the air space. To get the R-value for the air space, you must follow the rules in paragraph (b) of this section.

(e) The standards listed above are incorporated by reference into this section. These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be inspected at the Federal Trade Commission, Consumer Response Center, Room 130, 600 Pennsylvania Avenue, NW., Washington, DC 20580, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html*. Copies of materials and standards incorporated by reference may be obtained from the issuing organizations listed in this section.

(1) The American Society of Testing and Materials, 100 Barr Harbor Drive, P.O. Box C700, West Conshocken, PA 19428–2959.

(i) ASTM C 177–04, ''Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus.''

(ii) ASTM C 518–04, ''Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.''

(iii) ASTM C 739–03, ''Standard Specification for Cellulosic Fiber Loose-Fill Thermal Insulation.''

(iv) ASTM C 1045–01, ''Standard Practice for Calculating Thermal Transmission Properties from Steady-State Conditions.''

(v) ASTM C 1114–00, ''Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Thin-Heater Apparatus.''

(vi) ASTM C 1149–02, ''Standard Specification for Self-Supported Spray Applied Cellulosic Thermal Insulation.''

(vii) ASTM C 1224–03, ''Standard Specification for Reflective Insulation for Building Applications.''

(viii) ASTM C 1363–97, ''Standard Test Method for the Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus.''

(ix) ASTM C 1371–04a, ''Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers.''

(x) ASTM C 1374–03, ''Standard Test Method for Determination of Installed Thickness of Pneumatically Applied Loose-Fill Building Insulation.''

(xi) ASTM E 408–71 (Reapproved 2002), ''Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques.''

(2) U.S. General Services Administration (GSA), 1800 F Street, NW., Washington, DC 20405.

(i) GSA Specification HH–I–530A, Federal Specification, Insulation Board, Thermal (Urethane), November 22, 1971.

(ii) [Reserved]

■ 4. Revise § 460.8 to read as follows:

§ 460.8 R-value tolerances.

If you are a manufacturer of home insulation, no individual specimen of the insulation you sell can have an R-value more than 10% below the R-value shown in a label, fact sheet, ad, or other promotional material for that insulation. If you are not a manufacturer, you can rely on the R-value data given to you by the manufacturer, unless you know or should know that the data is false or not based on the proper tests.

■ 5. Revise § 460.12 to read as follows:

§ 460.12 Labels.

If you are a manufacturer, you must label all packages of your insulation. The labels must contain:

(a) The type of insulation.

(b) A chart showing these items:

(1) For batts and blankets of any type: the R-value, length, width, thickness, and square feet of insulation in the package.

(2) For all loose-fill insulation: the minimum settled thickness, initial installed thickness, maximum net coverage area, number of bags per 1,000 square feet, and minimum weight per square foot at R-values of 13, 19, 22, 30, 38, and 49. You must also give this information for any additional R-values you list on the chart. Labels for these products must state the minimum net weight of the insulation in the package. You must also provide information about the blowing machine and machine settings used to derive the initial installed thickness information.

(3) For boardstock: the R-value, length, width, and thickness of the boards in the package, and the square feet of insulation in the package.

(4) For aluminum foil: the number of foil sheets; the number and thickness of the air spaces; and the R-value provided by that system when the direction of heat flow is up, down, and horizontal. You can show the R-value for only one direction of heat flow if you clearly and conspicuously state that the foil can only be used in that application.

(5) For insulation materials with foil facings, you must follow the rule that applies to the material itself. For example, if you manufacture boardstock with a foil facing, follow paragraph (b)(3) of this section. You can also show the R-value of the insulation when it is installed in conjunction with an air space. This is its ''system R-value.'' If you do this, you must clearly and conspicuously state the conditions under which the system R-value can be attained.

(6) For air duct insulation: the R-value, length, width, thickness, and square feet of insulation in the package.

(c) The following statement: ''R means resistance to heat flow. The higher the R-value, the greater the insulating power.''

(d) If installation instructions are included on the label or with the package, add this statement: ''To get the marked R-value, it is essential that this insulation be installed properly. If you do it yourself, follow the instructions carefully.''

(e) If no instructions are included, add this statement: ''To get the marked R-value, it is essential that this insulation be installed properly. If you do it yourself, get instructions and follow them carefully. Instructions do not come with this package.''

§ 460.13 [Amended]

■ 6. In § 460.13, remove paragraph (d) and redesignate paragraphs (e) and (f) as paragraphs (d) and (e) respectively.

■ 7. Revise § 460.14 to read as follows:

§ 460.14 How retailers must handle fact sheets.

If you sell insulation to do-it-yourself customers, you must have fact sheets for the insulation products you sell. You must make the fact sheets available to your customers. You can decide how to do this, as long as your insulation customers are likely to notice them. For example, you can put them in a display, and let customers take copies of them. You can keep them in a binder at a counter or service desk, and have a sign telling customers where the fact sheets are. You need not make the fact sheets available to customers if you display insulation packages on the sales floor where your insulation customers are likely to notice them and each individual insulation package offered for sale contains all package label and fact sheet disclosures required by §§ 460.12 and 460.13.

■ 8. Revise § 460.17 to read as follows:

§ 460.17 What installers must tell their customers.

If you are an installer, you must give your customers a contract or receipt for the insulation you install. For all insulation except loose-fill and aluminum foil, the receipt must show the coverage area, thickness, and R-value of the insulation you installed. The receipt must be dated and signed by the installer. To figure out the R-value of the insulation, use the data that the manufacturer gives you. If you put insulation in more than one part of the house, put the data for each part on the receipt. You can do this on one receipt, as long as you do not add up the coverage areas or R-values for different parts of the house. Do not multiply the R-value for one inch by the number of inches you installed. For loose-fill, the receipt must show the coverage area, initial installed thickness, minimum settled thickness, R-value, and the number of bags used. For aluminum foil, the receipt must show the number and thickness of the air spaces, the direction of heat flow, and the R-value.

■ 9. In § 460.18, paragraph (e) is removed, and paragraph (f) is redesignated as paragraph (e) and revised to read as follows:

§ 460.18 Insulation ads.

* * * * *

(e) The affirmative disclosure requirements in § 460.18 do not apply to ads on television or radio.

■ 10. In § 460.19, paragraph (g) is revised to read as follows:

§ 460.19 Savings claims.

* * * * *

(g) The affirmative disclosure requirements in § 460.19 do not apply to ads on television or radio.

■ 11. In § 460.23, paragraph (a) is revised to read as follows:

§ 460.23 Other laws, rules, and orders.

(a) If an outstanding FTC Cease and Desist Order applies to you but differs from the rules given here, you can petition to amend the order.

* * * * *

By direction of the Commission.

Donald S. Clark,

Secretary.

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