

Department of Public Service, Energy Division

In the matter of the Proposed  
Amendment of the Rule of the  
State Department of Public Service,  
Energy Division Governing Residential  
Thermal Insulation Standards

STATEMENT OF  
NEED AND  
REASONABLENESS  
April, 1988

The Commissioner of the Minnesota Department of Public Service proposes to adopt amendments to Minnesota Rules Chapter 4155 without a public hearing. The Commissioner has determined that the proposed amendment of these rules will be non-controversial in nature and has elected to follow the procedures set forth in Minnesota Statutes sections 14.22 to 14.28. The above-captioned proposed rules are amendments to the existing Minnesota Residential Thermal Insulation Standards.

Authority

The Commissioner is authorized by Minnesota Statutes sections 325F.20, subdivision 1, and 325F.21, subdivisions 1 and 2, to establish standards for the quality, safety, installation, and labeling of thermal insulation products, and to establish test programs and procedures to ensure that standards established by this chapter will be met.

History

Minnesota Rules 4155.0100 through 4155.0180 were adopted on November 30, 1985, and amended on June 30, 1987.

Summary

The proposed rule amendment is a comprehensive revision to Minnesota Residential Thermal Insulation Standards: clarifying and simplifying existing language, definitions, and applications; updating testing standards and procedures; and eliminating the requirement for biennial comprehensive testing of all insulation products. The proposed amendment reorganizes the rules to be easier to follow. In addition, several editorial changes are proposed by the Revisor of Statutes to conform with current style regulations.

Small Business

The adoption of these amendments will affect small businesses in Minnesota. The Department has evaluated the effect of the proposed rules on small businesses and has considered each of the methods prescribed by Minnesota Statutes Section 14.155, subd. 2, for reducing the impact of the rules on small businesses. Small businesses would benefit from the proposed rule, since the required frequency of testing is reduced, resulting in less stringent compliance, schedules, and deadlines in conformance with Minnesota Statutes section 14.115, subd. 2(a) and (b). The proposed rule will simplify reporting requirements addressed by Minnesota Statutes section 14.115, subd. 2(a), (b), or (c). The Department is taking steps to simplify all reporting requirements. Minn. Rules Chap. 4155 already requires performance standards for all insulation product types in conformance with Minnesota Statutes section 14.115, subd. 2(d). Minnesota Statutes section 14.115, subd. 2(e) requires the Department to consider exempting small businesses from any or all requirements of the rules. To assure that insulation products sold or installed in the state are safe and effective, it is essential that all manufacturers of insulation be subject to the requirements of these rules. To exempt some businesses from these

(continued)

requirements would raise the possibility that insulation products could be sold and installed in Minnesota which were neither safe nor effective. Thus, the Department concludes that small businesses cannot be exempted from any or all requirements of these rules.

#### Public Monies

The implementation of these amendments will not require the expenditure of public monies in excess of \$100,000 by local bodies in either of the two years following their adoption and meets the test of the exceptions to fiscal notes as provided by Minnesota Statutes 3.983 subpart 2. The proposed amendments would not have any impact on agricultural land.

If a public hearing is required, Bruce Nelson, Senior Engineer and Narv Somdahl, Manager of the Conservation Programs section of the Energy Division will appear on behalf of the proposed rules at the hearing. They will testify regarding the need for and reasonableness of the proposed rules.

#### Background

The Department is currently engaged in an effort to develop a proposed comprehensive revision. The intent of these rules is to insure that insulation products sold in Minnesota meet the necessary standards and specifications. It is important to identify what quality assurance measures are currently in use by industry members, so that when a problem does arise, those quality assurance measures can be addressed. Eventually, those quality assurance programs will be evaluated.

### STATEMENT OF NEED AND REASONABLENESS

#### INTRODUCTION

The Department of Public Service, Energy Division proposes to modify the rules governing the Minnesota Residential Thermal Insulation Program. There are three reasons for these proposed modifications. First, to modify the manufacturer test requirements to more closely mirror the testing procedures used by manufacturers and accredited laboratories. Second, to update the ASTM tests required to the most current standards. And third, to make several minor modifications that are necessary based on experience working with the program.

The goal of the suggested revisions is to assure quality control in the manufacture of insulation products sold in Minnesota. The means being proposed to achieve this goal in these rule revisions is to identify the current quality assurance and testing standards currently in use by industry members.

## HISTORY

The administrative rules establishing standards governing the manufacture of all thermal insulation for residential buildings that is offered for sale in Minnesota were adapted on November 30, 1985. Since that time date, approximately 70 manufacturers have filed with the Department of Public Service.

The Department began the rule modification process in May 1986 by printing a notice in the State Register soliciting comments from industry members concerning the rules governing this program. Several notices were also sent directly to industry members requesting suggestions for improving the program. In November 1986, the Department contracted with the Consulting Engineering firm of Sam Stewart & Associates. This work will be helpful for the development of quality assurance guidelines in future rule-making. This current revised version of Minn. Chap. 4155 is non-controversial in nature and primarily will clarify and simplify existing language, and reorganize these rules for ease of use. Several standards and specifications have either been updated or amended as per changes in the industry as well.

### Statement of Need and Reasonableness for Reorganization

Throughout this proposed revision of Minn. Rules Chap. 4155, various sections and subparts have been relocated to other sites within this document. The purpose is to facilitate the use of these rules by industry members. Through simplification, consolidation, and ease of use, these rules will be of greater assistance to those parties manufacturing and/or selling insulation materials in Minnesota.

Some grammatical and editorial changes found hereinafter are proposed by the Revisor of Statutes to conform with current style regulations. Minn. Rules Chap. 14 requires that all rules and regulations do not repeat existing rules and regulations in order to avoid redundancy and repetitiveness.

Attached to this statement of Need & Reasonableness (Attachment # 7) is an outline of the proposed rule (Minn. Rules Chap. 4155).

### Statement of Need and Reasonableness for Replacement of ASTM Standards

All requested and suggested ASTM testing standards that were formerly within these rules have been updated to conform with the most recent versions. Once ASTM tests are updated, the previous standards are no longer in existence. It is reasonable to identify the latest standards because all testing laboratories use only the most recent ASTM standards.

### Chap. 4155.0110 Applicability

Subp. 1 - definitions of specific products deleted, substituted with broader industry-related terms.

Subp. 3 - definition of "affected parties" replaced with term of "industry members."

subparts 1 & 3:

Need - Initially, the broad language of these definitions was confusing and complex. These revised terms recognized by the industry have been simplified and clarified.

Reasonableness - Use of these rules will be made easier. These changes are not substantial and add no burden to the industry.

Subp. 4 - Cellulose fiber reference (sub. sec. D) deleted.

Need - This language may imply that cellulose can not be used as insulation on the interior foundation walls. The department recognizes that interior insulation would be valid. Removal of this term would prevent discrimination of any industry member who wished to use this product.

Reasonableness - If a cellulose product is to be used for an exterior application, it would have to meet the same tests as those within proposed Minn. Rule Chap. 4155.0135. Attachment # 1 shows an example of such an application which won a national award for energy innovation.

Subp. 4 and Subp. 5 include material moved from former Minn. Rules Chap. 4155.0150.

The Statement of Need and Reasonableness for reorganization on page 3 of this document identifies the purpose of structural changes within these proposed rules.

### Chap. 4255.0120 Definitions

Subp. 3 - "Approved Laboratory" - definition broadened to include other than "NVLAP" (United States Department of Commerce National Voluntary Laboratory Accreditation Program) facilities. Throughout the proposed amendments to Minn. Rules Chap. 4155, the term "NVLAP" has been replaced with "approved laboratory."

Need - The aim is to expand the choice of approved testing facilities beyond just NVLAP-accredited laboratories.

Reasonableness - The AALA accreditation is equivalent to NVLAP accreditation and will give industry members another option with which to conduct need testing services. Equivalency is identified in AALA document (Attachment # 2) "A2LA Conformance to ASTM Guide for Laboratory Accreditation Systems."

**Chap. 4155.0120 Definitions (cont.)**

Subp. 7 - Term of "Commissioner" replaced with "Director."

Subp. 8 - "Department of Energy and Economic Development" replaced with "Department of Public Service."

subparts 7 & 8:

Need and Reasonableness - These terms have been updated to reflect the Departmental reorganization implemented since Minn. Rules Chap. 4155 were first adopted on November 30, 1985, and amended on June 30, 1987. The name of the Department has been changed, and subsequently, the title of the chief administrator of the Department has been re-titled.

Subp.9 - CPSC definition deleted.

Need and Reasonableness - "CPSC" (United States Consumer Products Safety Commission or a standard issues for thermal insulation materials by that commission), occurs exclusively in Minn. Rules Chap. 4155.0130 subpart 3, and is identified in that subpart.

Subp. 14 - Insulation definition amended for clarity.

Need - The current rules state that any product listing an R - value qualifies as insulation. Certain products which are in fact thermal insulation might be confused as not being included within this definition. The proposed amended rule addresses this issue by identifying the products as those which are advertised as providing energy savings by means of either low conductivity or low emissivity.

Two examples of the need for this change follow. The first example may be found where some insulation products are advertised as providing energy savings and yet do not advertise an R - value. The foremost examples of this are the "radiant barrier" products whose energy saving qualities are derived by virtue of their low emissivity properties. The FTC R - value rule sec. 460.18, 460.19, and 460.20 are attached for additional information (see Attachment # 3). If an industry member states or implies that an insulation product maximizes energy savings, there must be a reasonable basis for the claim. Manufacturers are liable if they do not have a reasonable basis for their savings claim.

The second example may be found when products listing an R-value are not necessarily thermal insulation. Products which derive their energy saving qualities by virtue of their draft stopping capabilities, such as foam sealant and weather stripping, should not be considered thermal insulation. Other products have their R - value listed only for purposes of information, such as siding backer board. The intent of the proposed rule amendment is to cover products not discussed in this second example.

Reasonableness - The amendment will clarify which products are covered by Minn. Rules Chap. 4155. It will be easier for industry members and the Department of Public Service to determine whether these regulations pertain to a particular product. The scope of Chapter 4155 is not expanded.

Subp. 20- NVLAP definition deleted.

Need and Reasonableness - "NVLAP" acronym has been deleted wherever it appears in Minn. Rules Chap. 4155. The purpose for this has been identified in section 4155.0120, Definitions, subpart 3, on page 4 of this document.

Chap. 4155.0130 Insulation Materials Standards

Subp. 2 General testing requirements: no longer includes reporting.

A. Test versions subsection moved as is from 4155.0180.

Former "A" section now labelled "B".

Need and Reasonableness - For clarity and ease of use by industry members, all reporting information has been consolidated in Minn. Rules Chap. 4155.0140. The Statement of Need and Reasonableness for reorganization on page 3 of this document identifies the purpose of structural changes within these proposed rules.

B. Testing procedure, formerly labelled "A".

Subsection 1. Biennial testing requirement deleted.

Need - When Minn. Rules Chap. 4155 was first promulgated, the Department argued (Attachment # 4, DEED Exhibit N. 3, page 14, attached, Statement of Need and Reasonableness) that an annual complete retest of the physical properties of a product sample would be an essential element of product quality assurance. It was further argued that "None of the tests required have an affixed laboratory cost substantially out of proportion to present industry practices." It has since been learned by the Department that both of these assertions were incorrect.

Extensive discussions with manufacturers has found that not a single manufacturer includes a complete repeat test of a product's physical properties as part of a quality assurance program. In most quality assurance programs, a complete test is only performed once. Unless a significant change is made in the product, quality assurance consists of regular testing (usually several times daily) of several (but not all) of the physical characteristics. This is true for insulation manufacturers ranging from the giant Owens Corning Fiberglas to the 5-person crew cellulose plant. The Department has learned that a complete test is simply unnecessary to achieve quality assurance.

Additional information provided to the Department shows that a complete repeat test of one product's physical properties is exceedingly expensive, ranging from one to ten thousand dollars. If a repeat test would be required, this expense would be added to the product price paid by the consumer.

The proposed rule revision is needed to eliminate this repeat testing which would be very expensive as well as unnecessary.

Reasonableness - The proposed amendment recognizes the reality that a complete repeat test of a product's physical properties is both expensive and unnecessary. Manufacturers will be relieved of this needless expense by the proposed amendment.

Most importantly, from the standpoint of consumer protection, elimination of repeat testing will not result in reduced product quality. The proposed amendment (at Ch. 4155.0135, Subp. 2.B.9) requires manufacturers to submit a description of the product quality assurance program. The Department has initiated a product sampling and testing project pursuant to Minn. Stat. 325F.21, subp. 2. This project is serving as a check on manufacturers' quality assurance programs.

Chap. 4155.0130 Insulation Materials Standards (cont.)

Subp. 2 (cont.)

**Subsection 2. Now labelled subsection 1; no change.**

The Statement of Need and Reasonableness for reorganization on page 3 of this document identifies the purpose of structural changes within proposed rules Minn. Rules Chap. 4155.

**Subsection 3. Now labelled subsection 2: the change is deletion of "NVLAP laboratory only" requirement.**

Need and Reasonableness - "NVLAP" acronym has been deleted wherever it appears in Minn. Rules Chap. 4155. The purpose for this has been identified in section 4155.0120, Definitions, subpart 3, on Page 4 of this document.

**Subsection 4. Now labelled subsection 3: no change.**

**Subsection 6. Now labelled subsection 4: no change.**

The Statement of Need and Reasonableness for reorganization on page 3 of this document identifies the purpose of structural changes within these proposed rules.

**New subsection 6. Flammability requirements added.**

Need - Flammability requirements vary depending on the specific use. The State Building Code specifies less stringent flame retardant characteristics for insulation covered by a "15 minute" rated fire barrier than for one which is left exposed. The proposed amendments delete several overly-restrictive flammability requirements from the rules and replace them with the requirement that flame retardant characteristics be consistent with the State Building Code for the intended use of the product.

Sometimes, insulation products are purchased and installed by homeowners without the need for a building permit. This is especially true for water heater blanket, pipe, and duct insulations. In these cases, the State Building Code would probably not be consulted to determine the proper flammability requirements. This amendment is needed to assure that products meet the appropriate flame retardant characteristics for the intended use.

Reasonableness - These rules impose requirements identical to the current requirements of the State Building Code. Flammability requirements would be as follows:

<u>Insulation</u>	<u>Maximum flammability requirement(1)</u>	
	<u>flame spread</u>	<u>smoke developed</u>
Insulation, general (2)	25	450
Foam plastic insulation (3)	75	450
Pipe insulation	25	450
Duct insulation (4)	25	50
Duct insulation (5)	50	100 ←

Chap. 4155.0130 Insulation Materials Standards (cont.)

Subp. 2 (cont.)

Notes for flammability requirements table:

- (1) When tested in accordance with ASTM Standard E 84-84 Revision A.
- (2) Insulation, including facings, installed within floor-ceiling assemblies, roof-ceiling assemblies, walls, crawl spaces or attics.
- (3) Separated from the interior of the building by an approved thermal barrier.
- (4) For all duct systems except as noted in Note (5) below.
- (5) For duct systems serving not more than one dwelling unit.

Former "B" section "Reporting Requirement" moved to, and consolidated in Minn. Rules Chap. 4155.0140.

Former "C" section "Additional Reporting Information" moved to, and consolidated in Minn. Rules Chap. 4155.0140.

Former "D" section now labelled "C" - "ASTM testing requirements in general"; no change.

Former sections B - D:

The Statement of Need and Reasonableness for reorganization on page 3 of this document identifies the purpose of structural changes within these proposed rules.

**Subps. 3 - 15: reorganized for ease of use.**

The Statement of Need and Reasonableness for reorganization on page 3 of this document identifies the purpose of structural changes within these proposed rules.

**Subps. 3 & 4: Cellulose type insulations grouped together into new subpart 3.**

The term "from the marketplace" has been deleted.

Need - Product samples can be obtained directly from the manufacturer. In practice, follow-up laboratories (Underwriter Laboratories and U.S. Testing) which have been included as part of completed filing, have bags picked up at the plant. This procedure has been approved by the Department.

Reasonableness - Laboratory testing procedures do not require to go only to the retail source. The practice of getting testing samples from the manufacturer is sufficient and no problems have been reported.

Reference to the ASTM test in conjunction with the CPSC test has been deleted.

Need and Reasonableness - There is no implication to require industry members to do both and this requirement can be confusing.

**Subps. 5 - 8: Mineral fiber type insulation grouped together into new subp. 4.**

Need - Surface-burning criteria have been deleted. These criteria have already been identified in Minn. Rules Chap. 4155, subp. 1.

Reasonableness - Minn. Rules Chap. 14.07 subd. 3, requires that duplication of statutory language be minimized for efficiency and avoiding redundancy.



Chap. 4155.0130 Insulation Materials Standards (cont.)

Subps. 10,11,13,14: Foam plastic type insulation, including urea-formaldehyde, grouped together into new subpart 5.

The Statement of Need and Reasonableness for reorganization on page 3 of this document identifies the purpose of structural changes within these proposed rules.

Extruded polystyrene and molded expanded polystyrene have been segregated into two distinct subsections.

Need - These two insulation products have distinct manufacturing processes. It will be clearer that both products are to be covered independently. In future rule making, when quality assurance standards are proposed, these two products will be treated independently.

Reasonableness - The separation of these two products will result in easier use of Minn. Rules Chap. 4155.

Urea-formaldehyde foam requirement of notice and the specific notice form have been deleted due to redundancy.

Need and Reasonableness - This requirement has been replaced with existing Health Department rules and Minnesota statutes. In addition, Minn. Rules Chap. 14.07 subd. 3, requires that duplication of statutory language be minimized for efficiency and avoiding redundancy.

A testing standard for spray applied urethane has been added.

Need and Reasonableness - This new standard has been established subsequent to the implementation of the previous version of Minn. Rules Chap. 4155. This will simplify compliance for industry members because it will not be necessary for them to petition per Minn. Rules Chap. 4155.0130 subp.2(A). [Proposed rule address]

Subps. 9 & 15: Perlite and vermiculite, grouped into new subpart 6.

Need and Reasonableness - The Statement of Need and Reasonableness for reorganization on page 3 of this document identifies the purpose of structural changes within these proposed rules. These two insulation products are very similar in physical and chemical nature as well as manufacturing processes, therefore facilitating their treatment in Minn. Rules Chap. 4155 under the same sub-heading.

Subp. 12: Reflective foil, contained in new subpart 7.

Need - The minimal changes in this subpart are for the purpose of standardizing Minn. Rules Chap. 4155 with the International Conference of Building Officials Evaluation Service (ICBO) criteria. Specified temperature differential for testing is different. Use of the "minimum 40<sup>o</sup>F in ICBO criteria would overrate the R-value of the reflective insulation product. Specification of 30<sup>o</sup>F is consistent with the existing Ch. 4155 and FTC rule 460.5 (see Attachment # 3).

Reasonableness - ICBO criteria are currently in use within the reflective foil insulation industry and are being applied. Conformity of standards would simplify application and use for industry members.

Chap. 4155.0130 Insulation Materials Standards (cont.)

**Reflective foil (cont.)**

**Criteria for radiant barrier insulation products identified independently from other reflective insulation products.**

Need and Reasonableness - Radiant barrier insulation products are commonly not rated by a measure of R-value. Treating them independently would ensure that their testing criteria will be applied fairly and accurately.

**B - Test standard amended to add ASTM C 236 as an alternative to calculating thermal performance.**

Need and Reasonableness - The standards now available are ASTM C 236 as well as ASTM C 976. Both standards are equally applicable. The original rules mistakenly referenced only ASTM C 976. It was assumed that only the calibrated hot box standard was acceptable. The FTC rule (Attachment # 3) at 460.5 (b) allows for reflective insulation products to be tested at either C 236 or the calibrated hot box (C 976).

**D - Flammability and surface burning requirement is referred to generally.**

Need and Reasonableness - The existing rule is too restrictive and only pertains to exposed insulation materials. The proposed amendment changes the flammability criteria for reflective insulations to be the same as for all other insulations.

**E - ICBO criteria is added as an alternate standard for meeting required specifications. International Conference of Building Officials Evaluation Service criteria (ICBO) (Attachment # 5) is identical to these rules as proposed and amended. An exception was added to change the temperature rule differential to conform with the FTC R value rule, part 460.5(b) (see Attachment # 3).**

**new subpart 8: "Other Insulation" moved from section 4155.0140 subps. 1 & 2.**

Need and Reasonableness - A separate reporting requirement here was redundant and its elimination would simplify use of these rules. Minn. Rules Chap. 14.07 subd. 3, requires that duplication of statutory language be minimized for efficiency and avoiding redundancy.

**B - Addition of other necessary criteria to examine:**

- shrinkage: in case insulation material has a tendency to shrink which can severely compromise the thermal characteristics of the material.
- the existence of urea-formaldehyde foam insulation: because of potential hazards, any material content must be identified to assure proper materials handling.

Chap. 4155.0135 Requirements for Insulation for Special Applications  
[Newly created section]

Subp. 1 - formerly 4155.0150, subp. 8: "Application testing requirements for insulation used exterior below ground" moved as is.

Subp. 2 - formerly 4155.0150, subp. 6, C & D: "Insulation instructions for below ground use" moved as is.

Subp. 3 - formerly 4155.0150, subp. 7: "Practice of insulation use for exterior below ground installation" moved as is.

subparts 1 -3:

Need - This section identifies a specific process of insulation installation. The Statement of Need and Reasonableness for reorganization on page 3 of this document identifies the purpose of structural changes within these proposed rules.

Reasonableness - These insulation materials have additional provisions listed in the existing rules. There are no changes from the present rules.

**Subps. 4 - Newly created subpart for application requirements for pipe insulation, duct wrap insulation, and water heater blanket insulation.**

Need and Reasonableness - The exposure of water heater blanket insulation is the same as for pipe insulation, therefore, both need to meet the same requirements. There is no reason to duplicate the language. The purpose here is to simplify use of these rules for industry members.

Chap. 4155.0145 Reporting Requirements

Subp. 1 - Newly defined subpart identifies all relevant industry members. Cites original manufacturers; repackagers who alter the physical properties of the product; and resellers who intend to sell the product, without any changes, under their own trade or brand name.

Need: This section clearly defines the classes of manufacturers, repackagers, and resellers who are covered by these rules.

Reasonableness: Identifying the industry members affected by these rules will be simplified and clarified.

**Subp. 2 - Initial report requires some additional information.**

Need - With both an initial report and annual report requested, sufficient information will be available, so that each report alone need not be as comprehensive.

Reasonableness - Removal of duplication of effort will facilitate compliance of these rules by industry members.

**B. 2 - Any names that the insulation product may go by.**

**B. 5 - A fact sheet required by the FTC R - value rule.**

Chap. 4155.0145 Reporting Requirements (cont.)

(subp. 2 cont.)

B. 8 - The scope of the material characteristics of the product and, the frequency of unannounced inspections, if a follow-up agreement is required.

B. 9 - A description of the quality assurance program.

Need - As discussed on page 7 of this Statement of Need and Reasonableness, the Department has initiated a product sampling and testing project as authorized by Minn. Stat. 325F.21, subp. 2. If the Department finds that a product fails to meet the specified standards, the Department intends to review the manufacturer's quality assurance program. This report of the manufacturer's quality assurance program is needed to enable such a review.

A second reason that this description is needed is that the Department is considering future rule making for Ch. 4155 which may include minimum standards for quality assurance programs. These descriptions will assist the Department to understand thermal insulation industry quality assurance programs.

Reasonableness - Under the Standards for Insulating Material sec. 1555 (b) (4), promulgated by the California Energy Commission, Conservation Division (Attachment # 6), that State requires manufacturers to provide descriptions of quality assurance programs. According to the office which administers that program (Mr. Ray Hillier tel. 916/920-7005), this information has been very helpful in determining the reasons for product quality failures found by the State.

A report of quality assurance programs by industry members will not impose a burden. All manufacturers currently have some kind of in-house quality assurance program in operation, and there is no intent that the content of the quality assurance description will be used by the Department under these proposed rules as a criteria for judging the completeness of a product filing.

Subp. 3, A & B moved from 4155.0130, subp. 2 B.

The Statement of Need and Reasonableness for reorganization on page 3 of this document identifies the purpose of structural changes within these proposed rules.

Subpart 3 Additional information has been required.

B. 2 - Any names that the insulation product may be identified by.

B. 3 - Certification that there were no significant changes in the product.

B. 4 - Update on any information that has changed.

Chap. 4155.0145 Reporting Requirements (cont.)

(subp. 2 cont.)

C. Moved as is from 4155.0130, subp. 2 C.

The Statement of Need and Reasonableness for reorganization on page 3 of this document identifies the purpose of structural changes within these proposed rules.

Chap. 4155.0150 Application & Installation Standards

All subparts within this section have either been moved from other sections or transferred over to other sections within Minn. Rules Chap. 4155. The Statement of Need and Reasonableness for reorganization on page 3 of this document identifies the purpose of structural changes within these proposed rules.

Subp. 1 - includes previous subps. 3 & 4.

Subp. 2 - moved to 4155.0140 subp. 1.

New subp. 2, previously subp. 6 A & B, also includes "UFFI Standard for urea-formaldehyde"

Subp. 5 - moved to 4155.0110 subp. 4.

Subp. 6 - sections C & D moved to 4155.0135 subp. 2.

Subp. 7 - moved to 4155.0135 subp. 3.

Subp. 8 - moved to 4155.0135 subp. 1.

Chap. 4155.0160 Labelling

Language clarified and specified to refer to the United States Consumer Products Safety Commission requirements.

Need - To clearly identify the United States Consumer Products Safety Commission requirements as a labelling authority.

Reasonableness - Clearer language will make use of these rules easier for industry members.

Chap. 4155.0170 Incorporations by Reference

Subp. 2 A - ASTM general definition deleted because it is identified in Minn. Rules Chap. 4155.0120.

Need and Reasonableness - Minn. Rules Chap. 14.07 subd. 3, requires that duplication of statutory language be minimized for efficiency and avoiding redundancy.

Subp. 2 B - Quick Reference section deleted; specific tests identification dates updated; ASTM C 1029 - 85 added.

Need and Reasonableness - There is no useful purpose to repeat the testing standards addressed in Minn. Rules Chap. 4155. Also, Minn. Rules Chap. 14.07 subd. 3, requires that duplication of statutory language be minimized for efficiency and avoiding redundancy.

Subp. 4 - "Availability" section modified.

Need - The general source of information from libraries has been maintained. Specific industry sources have been deleted because it is difficult to keep the information of current addresses up to date.

Reasonableness - Manufacturers already know where to get most of the information and it would be misleading to include out of date information.

Chap. 4155.0180 Test Versions

moved to 4155.0130 subp. 2 A.

The Statement of Need and Reasonableness for reorganization on page 3 of this document identifies the purpose of structural changes within these proposed rules.

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# National Awards Program For Energy Innovation 1985

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## Project Descriptions

U.S. Department of Energy  
Office of Conservation and Renewable Energy  
Washington, DC 20585

May 1986

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# FOUNDATION INSULATION METHOD

National Awards Program  
For Energy Innovation 1985

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Economic Opportunity Corporation  
of Greater St. Joseph  
P.O. Box 1246  
St. Joseph, Missouri 64502

Contact: Duane Foster  
816 233-8281

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The Economic Opportunity Corporation of greater St. Joseph (EOC) is a private, nonprofit organization that assists the low-income, handicapped, and elderly in becoming self-sufficient. EOC provides services to eligible participants in a variety of areas including crisis assistance, employment and training, information and referral, Head Start, and weatherization. One of EOC's weatherization projects is the development of a cost-effective, energy-efficient foundation insulation.

Over 50 percent of the St. Joseph housing stock was built before 1940. Age and the elements have damaged foundations, resulting in significant heat loss. EOC's insulating sealing process is designed mainly to stem this heat loss and protect against moisture, rodents, insects, age, and nature. It also creates a more appealing appearance leading to an increase in the community's housing stock value.

EOC's foundation insulation method includes the following steps: (1) foundation preparation by cleaning away all the dirt and loose material; (2) drilling and installation of special fasteners which provide a depth gauge for the cellulose and a holder for the metal lath; (3) spraying on waterproof paint to create a vapor barrier; (4) application of a mixture of cellulose insulation and glue, building it to the desired R-value using

the fasteners as a depth gauge; (5) application of galvanized metal lath over the cellulose, providing the form for the sure wall application; and (6) application of the sure wall, creating a complete seal around the cellulose. Workshops, seminars, brochures and outreach offices are planned to publicize this insulation method.

The estimated annual energy savings per house is 38.4 heating units. This translates to about \$1.19 per heating unit in the St. Joseph area. The material cost is about \$1.00 per square foot with an average payback period of 2.04 years.





# American Association For Laboratory Accreditation

## A2LA CONFORMANCE TO ASTM GUIDE FOR LABORATORY ACCREDITATION SYSTEMS

The AMERICAN ASSOCIATION FOR LABORATORY ACCREDITATION (A2LA) is a nonprofit, scientific, membership organization dedicated to the formal recognition of competent testing laboratories. Accreditation is available to any type of testing laboratory, be it private (independent or in-house) or government. Accreditation is based on internationally accepted criteria for competence for testing laboratories (ISO Guide 25).

A2LA was formed in 1978 by a group of concerned individuals as a practical and efficient organization to develop and manage a system to verify and recognize qualified testing laboratories. Accreditation is available for all types of tests, measurements and observations which are properly documented and publicly available.

Membership in A2LA is open to any individual, institution or corporation interested in the recognition of competent testing services. Members pay dues, receive a periodic newsletter, attend annual meetings and symposia sponsored by the Association, and automatically receive the Association's publications such as the periodic newsletter, A2LA News, and the A2LA Directory of Accredited Laboratories.

This summary compares the current operations of A2LA with the important features which laboratory accreditation systems should have as presented in ASTM Standard E 994 - 84 "Guide for Laboratory Accreditation Systems."

### 4. Laboratory Accreditation System Features.

4.1.1 The A2LA Board of Directors adopted a revised set of bylaws at its meeting in August, 1987. The rules and operations of the system are presented in the A2LA document "General Requirements for Accreditation" which is provided to every laboratory applying for accreditation.

4.1.2 A2LA uses ISO Guide 25 as its accreditation criteria and sends a copy of it to every laboratory which applies for accreditation. The evaluation procedures and associated fees are also sent to applicants with the criteria.

4.1.3 A2LA has a document entitled "Advertising Policy for Accredited Laboratories" which is given to each accredited laboratory upon its accreditation and reaccreditation that explicitly states "...each testing laboratory desiring to participate in this program must, ...agree to avoid reference by itself in a manner which would imply certification of products or services by A2LA" and "must inform others using its services that they must also avoid referencing those services in a manner which would imply certification of products..."

4.1.4 Each laboratory which is newly accredited or reaccredited is provided a "Scope of Accreditation" in terms of specific tests, types of tests, products, etc., for which it is accredited.

4.1.5 A2LA accredits laboratories using appropriate specific criteria for each field of testing and when the test methods themselves lack specificity.

4.1.6 The document, General Requirements for Accreditation, describes the evaluation procedures and the required response to deficiencies.

4.1.7 On-site assessments by assessors with expertise in the area of testing for which accreditation is requested is performed on all laboratories seeking accreditation and on laboratories seeking reaccreditation after two years. Written reports by the assessors are required.

4.1.8 Laboratories are required to report their experience in proficiency testing programs and in some cases are required to become participants in certain designated proficiency testing programs.

4.1.9 A2LA produces a Directory of Accredited Laboratories at the beginning of each year. Supplements and updates are published periodically throughout the year.

4.1.10 The A2LA procedures for revoking accreditation are described under the section on "Accreditation Procedures" in the General Requirements for Accreditation.

4.1.11 The A2LA General Requirements for Accreditation booklet outlines the appeal procedures, including appeal to the A2LA Board of Directors. The A2LA Bylaws describes in detail the appeals procedures and the laboratory's right to a hearing.

4.1.12 An accredited laboratory must provide A2LA with yearly updates on its organizational status, proficiency testing performance, and internal quality audits. Laboratories are frequently contacted for feedback on the Association's operations, either individually or as a group in locations where participants can conveniently gather.

## 5. Assessors.

Only technically competent assessors are used by A2LA. Each assessor is supplied with an A2LA Assessor Guide, an "Instructions For Assessor" document, and assessor checklists and forms to guide each assessment. Records of all assessors, including educational experience and work experience are maintained. The Board of Directors annually reviews the records of the assessors to verify their fitness for duty. When an assessor is accepted, he receives a letter including the contractual arrangements.

An assessor's services may be canceled at any time. Retraining may be provided if deemed desirable.

#### 6. On-Site Assessments.

6.2 The assessors' responsibilities are described in the A2LA Assessor Guide and in the "Instructions for Assessor" document.

6.3 The A2LA Headquarters staff assembles the application information about the laboratory, provides the required checklists, and includes other relevant background material such as calibration data and proficiency test data for use by the assessor.

6.4 The assessors are provided with work sheets for each laboratory assessed. A comprehensive checklist for the general criteria has been developed and is provided for each laboratory. Checklists for specific test methods are also supplied in certain fields of testing.

6.5 The assessor is responsible for preparing a report identifying all deficiencies and reviewing these with laboratory management before leaving the laboratory. Recommendations as to the scope of a laboratory's accreditation are included.

6.6 Full reassessment of the laboratories is required every two years. Partial reassessment may be required at any time.

#### 7. Proficiency Testing.

The laboratories are required to participate in existing proficiency testing in a number of testing areas. To date, A2LA is not administering its own proficiency testing system, but is using programs conforming to the procedures described in ASTM E994 and evolving proficiency testing standards.

#### 8. Questionnaires.

A2LA uses questionnaires to obtain updating information yearly and to obtain information about the laboratory in preparation for its reaccreditation. The data provided by the laboratory are used to determine if reassessments are needed, and if needed the data are provided to the assessor to prepare for his visit.

#### 9. Evaluation of Laboratories.

The A2LA Accreditation Council is made up of technical peers who judge the competence of the laboratory based on assessor reports, proficiency testing, application information, questionnaire information, and communications from the laboratory. The A2LA staff acts as secretary to the Council. Assessors are not members of the Council.

10. Deciding on Accreditation.

The Accreditation Council decides on granting or withholding accreditation. The President of the Association informs the laboratory of the Council's decision and if accreditation is denied, informs the laboratory of its right of appeal and describes the appeal procedures.

11. Awarding Accreditation.

Upon granting accreditation, a formal accreditation certificate signed by the President is prepared and sent to the laboratory along with a formal Scope of Accreditation which list the testing services for which accreditation is granted.

12. Notification of Accreditation.

A2LA prepares and distributes a Directory of Accredited Laboratories yearly with supplements and updates periodically throughout the year. Accreditation actions are published in A2LA News. The A2LA "Advertising Policy for Accredited Laboratories" specifies the limitations imposed on how the accredited laboratory may publicize its accredited status and display the A2LA logo.

13. Significance of Accreditation.

A2LA has provided the attached information updating its status. This information has been supplied to the International Laboratory Accreditation Conference Editorial Committee and to The Marley Organization which updates the information on laboratory accreditation systems in the United States on a regular basis.

**PART 460—LABELING AND ADVERTISING OF HOME INSULATION**

## Sec.

- 460.1 What this regulation does.
- 460.2 What is home insulation.
- 460.3 Who is covered.
- 460.4 When the rules apply.
- 460.5 R-value tests.
- 460.6 "Representative thickness" testing.
- 460.7 Which test version to use.
- 460.8 R-value tolerances.
- 460.9 What test records you must keep.
- 460.10 How statements must be made.
- 460.11 Rounding off R-values.
- 460.12 Labels.
- 460.13 Fact sheets.
- 460.14 How retailers must handle fact sheets.
- 460.15 How installers must handle fact sheets.
- 460.16 What new home sellers must tell new home buyers.
- 460.17 What installers must tell their customers.
- 460.18 Insulation ads.
- 460.19 Savings claims.
- 460.20 R-value per inch claims.
- 460.21 Government claims.
- 460.22 Tax claims.
- 460.23 Other laws, rules, and orders.
- 460.24 Stayed or invalid parts.

Appendix A—Enforcement Policy Statement for Foreign Language Advertising.

Appendix B—Enforcement Policy Statement for Clear and Conspicuous Disclosures in Television Advertising.

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

**§ 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 \$10,000) each time you break a rule.

**§ 460.2 What is home insulation.**

Insulation is any material mainly used to slow down heat flow. It may be mineral or organic, fibrous, cellular, or reflective (aluminum foil). It may be in rigid, semirigid, flexible, or loose-fill form. Home insulation is for use in old or new homes, condominiums, cooperatives, apartments, modular homes, or mobile homes. It does not include pipe insulation. It does not include any kind of duct insulation except for duct wrap.

**§ 460.3 Who is covered.**

You are covered by this regulation if you are a member of the home insulation industry. This includes individuals, firms, partnerships, and

corporations. It includes manufacturers, distributors, franchisors, installers, retailers, utility companies, and trade associations. Advertisers and advertising agencies are also covered. So are labs doing tests for industry members. If you sell new homes to consumers, you are covered.

**§ 460.4 When the rules apply.**

You must follow these rules each time you import, manufacture, distribute, sell, install, promote, or label home insulation. You must follow them each time you prepare, approve, place, or pay for home insulation labels, fact sheets, ads, or other promotional materials for consumer use. You must also follow them each time you supply anyone covered by this regulation with written information that is to be used in labels, fact sheets, ads, or other promotional materials for consumer use. Testing labs must follow the rules unless the industry members tells them, in writing, that labels, fact sheets, ads, or other promotional materials for home insulation will not be based on the test results.

**§ 460.5 R-value tests.**

R-values measure 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 C177, C518, or C236. If the "calibrated hot box" becomes an ASTM standard test method, it can also be used. The tests must be done on the insulation material alone (excluding any air spaces). The tests must be done at a mean temperature of 75° Fahrenheit.

(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 cellulose, the tests must be done at the settled density determined under GSA Specification HH-I-515D.

(3) For loose-fill mineral wool, the tests must be done on samples that fully reflect the effect of settling on the product's R-value. When a settled density procedure becomes part of a final GSA Specification for loose-fill mineral wool, the tests must be done at the settled density determined under the GSA Specification.

(b) Aluminum foil systems with more than one sheet must be tested with ASTM C236 (or the calibrated hot box). The tests must be done at a mean temperature of 75° Fahrenheit, with a temperature differential of 30° Fahrenheit.

(c) Single sheet systems of aluminum foil must be tested with ASTM E408 or another test method that provides comparable results. 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) Handbook. You must use the R-value shown for 50° Fahrenheit, with a temperature differential of 30° Fahrenheit.

(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 subsection (a). 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 C236 (or the calibrated hot box). If you do this, you must follow the rules in subsection (a) 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. You must follow the rules in subsection (c).

**§ 460.6 "Representative thickness" testing.**

All tests except aluminum foil tests must be done at a representative thickness for every thickness shown in a label, fact sheet, ad, or other promotional material. "Representative thickness" means a thickness at which the R-value per unit will vary no more than plus or minus 2% with increases in thickness. However, if the thickness shown in your label, fact sheet, ad, or promotional material is less than the representative thickness, then you can test the insulation at the thickness shown.

**§ 460.7 Which test version to use.**

Use the version of the ASTM test method that was in effect when this regulation was promulgated. If ASTM changes a test method, the new version will automatically replace the old one in these rules 90 days after ASTM first publishes the change. However, the Commission's staff or a person affected by the change can petition the

Commission during the 90-day period not to adopt the change or to reopen the proceeding to consider it further.

**§ 460.8 R-value tolerances.**

If you are an industry member, the R-value of any insulation you sell cannot be more than 10% below the R-value shown in a label, fact sheet, ad, or other promotional material for that insulation. However, 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.

**§ 460.9 What test records you must keep.**

Manufacturers and testing labs must keep records of each item of information in the "Report" section of the ASTM test method that is used for a test. They must also keep the following records:

- (a) The name and address of the testing lab that did each test.
- (b) The date of each test.
- (c) For manufacturers, the date each test report was received from a lab. For labs, the date each test report was sent to a manufacturer.
- (d) For extruded polystyrene, polyurethane, and polyisocyanurate, the age (in days) of the specimen that was tested.
- (e) For aluminum foil, the emissivity level that was found in the test.

Manufacturers who own their own testing labs need not keep records of the information in subsection (c).

Keep these records for at least three years. If the documents show proof for your claims, the three years will begin again each time you make the claim. Federal Trade Commission staff members can check these records at any time, but they must give you reasonable notice first.

**§ 460.10 How statements must be made.**

All statements called for by this regulation must be made clearly and conspicuously. Among other things, you must follow the Commission's Enforcement Policy Statement for Foreign Language Advertising (July 24, 1973) (Appendix A). For TV ads, you must follow the Commission's Enforcement Policy Statement for Clear and Conspicuous Disclosures in Television Advertising (October 21, 1970) (Appendix B). However, only the quoted statements required by §§ 460.18(a) and 460.19(b) must be made in a voice-over. Both of the above documents are in the Appendix to this regulation.

**§ 460.11 Rounding off R-values.**

R-values shown in labels, fact sheets, ads, or other promotional materials must

be rounded to the nearest tenth. However, R-values of 10 or more may be rounded to the nearest whole number.

**§ 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 mineral fiber batts and blankets: the R-value, length, width, thickness, and square feet of insulation in the package.
  - (2) For all loose-fill insulation except cellulose: the minimum thickness, maximum net coverage area, and minimum weight per square foot at R-values of 11, 19, and 22. 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.
  - (3) For loose-fill cellulose insulation: 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, 24, 32, and 40. You must also give this information for any additional R-values you list on the chart. Labels for this product must state the minimum net weight of the insulation in the package.
  - (4) For boardstock: the R-value, length, width, and thickness of the boards in the package, and the square feet of insulation in the package.
  - (5) 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.
  - (6) 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 subsection (4). 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.
  - (7) 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 Fact sheets.**

If you are a manufacturer, you must give retailers and installers fact sheets for the insulation products you sell to them. Each sheet must contain what is listed here. You can add any disclosures that are required by state or local laws, rules, and orders, unless they are inconsistent with the provisions of this regulation. Do not add anything else.

Each fact sheet must contain these items:

- (a) The name and address of the manufacturer. It can also include a logo or other symbol that the manufacturer uses.
- (b) A heading: "This is \_\_\_\_\_ insulation." Fill in the blank with the type and form of your insulation.
- (c) The heading must be followed by a chart:

(1) If section 460.12(b) requires a chart for your product's label, you must use that chart. For foamed-in-place insulations, you must show the R-value of your product at 3½ inches. You can also show R-values at other thicknesses.

(2) You can put the charts for similar products on the same fact sheet. For example, if you sell insulation boards or batts in three different thicknesses, you can put the label charts for all three products on one fact sheet. If you sell loose-fill insulation in two different bag sizes, you can put both coverage charts on one fact sheet, as long as you state which coverage chart applies to each bag size.

(d) For urea-based foam insulation, the chart must be followed by this paragraph:

"Foam insulation shrinks after it is installed. This shrinkage may significantly reduce the R-value you get."

However, you can lower your product's R-value to account for shrinkage. To do this, you must have reliable scientific proof of the extent of shrinkage for your product and of its effect on R-value. If you lower your product's R-value, you need not make the above statement.

(e) For air duct insulation, the chart must be followed by this statement:

"The R-value of this insulation varies depending on how much it is compressed during installation."

(f) After the chart and any statement dealing with the specific type of insulation, ALL fact sheets must carry this statement, boxed, in 12-point type:

**Read This Before You Buy**

**What You Should Know About R-values**

The chart shows the R-value of this insulation. R means resistance to heat flow. The higher the R-value, the greater the insulating power. Compare insulation R-values before you buy.

There are other factors to consider. The amount of insulation you need depends mainly on the climate you live in. Also, your fuel savings from insulation will depend upon the climate, the type and size of your house, the amount of insulation already in your house, and your fuel use patterns and family size. If you buy too much insulation, it will cost you more than what you'll save on fuel.

To get the marked R-value, it is essential that this insulation be installed properly.

**§ 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.

**§ 460.15 How installers must handle fact sheets.**

If you are an installer, you must have fact sheets for the insulation products you sell. Before customers agree to buy insulation from you, you must show them the fact sheet(s) for the type(s) of insulation they want. You can decide how to do this. For example, you can give each customer a copy of the fact sheet(s). You can keep the fact sheets in a binder, and show customers the binder before they agree to buy.

**§ 460.16 What new home sellers must tell new home buyers.**

If you are a new home seller, you must put the following information in every sales contract: the type, thickness, and R-value of the insulation that will be installed in each part of the house. There is an exception to this rule. If the buyer signs a sales contract before you know what type of insulation will be put in the house, or if there is a change in the contract, you can give the buyer a receipt stating this information as soon as you find out.

**§ 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. For loose-fill, the receipt must show those three items plus 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. 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. Do not multiply the R-value for one inch by the number of inches you installed. 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.

**§ 460.18 Insulation ads.**

(a) If your ad gives an R-value, you must give the type of insulation and the thickness needed to get that R-value. Also, add this statement explaining R-values: "The higher the R-value, the greater the insulating power. Ask your seller for the fact sheet on R-values."

(b) If your ad gives a price, you must give the type of insulation, the R-value at a specific thickness, the statement explaining R-values in subsection (a), and the coverage area for that thickness. If you give the price per square foot, you do not have to give the coverage area.

(c) If your ad gives the thickness of your insulation, you must give its R-value at that thickness and the statement explaining R-values in subsection (a).

(d) If your ad compares one type of insulation to another, the comparison must be based on the same coverage areas. You must give the R-value at a specific thickness for each insulation, and the statement explaining R-values in subsection (a). If you give the price of each insulation, you must also give the coverage area for the price and thickness shown. However, if you give the price per square foot, you do not have to give the coverage area.

(e) If your ad gives the R-value of urea-based foam insulation, you must add this statement: "Foam insulation shrinks after it is installed. This shrinkage may significantly reduce the R-value you get." However, you can lower your product's R-value to account for shrinkage. To do this, you must have reliable scientific proof of the extent of shrinkage for your product and of its

effect on R-value. If you lower your product's R-value, you need not make the above statement.

**§ 460.19 Savings claims.**

(a) If you say or imply in your ads, labels, or other promotional materials that insulation can cut fuel bills or fuel use, you must have a reasonable basis for the claim. For example, if you say that insulation can "slash" or "lower" fuel bills, or that insulation "saves money," you must have a reasonable basis for the claim. Also, if you say that insulation can "cut fuel use in half," or "lower fuel bills by 30%," you must have a reasonable basis for the claim.

(b) If you say or imply in your ads, labels, or other promotional materials that insulation can cut fuel bills or fuel use, you must make this statement about savings: "Savings vary. Find out why in the seller's fact sheet on R-values. Higher R-values mean greater insulating power."

(c) If you say or imply that a combination of products can cut fuel bills or use, you must have a reasonable basis for the claim. You must make the statement about savings in subsection (b). Also, you must list the combination of products used. They may be two or more types of insulation; one or more types of insulation and one or more other insulating products, like storm windows or siding; or insulation for two or more parts of the house, like the attic and walls. You must say how much of the savings came from each product or location. If you cannot give exact or approximate figures, you must give a ranking. For instance, if your ad says that insulation and storm doors combined to cut fuel use by 50%, you must say which one saved more.

(d) If your ad or other promotional material is covered by section 460.18(a), (b), (c), or (d), and also makes a savings claim, you must follow the rules in §§ 460.18 and 460.19. However, you need not make the statement explaining R-value in § 460.18(a).

(e) Manufacturers are liable if they do not have a reasonable basis for their savings claims before the claim is made. If you are not a manufacturer, you are liable only if you know or should know that the manufacturer does not have a reasonable basis for the claim.

(f) Keep records of all data on savings claims for at least three years. For the records showing proof for claims, the three years will begin again each time you make the claim. Federal Trade Commission staff members can check these records at any time, but they must give you reasonable notice first.

**§ 460.20 R-value per inch claims.**

In labels, fact sheets, ads, or other promotional materials, do not give the R-value for one inch or the "R-value per inch" of your product. There are two exceptions:

(1) You can do this if you suggest using your product at a one-inch thickness.

(2) You can do this if actual test results prove that the R-values per inch of your product does not drop as it gets thicker.

You can list a range of R-value per inch. If you do, you must say exactly how much the R-value drops with greater thickness. You must also add this statement: "The R-value per inch of this insulation varies with thickness. The thicker the insulation, the lower the R-value per inch."

**§ 460.21 Government claims.**

Do not say or imply that a government agency uses, certifies, recommends, or otherwise favors your product unless it is true. Do not say or imply that your insulation complies with a governmental standard or specification unless it is true.

**§ 460.22 Tax claims.**

Do not say or imply that your product qualifies for a tax benefit unless it is true.

**§ 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 to order.

(b) State and local laws and regulations that are inconsistent with, or frustrate the purposes of, the provisions of this regulation are preempted. However, a state or local government may petition the Commission, for good cause, to permit the enforcement of any part of a state or local law or regulation that would be preempted by this section.

(c) The Commission's three-day cooling-off rule stays in force.

**§ 460.24 Stayed or invalid parts.**

If any part of this regulation is stayed or held invalid, the rest of it will stay in force.

**Appendix A—Enforcement Policy Statement for Foreign Language Advertising**

*Title 16—Commercial Practices*

Chapter I—Federal Trade Commission

**PART 14—ADMINISTRATIVE INTERPRETATIONS, GENERAL POLICY STATEMENTS, AND ENFORCEMENT POLICY STATEMENTS**

§ 14.9 Requirements concerning clear and conspicuous disclosures in foreign language advertising and sales materials.

The Federal Trade Commission has noted that, with increasing intensity, advertisers are making special efforts to reach foreign language-speaking consumers. As part of this special effort, advertisements, brochures and sales documents are being printed in foreign languages. In recent years the Commission has issued various cease-and-desist orders as well as rules, guides and other statements, which require affirmative disclosures in connection with certain kinds of representations and business activities. Generally, these disclosures are required to be "clear and conspicuous." Because questions have arisen as to the meaning and application of the phrase "clear and conspicuous" with respect to foreign language advertisements and sales materials, the Commission deems it appropriate to set forth the following enforcement policy statement:

(a) Where cease-and-desist orders as well as rules, guides and other statements require "clear and conspicuous" disclosure of certain information, that disclosure must be in the same language as that principally used in the advertisements and sales materials involved.

(b) Any respondent who fails to comply with this requirement may be the subject of a civil penalty proceeding for violating the terms of a Commission cease-and-desist order.

(Sec. 5, 38 Stat. 719, as amended; 15 U.S.C. 45) [38 FR 21494, Aug. 9, 1973]

**Appendix B—Enforcement Policy Statement for Clear and Conspicuous Disclosures in Television Advertising**

.09 "Clear and conspicuous" disclosure.—The FTC issued an enforcement policy statement setting forth the standards it considers in determining whether, in fact, an affirmative disclosure in a television commercial is "clear and conspicuous." The FTC explained that in recent years it has issued various opinions, orders and trade regulation rules concerned with the need for affirmative disclosures in connection with various kinds of representations. In making a determination, the FTC said that it will take into consideration all the technical factors, such as the size of letters and the duration of disclosure, used in presenting the disclosure to a television audience, as well as the substance of the individual disclosure. The following standards should be met for a television disclosure to be deemed "clear and conspicuous": (a) the disclosure should be presented simultaneously in both the audio and video portions of the television advertisement; (b) the video portion of the disclosure must contain letters of sufficient size so that it can be easily seen and read on all television sets, regardless of picture tube size; (c) the video portion of the disclosure should contain letters of a color or shade that readily contrast with the background, and the background should consist of only one color or shade; (d) no other sounds, including music, should occur during the audio portion of the disclosure; (e) the video portion of the disclosure should appear on the screen for a sufficient duration to enable it to be completely read by the viewer; and (f) the audio and video portions of the disclosure should immediately follow the specific sales

representations to which they relate and should occur each time the representation is presented during the advertisement; in cases where a disclosure is required, but is not linked to a specific representation, it should appear in immediate conjunction with the major sales theme of the advertisement. Television advertisers should also consider the audience to whom the disclosure is directed in order to assure that persons (such as children) can understand the full meaning of the disclosure. If securing this understanding is impractical, then the advertisements containing such representations should not be used on television. *FTC Statement of Enforcement Policy*, October 21, 1970.

Trade Regulation Reports, Volume 2, ¶7569 at 12, 166 (1971)

By direction of the Commission dated August 10, 1979.

**Loretta Johnson,**  
*Acting Secretary.*

[FR Doc. 79-26592 Filed 8-24-79; 8:45 am]

**BILLING CODE 6750-01-M**



STATE OF MINNESOTA  
 Department of Energy and Economic Development  
 Energy Division

DEED Exhibit No. 3

File No. \_\_\_\_\_

Date \_\_\_\_\_

In the Matter of the Proposed Adoption of Rules of the Minnesota Department of Energy and Economic Development Establishing Materials, Installation and Labeling Standards for Thermal Insulation Products, Minn. Rule Chapter 4155.

STATEMENT OF NEED  
 AND REASONABLENESS

The above-captioned rules are being proposed for initial adoption: they are not amendments to existing rules of the Minnesota Department of Energy and Economic Development. The general and specific need for and reasonableness of these rules will be discussed for each rule proposed.

STATUTORY AUTHORITY

The authority for adopting rules governing the manufacture, labeling and installation of thermal insulation materials arises directly from legislative mandate. Minn. Stat. § 325F.20, subd. 1 (1984) provides in part:

The commissioner shall adopt rules pursuant to chapter 14 regarding quality, information and product safety specifications for the manufacture, labeling, installation and thermography of insulation.

The legislature also mandated that:

Upon the adoption of specifications under section 325F.20, subd. 1, all insulation used or offered for sale in Minnesota shall be tested in accordance with testing procedures required under those specifications by a laboratory qualified to test thermal insulation.

Minn. Stat § 325F.21, subdivision 1 (1984).

In addition, general rulemaking authority arises from Minn. Stat. §116J.035, subd. 2, and §116J.10 (1984).

History

The original legislation requiring rules on insulation was adopted in 1978. Pursuant to this legislation, the Agency in 1978 and 1979 developed rules, prepared a Statement of Need and Reasonableness, held a hearing, but then withheld from adopting the rules due to a simultaneous burst of regulatory activity on insulation at the federal government level. Since that time, most federal standards concerning the manufacture and installation of insulation have disappeared or fallen into disuse. The erosion of federal control in this area continues today.

In 1984 the Minnesota Legislature renewed its interest in state insulation standards in light of local insulation quality control problems and lack of federal action in this area. The Legislature appropriated special funding to complete the program which began 6 years previously. Although not used, Emergency Rulemaking authority was also given to the

(b) To evaluate manufacturing techniques and make recommendations for improvement if the insulation fails to meet the assigned testing standards.

(6) Testing for each type of insulation shall be performed in accordance with the methods specified in subparts 3 to 15.

Item A establishes minimum testing requirements and deadlines. The purpose is to assure that laboratory testing is performed in a manner that will provide reliable results in a timely fashion which will demonstrate that tested thermal insulation materials comply with the Minnesota standards.

This item requires testing to be performed within 120 days of the effective date of these rules. The rule is necessary because it implements the legislative order that such testing be performed. Minn. Stat. § 325F.21, subd. 1 (1984). The time limit is necessary because it provides a deadline for such testing to be performed.

The 120-day time limit is reasonable in view of, 1) existing industry practices to self-test, 2) the opportunities provided by the rules to use existing test data, and 3) the short turn-around period for laboratories to perform most tests.

The vast majority of the test methods utilized in the rules are commonly used by both industry and government. The ASTM standards are set up based on the consensus of insulation industry members themselves, including testing laboratories. The insulation industry is familiar with both laboratory testing of products and government regulation. The insulation industry has been well aware of, and has participated in, the process of promulgating state, federal and private standards.

Following the initial reporting requirement, testing is required on an annual basis. Testing for quality control is necessarily a continuous requirement. Most manufacturers already run continuous in-house testing. The rules only require one full set of tests to be run per year. The cost to perform a full set of tests varies depending on the type of insulation. Testing costs, however, are an established part of manufacturing insulation. For example, FTC requirements include density and thermal performance tests. Compliance with building codes requires flammability tests. The industry itself has selected the majority of the test procedures, which determines the cost. Tests in this part of the rule were chosen based on current industry testing practices. Manufacturers representing the various industries that have been in communication with the Department Staff are well familiar with the tests required. None of the tests required have an affixed laboratory cost substantially out of proportion to present industry practices.

Sub item A (3) requires that after 120 days following final enactment all testing must be performed at a NVLAP approved laboratory. The NVLAP program accredits testing laboratories to perform specific tests, in a standardized manner. NVLAP was established in 1976 and is a part of the National Bureau of Standards (NBS) under the United States Department of Commerce. Testing laboratories join the program on a voluntary basis. NVLAP assists laboratories, for a reasonable fee, in improving the measurement capabilities and providing data to improve test methods and standards.

The need for the NVLAP requirement is to provide meaningful and reliable test data to the Department. The program assures that participating laboratories are performing identical tests with identical equipment under identical conditions. Without this standardization,



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August 21, 1987

## TO: PROPONENTS OF EVALUATION REPORTS ON INSULATION MATERIALS, TESTING LABORATORIES AND OTHER INTERESTED PARTIES

Gentlemen:

Enclosed is a copy of the ICBO Evaluation Service, Inc.  
Acceptance Criteria for Reflective Foil Insulation, dated June,  
1987. All sections of the criteria are now in effect.

If you have any questions concerning this, please feel free to  
contact us.

Yours very truly,

**C. P. Ramani, P.E.**  
Vice-President

CPR:nl

Enclosure

cc: Evaluation Committee



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## ACCEPTANCE CRITERIA FOR REFLECTIVE FOIL INSULATION

~~November, 1988~~ ←

June, 1987

### PREFACE

Evaluation reports issued by the ICBO Evaluation Service, Inc. (ICBOES), are based upon performance features of the Uniform Building Code, Uniform Mechanical Code, Uniform Plumbing Code and related codes. Section 105 of the Uniform Building Code is the primary charging section upon which evaluation reports are issued. Section 105 reads as follows:

The provisions of this code are not intended to prevent the use of any material or method of construction not specifically prescribed by this code, provided any alternate has been approved and its use authorized by the building official.

The building official may approve any such alternate, provided he finds that the proposed design is satisfactory and complies with the provisions of this code and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in suitability, strength, effectiveness, fire resistance, durability, safety and sanitation.

The building official shall require that sufficient evidence or proof be submitted to substantiate any claims that may be made regarding its use. The details of any action granting approval of an alternate shall be recorded and entered in the files of the code enforcement agency.

The attached acceptance criteria for the general code sections noted have been issued to provide all interested parties with guidelines on implementing performance features of the codes. The attached acceptance criteria were developed and adopted following public hearings conducted by the Evaluation Committee. These criteria may be revised from time to time as the need dictates.

The ICBOES may consider alternate criteria, provided the proponent submits valid data demonstrating that the alternate criteria are at least equivalent to the attached criteria and otherwise meet the applicable performance requirements of the codes. Notwithstanding that a material, type or method of construction, or equipment, meets the attached acceptance criteria, or it can be demonstrated that valid alternate criteria are equivalent and otherwise meet the applicable performance requirements of the codes, if the material, product, system or equipment is such that either unusual care with its installation or use must be exercised for satisfactory performance, or malfunctioning is apt to cause unreasonable property damage or personal injury or sickness relative to the benefits to be achieved by the use thereof, the ICBOES retains the right to refuse to issue or renew an evaluation report.

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## **I. SCOPE**

The purpose of these criteria is to establish requirements for recognition of reflective foil insulation by the ICBO Evaluation Service, Inc. (ICBO ES).

## **II. DEFINITIONS**

For definitions of terms not covered herein, see ASTM C-168 and Trade Regulation Rule No. 16 C.F.R., Part 460, dated August 29, 1979 of the Federal Trade Commission.

Bubble Packs are one or more layers of polyethelene, incorporating premanufactured bubbles, laminated between two layers of foil.

Reflective Capsheets are single layers of laminated product typically attached to the bottom facings of roof sub-purlins or the facings of wall studs.

Core Materials are materials laminated to or between one or more layers of foil to produce a finished product.

Flangeboards are heavy duty paper products used as both nailing flanges and dividers of air spaces in multi-layer products.

Laminates are products resulting from bonding one or both sides of a core material to layer(s) of foil.

### **III. BASIC INFORMATION AND REPORT OF TESTS**

The following basic information is necessary:

- A. Complete information on the manufacturing process.
- B. Dimensioned scale drawings and details noting all thicknesses, size and location of fasteners and installation details.
- C. Method of packaging and identification of components.
- D. Method of field cutting, trimming or forming and treatment of cut edges.
- E. The test report must be in sufficient detail to identify specimen properties that may affect performance. The required tests are to be conducted by a testing agency recognized by the ICBO ES.

A qualified representative of the testing agency must witness the manufacture and installation of test specimens. The testing agency must verify and report dimensions, weight, density,

labeled R-Values and other relevant physical properties of the major components and the manner of installation, including a description of fastening elements and details of repair procedure. Photographs must be included in the report.

- F. Information indicating compliance with Section 1713 (c) of the code.

#### IV. MATERIAL REQUIREMENTS

- A. Aluminum Foil 1. Foil must be 99 percent pure aluminum with an emittance, after lamination, of no greater than 0.10 when measured in accordance with ASTM Method E-408.
2. Exposed, unsupported foil, shall have a minimum thickness of 0.0004 inch. Unsupported foil, that is sandwiched in a multi-layer sheet, shall have a minimum thickness of 0.00035 inch. Foil bonded to kraft paper, polyethelene, mylar or other plastic films shall have a minimum thickness of 0.00025 inch. Minimum space between layers of multi-layer insulations shall be 3/4 inch for up to four layers and 1/2 inch for five-layer insulation.
- B. Paper and Flangeboard Kraft paper and flangeboard shall comply with ANSI/TAPPI T400 0M85. Flangeboard used for more than two insulation layers shall be 28-point grade minimum, for single-sheet flangeboard or 14-point grade minimum, for plies

of double-sheet flangeboard.

- C. Laminates Laminates shall have a minimum tensile strength of 20 pounds per inch when tested in accordance with U.B.C. Standard No. 17-1 and Federal Specification No. UU-B-790A, Test Method No. 171.

Exception: 35 pound single side foil/kraft laminate shall have a minimum tensile strength of 9 pounds per inch.

- D. Adhesives Adhesive used in bonding shall be compatible for its intended use and show no sign of bleeding when tested in accordance with the test procedure outlined in Section V A. (Bleeding at cut edges may be disregarded.)

#### V. TEST PROCEDURES:

A. Adhesive bleeding: A minimum of three test specimens, approximately 3 by 6 inches, are suspended in a vertical position and heated to a temperature of  $180^{\circ}\text{F.} \pm 5^{\circ}\text{F.}$  with a  $50 \pm 5$  percent relative humidity, for at least 5 hours. At the end of the exposure period, reflective surfaces shall be examined under 5 X magnification to determine whether the adhesive has bled or extruded through the surface or delamination has occurred.



- B. Pliability: A minimum of three samples in each set shall be used with at least one sample having a factory produced edge. Foil laminate shall be folded in accordance with TAPPI Standard No. 512-0M86, and the folded edge smoothed, using a light-finger pressure. Sample specimens shall be conditioned for at least 24 hours immediately prior to the test. The first three samples of finished laminate shall be folded to a 180-degree bend after conditioning, at a temperature of  $70^{\circ}\text{F.} \pm 2^{\circ}\text{F.}$  and a relative humidity of 50+5 percent. The test shall be repeated on a second set of three samples, conditioned at  $32^{\circ}\text{F.} \pm 2^{\circ}\text{F.}$  When the specimens are tested in the above manner, there shall be no cracking or delamination.
- C. Mold (Fungus) Test: Mold and mildew (fungus) resistance in accordance with MIL-STD-810B. Samples are examined visually under 5 X magnification after exposure to determine extent of mold growth and deterioration. Mold growth must be confined to the inoculated area, with no significant growth within. No delamination is permitted.
- D. Water Vapor Transmission Tests: Representative samples of each type of laminate shall be subjected to this test in accordance with ASTM Method E-96-1980, Desiccant method. Water vapor transmission rate obtained from the tests shall be included in the evaluation report on the product.

- E. Thermal Performance:** All products and assemblies must be tested in accordance with ASTM C236 with the insulation installed in a manner representative of end use. Thermal performance may also be established by comparative testing in accordance with ASTM C236 as set forth below:

Products must be installed in identical assemblies in a manner representative of field installation. Details of the proposed testing should be submitted to ICBO ES for evaluation prior to testing.

1. Test Assemblies

a. Horizontal Assemblies

- (i) Minimum 2 x 4 or 2 x 6 inch cavity with 16 or 24-inch spacing of wood members. Larger framing members may be used, depending on end use conditions.
- (ii) Minimum 1/2-inch gypsum wallboard or 1/2-inch plywood is required on side.

b. Walls (must include obstructed and unobstructed assemblies):

- (i) Must be 2 x 4 or 2 x 6 inch cavity with 16 or 24-inch on center spacing of members.
- (ii) Interior facing must be 1/2-inch gypsum wallboard.
- (iii) Covering on exterior side must be 1/2-inch plywood.

2. Test Method

- a. All specimens for thermal performance tests shall be conditioned at  $73.4^{\circ}\text{F.} \pm 3.6^{\circ}\text{F.}$  at a relative humidity of  $50 \pm 5$  percent for 24 hours, immediately preceding the tests. The average testing temperature shall be  $75^{\circ}\text{F.} \pm 2^{\circ}\text{F.}$  with at least a  $40^{\circ}\text{F.}$  temperature difference.
- b. Test frame shall be a minimum 8 x 8 feet.
- c. Metering box area shall be a minimum 4 x 4 feet.
- d. Assembly shall be tested with heat flow in the direction

of intended use.

- e. Results to be shown as overall thermal transmittance, air-to-air (U-Value), for the complete assembly.

3. Miscellaneous Requirements

- a. Insulation installation and completed assembly must be representative of typical assemblies in field.
- b. Dimensional cross-sectional drawings and photographic records must be made of each assembly tested.
- c. Representative samples of actual insulation products compared must be retained by the testing laboratory for a period of one year from date of test.

F. Flammability Characteristics

- 1. Flame-spread Testing: Surface-burning characteristics shall be determined in accordance with U.B.C. Standard No. 42-1\* and shall not exceed the following values:

\* Same as ASTM E84-80

Flame Spread 25

Smoke Developed 450

**Exception:** For Bubble Pack insulation products, a flame spread of up to 200 and smoke density up to 450 is accepted for the plastic core, provided a thermal barrier having an index of 15 when tested in accordance with U.B.C. Standard No. 17-3 is applied on the interior side.

## **2. Test Procedures**

- a. Single layer foil products, of foil-kraft-foil-laminate shall be tested at least once in a continuous length.**
- b. Multi-layer foil insulations, comprised of two or more layers, separated by an airspace, shall be tested at least twice and an average taken (within the same flame-spread classification) of the results to indicate the flame spread. Material may be in either eight foot section or continuous lengths.**
- c. Bubble Pack products shall be tested at least once in continuous length, at least once with a geometrically centered longitudinal joint sealed in accordance with**

manufacturer's instructions; and at least once with the plastic core exposed to the tunnel flame. This will require a minimum 1/8-inch-wide slit in the facing material to a depth necessary to expose the core material to the tunnel flame. The slit must be geometrically centered between the tunnel sides and must extend its full length.

3. Burning

- a. Paper products used as laminates, spacers, etc., in conjunction with reflective foil insulation, must comply with U.S. Department of Commerce Voluntary Product Standard PS 46-71 as a Type I material.

**Exception:** Not required on kraft paper in reflective capsheet insulation where the kraft paper is sandwiched between layers of aluminum foil.

- b. For products designed for installation in areas subject to high humidity, compliance as a Type II material is required.

California Energy Commission

Conservation Division

STANDARDS FOR INSULATING MATERIAL

June 1982

1554. Approval of Testing Laboratories. (a) Except as provided in Subsection (b), laboratories shall be approved using the procedures described in the Criteria for the Approval of Testing Laboratories, dated October 27, 1978. The Executive Director shall approve any laboratory that meets the standards described in the Criteria for the Approval of Testing Laboratories, dated October 27, 1978. A testing laboratory shall have the right to appeal to the full Commission any denial of approval by the Executive Director.

(b) Up to and including September 30, 1982, laboratories shall be approved either upon accreditation by the United States Department of Commerce National Voluntary Laboratory Accreditation Program or as stated in the preceding paragraph, at the manufacturer's option. After September 30, 1982, laboratories shall only be approved upon accreditation by the United States Department of Commerce National Voluntary Laboratory Accreditation Program.

NOTE: Authority cited: Section 25218(e), Public Resources Code.  
Reference: Sections 25915(a), 25921, Public Resources Code.

1555. Certification. (a) No insulating material shall be sold in California on or after September 22, 1981, unless the manufacturer has certified that the material complies with the provisions of this article.

(b) The manufacturer shall submit a certification statement to the Executive Director for each type of insulating material. Such statement shall contain the following information:

(1) Name of the manufacturer.

(2) A description of the type of insulating material being certified in sufficient detail to permit its identification. The description may include information sheets, brochures, a sample label for the product, or similar information.

(3) Test results from an approved laboratory.

(4) A description of the basis for assuring that all of the insulating material of the type being certified complies with the requirements of this article. Such description shall include, but not be limited to, a description of the frequency of testing of the material, the quality assurance program, and any third party inspections or testing used by the manufacturer.

(5) A declaration that the insulating material complies with the requirements of this article.

(6) The wording of the certification seal, if such seal consists of a statement pursuant to Section 1557 (b)(2) of this article.



CHAPTER 4155 - MINNESOTA INSULATION STANDARDS  
RULES AS PROPOSED  
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\* This outline is not part of the rules.

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