CHAPTER 7640
DEPARTMENT OF PUBLIC SERVICE
ENERGY DIVISION
THERMAL INSULATION STANDARDS

7640.0100 AUTHORITY AND PURPOSE.

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

Statutory Authority: *MS s 325F.20 subd 1; 325F.21 subds 1,2*

History: *10 SR 1208; L 1987 c 312 art 1 s 9; 13 SR 532*

7640.0110 APPLICABILITY.

Subpart 1. **Types of residential insulation products covered.** This chapter applies to insulation products for use in residential buildings. These include insulation for walls, ceilings, floors, foundation walls, pipe insulation, duct insulation, and retrofit water heater blanket insulation.

Not included are insulation used in manufactured appliances, windows, and doors, and insulation used in new manufactured homes assembled outside Minnesota.

Subp. 2. **Conduct.** This chapter applies to the manufacture, distribution, sale, and application of residential insulation material within Minnesota. For the purpose of this chapter the sale of a building or appliance that contains installed insulating material is not considered the manufacturing and distribution of the insulating material.

Subp. 3. **Affected parties.** This chapter applies to industry members, as defined in part 7640.0120.

Subp. 4. **Prohibitions.** The prohibitions in this subpart apply to the installation and application of insulation.

A. Industry members may not install insulation in residential structures unless it conforms to the product quality standards in this chapter.

B. Industry members and other persons may not engage in the mobile manufacture of cellulose insulation, which means, the simultaneous on-site production and installation of cellulose insulation as an integral mechanical and manufacturing process.

C. Urea formaldehyde foam or precured forms may not be used in attics or ceilings.

D. Polystyrene loose fill may not be used in attics unless it complies with the state building code.

Subp. 5. **Installation, generally.** Industry members installing insulation shall follow manufacturers' written application instructions.

When installing insulation in attic areas, the installer shall locate flush and

recessed light fixtures, and other heat producing appurtenances, and shall comply with National Electrical Code (1987), section 410-66, subsections A. and B.

Statutory Authority: *MS s 325F.20 subd 1; 325F.21 subds 1,2*

History: *10 SR 1208; L 1987 c 312 art 1 s 9; 13 SR 532*

7640.0120 DEFINITIONS.

Subpart 1. **Applicability.** For the purposes of this chapter, the following definitions of terms apply. Technical, scientific, and engineering terms undefined by this part have the meanings given in the ASHRAE Handbook of Fundamentals or in ASTM C 168-80a, Standard Definitions of Terms Relating to Thermal Insulation Materials.

Subp. 2. **Application or installation.** "Application" or "installation" means placing insulation materials into a residential building system or structure for the purpose of increasing the thermal resistance of the building. Installation methods include, but are not limited to, pouring, laying, affixing by chemical bonding or mechanical devices, pneumatic blowing, or in situ foaming.

Subp. 3. **Approved laboratory.** "Approved laboratory" means any testing facility, including a facility owned or operated by a manufacturer, that has been accredited by one or more of the following agencies to perform the required test:

A. United States Department of Commerce, National Voluntary Laboratory Accreditation Program (NVLAP), Gaithersburg, Maryland; or

B. American Association for Laboratory Accreditation, Gaithersburg, Maryland.

Exception: In the event that an approved laboratory program is temporarily delayed or is not capable of being accredited to perform a test or tests, a testing laboratory possessing the appropriate equipment, facilities, and qualified personnel to perform the required testing is an approved laboratory.

Subp. 4. **ASHRAE.** "ASHRAE" means the American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc.

Subp. 5. **ASTM.** "ASTM" means American Society for Testing and Materials or a specification or standard adopted by the American Society for Testing Materials.

Subp. 6. **CABO.** "CABO" means the One & Two Family Dwelling Code prepared by the Council of American Building Officials, (1983 Edition).

Subp. 7. **Commissioner.** "Commissioner" means the commissioner of the Minnesota Department of Public Service.

Subp. 8. **Department.** "Department" means the Minnesota Department of Public Service.

Subp. 9. **Drainage.** "Drainage" means a water removal system for a residential building that meets the following conditions:

A. Drains are provided around foundations enclosing habitable or usable spaces, located below ground, that are subjected to ground water conditions. Drains are installed at or below the area to be protected and shall discharge by gravity or mechanical means into an approved drainage system. The top joints and perforations of drain tiles are protected with strips of building paper and the tiles are placed on two inches of crushed rock and covered with not less than six inches of the same material. (See, Section R-305 of CABO.)

B. The finish grade of soil next to the foundation wall has at least a one-half inch per foot slope away from the wall to a distance of five feet.

Subp. 10. **FS.** "FS" means a federal specification or test required by the General Services Administration that is used by federal agencies for the purchase of supplies.

Subp. 11. **FTC.** "FTC" means the United States Federal Trade Commission or a standard issued for thermal insulation materials by that commission.

Subp. 12. **Industry members.** "Industry members" means:

A. producers and suppliers of materials from which insulation is made who promote the sale or distribution of insulation;

B. manufacturers of insulation, jobbers, wholesalers, and retailers of insulation;

C. contractors and applicators who sell and install residential insulation; and

D. those engaged in the marketing of insulation who are, or who purport to act as, agents of manufacturers or suppliers of insulation.

Subp. 13. **Insulation.** "Insulation" means thermal insulation which is a material or assembly of materials designed to provide resistance to heat flow in residential building structures, including but not limited to mineral fibrous, mineral cellular, organic fibrous, organic and plastic cellular and reflective materials, whether in loose fill, flexible, rigid, or semirigid form. Any material advertised for use in residential buildings as having energy saving value by virtue of its thermal resistance (R value) or emmissivity properties, except windows and doors, shall be considered as insulation for purposes of this chapter.

Subp. 14. **Intermediate consumer of insulation materials.** "Intermediate consumer of insulation materials" means a purchaser of insulation materials who resells or otherwise transfers possession of insulation materials to an ultimate consumer.

Subp. 15. **Label.** "Label" means written, printed, or graphic matter attached to or inscribed upon an article or its container.

Subp. 16. **Label notice.** "Label notice" means a written or printed statement accompanying the sale of an insulation product that contains information equivalent to that of a label; a label notice is used where no label is affixed to the insulation material or where a notice is otherwise required by this chapter.

Subp. 17. **Manufacturer of insulation.** "Manufacturer of insulation" means an industry member who produces insulation materials in their final form for distribution or sale to intermediate and ultimate consumers or who is a urea formaldehyde foam or spray urethane foam insulation manufacturer of the component resins and catalysts used for in situ foaming.

Subp. 18. **Materials standard.** "Materials standard" means a standard or specification of product quality and safety for regulated thermal insulation materials adopted or proposed by the department.

Subp. 19. **Polyurethane.** "Polyurethane" means a cellular plastic derived from urethane, isocyanurate, resins, or any combination of these. For purposes of this chapter, polyurethane includes products labeled polyisocyanurate.

Subp. 20. **R or R value.** "R" or "R value" means the measure of resistance to heat flow through a material or assembly of materials. It may be stated as the reciprocal of the heat flow through a material expressed in British thermal units per hour, per square foot, per degree Fahrenheit. R value indicates "thermal performance."

Subp. 21. **Representative thickness.** "Representative thickness" means a thickness of insulating material at which the thermal performance per inch will vary no more than plus or minus two percent with increases in thickness.

Subp. 22. **Residential building.** "Residential building" means a low rise residential structure, including detached one and two family dwellings, lodging houses, and multiple family buildings not more than three stories in height and their accessory structures.

Subp. 23. **Thermal performance.** "Thermal performance" means the tested thermal conductivity, thermal conductance, or thermal resistance (R value), as appropriate, of an insulating material.

Subp. 24. **Ultimate consumer of insulation.** "Ultimate consumer of insula-

tion" means the final purchaser of insulation for installation within a residential building.

Subp. 25. **Urea formaldehyde foam.** "Urea formaldehyde foam" means a cellular plastic insulation material generated in a continuous stream by mixing the components which are a urea formaldehyde resin, air, and a foaming agent.

Subp. 26. **UBC.** "UBC" means the Uniform Building Code, authored by the International Conference of Building Officials.

Statutory Authority: *MS s 216C.10; 325F.20 to 325F.24*

History: *10 SR 1208; L 1987 c 312 art 1 s 9; 13 SR 532*

7640.0130 INSULATION MATERIALS STANDARDS.

Subpart 1. **Scope.** This part sets forth standards for the product quality and safety of thermal insulation materials specified herein, as well as minimum procedures for the testing of insulation materials under these standards. Regulated thermal insulation materials that do not demonstrate by tests conformance to these standards shall not be sold, used, distributed, or installed in Minnesota by an industry member. Performance tests for insulation materials must meet or exceed the requirements of this part.

Subp. 2. **General testing requirements.** General testing requirements for regulated thermal insulation materials in this part are as follows:

A. When ASTM amends, reorganizes, or modifies a standard test method and the manufacturer or testing laboratory desires to use the new version, the department may be petitioned to adopt the new test method version. Until the department adopts or decides not to adopt the new version, the petitioner may request a temporary variance to use the new test method version. Criteria or factors in granting a variance are:

(1) whether the new test method version amounts to a substantial change over the old version;

(2) whether the amendment to the test version was controversial within the ASTM decision making body;

(3) whether the department sees the new test version as an improvement in testing quality control;

(4) whether the new version adversely affects consumers or manufacturers; and

(5) whether there is strong opposition outside of the ASTM organization to the new test version.

B. All regulated thermal insulation materials must be tested for compliance with the standards in this part by April 2, 1986. Testing procedures are as follows:

(1) Until April 2, 1986, testing must be performed only at a testing laboratory possessing the appropriate equipment, facilities, and qualified personnel necessary to perform testing required by parts 7640.0130 to 7640.0160. Tests performed in the 1985 calendar year are acceptable.

(2) After April 2, 1986, all required testing must be performed by an approved laboratory.

(3) The thermal insulation material chosen for testing must be representative of material produced by the manufacturer during normal production runs.

(4) Manufacturers without approved laboratory testing facilities shall contract with an approved laboratory to conduct an annual surprise on-site inspection of the manufacturer's production facilities for the following two purposes:

(a) to take random samples of insulation from the manufacturer's assembly or process system for testing under this chapter; and

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

(5) Testing for each type of insulation must be performed in accordance with the methods specified in subparts 3 to 8.

(6) Insulation must have flammability characteristics in accordance with the Uniform Building Code, 1985 Edition, sections 1712 and 1713, for its intended uses.

C. All thermal performance tests must be conducted in accordance with this item, unless additional requirements are imposed within the body of a materials standard. Insulation's thermal performance must be stated in R-value.

(1) The following ASTM test methods must be used: ASTM C 177-85, ASTM C 236-87, ASTM C 518-85, or ASTM C 976-82. Manufacturers shall select the appropriate test method for the material unless a specific method or procedure is referenced within a materials specification.

(2) R-value testing must be performed at the insulation's representative thickness, and be consistent with the requirements of the United States Federal Trade Commission.

(3) Unit R per inch must be derived from R value testing performed to its representative thickness, as specified in subitem (2).

(4) Except as otherwise provided within a materials standard, the thermal R value test results must be the average of the values obtained from at least three tests.

(5) Thermal R value as measured by test must not be more than ten percent below the stated or claimed thermal performance of the insulation material.

(6) If insulation with foil facings claim a "system R-value," the insulation material must comply with Federal Trade Commission requirements in sections 460.12(b)(6) and 460.5(D), Code of Federal Regulations, title 16, part 460.

Subp. 3. **Cellulose insulation.**

A. Cellulose fiber in loose fill form must meet the following requirements:

(1) The product must comply with ASTM C 739-84, Standard Specification for Cellulosic Fiber (wood-base) Loose Fill Thermal Insulation or the United States Consumer Product Safety Commission Interim Safety Standard for Cellulose Insulation, Code of Federal Regulations, title 16, part 1209.

(2) All manufacturers shall contract with an approved laboratory for a follow-up agreement for the following two purposes:

(a) The laboratory shall pick up three randomly selected unopened bags of manufacturer's cellulose for testing under this chapter.

(b) The laboratory shall conduct a minimum of one in plant inspection every two months. The inspection must be unannounced, and the inspector shall conduct tests in the plant laboratory, on a sample for settled density, smoldering combustion, critical radiant flux, corrosiveness (ph), and starch.

(3) The department shall be immediately notified by the manufacturer of any failure to meet test standards.

B. Cellulose fiber spray applied must meet the following requirements:

(1) The basic material must consist of virgin or recycled wood based cellulosic fiber. It may be made from related paper or paperboard stock, stock that does not contain contaminated materials and extraneous foreign materials, such as metals and glass, that could be retained in the finished product. Suitable chemicals may be introduced to improve flame resistance, processing, adhesive and cohesive qualities, and handling characteristics. The added chemicals must not create a health hazard.

The basic material must be processed into a form suitable for installation by pneumatic conveying equipment and simultaneous mixing with water or adhesive at the spray nozzle.

(2) All testing must be performed on spray applied cellulose.

(3) Determination of thermal performance must be in accordance with ASTM C 177-85, ASTM C 236-87, ASTM C 518-85 or ASTM C 976-82 at the manufacturer's option, at the test defined density of the material. R value testing must be performed at a thickness of material of two inches, unless the material is designed for use at a lesser maximum thickness and the material is so designated on the label or label notice by the manufacturer. It must then be tested at the maximum thickness of suggested use.

(4) Density must be determined in accordance with section 7 of ASTM E 605-77 reapproved 1982. The density established by this test must be used in the preparation of manufacturer's installation guidelines and in the determination of thermal performance.

(5) Critical radiant flux and smoldering combustion must be tested for in accordance with the CPSC Interim Safety Standard for Cellulose Insulation, Code of Federal Regulations, title 16, part 1209 [or the ASTM equivalent in C 739-86]. Values achieved must not exceed those established by the CPSC.

(6) Moisture absorption must be determined in accordance with section 15 of ASTM C 553-70 reapproved 1977. Moisture absorption must not exceed 15 percent by weight.

(7) The product must comply with test standards for air erosion, bond strength, and bond deflection that have been accepted by the ASTM or a federal or state government agency.

(8) Test procedures in subitem (7) are not required of products that are installed so that physical restrictions imposed by the construction elements preclude any possibility of subsequent delamination, erosion, or dusting, and the product is identified only for those installations.

Subp. 4. **Mineral fiber insulation.**

A. Mineral fiber in loose fill form must comply with ASTM C 764-84, Standard Specification for Mineral Fiber Loose Fill Thermal Insulation.

B. Mineral fiber in batts and blankets form must comply with ASTM C 665-86, Standard Specification for Mineral Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.

C. Mineral fiber in board form must meet the following requirements:

(1) The basic material shall be made from mineral substances such as rock, slag, or glass processed from a molten state into a fibrous form. Insulation shall be composed of mineral fibers with water resistant binder added and formed into flat rectangular units. Insulation boards shall be uniform in quality and free from defects, such as broken edges, splits, or loose materials which would impair its intended use.

(2) Thermal performance and surface burning characteristics shall be determined in accordance with subpart 2.

D. Spray applied mineral fiber must comply with ASTM C 1014-84, Standard Specification for Spray Applied Mineral Fiber Thermal or Acoustical Insulation.

Subp. 5. **Foam plastic insulation.**

A. Molded expanded polystyrene insulation must comply with ASTM C 578-87A, Standard Specification for Preformed, Cellular Polystyrene Thermal Insulation and the accompanying Supplementary Requirements.

B. Extruded Polystyrene must comply with ASTM C 578-87A, Standard Specification for Preformed, Cellular Polystyrene Thermal Insulation and the accompanying Supplementary Requirements.

C. Unfaced polyurethane and polyisocyanurate in board form must comply with ASTM C 591-83, Standard Specification for Unfaced Preformed Rigid Cellular Polyurethane Thermal Insulation.

D. Faced polyurethane and polyisocyanurate in board form must comply with Federal Specification HH-I-1972, dated August 21, 1981, Insulation Board Thermal Faced Polyurethane or Polyisocyanurate.

E. Field applied urea formaldehyde foam must meet the following requirements:

(1) The product must comply with ASTM C 951-85, Standard Specification for Urea Formaldehyde Based, Foam in Place Insulation.

(2) Resin and foaming agent containers must be marked with conditions of proper storage and the derated R value and shrinkage of the prepared foam as certified by the manufacturer.

(3) Manufacturers and installers of urea formaldehyde foam insulation shall comply with statutes and rules, including parts 4620.1600 to 4620.2100, and Minnesota Statutes, section 325F.18.

F. Spray applied urethane must comply with ASTM C 1029-85, Standard Specification for Spray Applied Rigid Polyurethane Thermal Insulation.

Subp. 6. **Perlite and vermiculite insulation.**

A. Perlite loose fill insulation must meet the following requirements:

(1) The product must comply with ASTM C 549-81 (reapproved 1986), Standard Specification for Perlite Loose Fill Insulation.

(2) The manufacturer shall disclose to the department any chemical treatment of the perlite material and the purpose of the treatment.

B. Vermiculite in loose fill form must meet the following requirements:

(1) The product must comply with ASTM C 516-80 (reapproved 1985), Standard Specification for Vermiculite Loose Fill Thermal Insulation.

(2) The manufacturer shall disclose to the department any chemical treatment of the vermiculite material and the purpose of the treatment.

Subp. 7. **Reflective foil insulation.** The following requirements apply to reflective foil:

A. Specimens for tests must consist of pieces of insulation cut to approximately three by six inches, suspended in a vertical position and heated to a temperature of 180 degrees Fahrenheit (plus or minus five degrees Fahrenheit) for at least five hours. At the end of the heating period, the tester shall examine the reflective surfaces to determine whether the adhesive has bled through the surface or whether delamination has occurred.

Adhesive used in bonding must be waterproof and show no sign of bleeding when tested in accordance with the test procedure identified in section V, part A, of the ICBO Evaluation Service Acceptance Criteria for Reflective Foil Insulation, June 1987, section V, part A, for adhesive bleeding requirements. Bleeding at cut edges may be disregarded.

B. Reflective foil insulation must be tested according to ASTM C 976-82 or ASTM C 236-87 to determine the thermal performance in horizontal, upward, and downward directions. The tested thermal performance in the heat flow direction or directions of the intended application must be labeled on the material. The manufacturer shall test once in each direction of intended application; except that, for products labeled with only one heat flow direction, the manufacturer shall test two samples in that direction.

Thermal performance for single or multiple sheet sections must be determined according to ASTM C 976-82 or ASTM C 236-87. The test panel must consist of a panel using a wooden frame of two-by-six inch boards 16 inches apart and at least 24 inches long, covered with a minimum of 1/2-inch gypsum wallboard or 1/2-inch plywood on each side. For tests in the vertical position, the

test panel must be at least seven feet high at a mean temperature of 75 degrees Fahrenheit, with a temperature differential of 30 degrees Fahrenheit. The resultant thermal performance must be based upon the insulation and the associated air spaces.

C. Layers of insulation composed of unsupported foil that is exposed must have a minimum thickness of 0.0004 inch. Unsupported foil that is sandwiched in multilayer sheet must have a minimum thickness of 0.00035 inch. Foil bonded to kraft paper must have a minimum thickness of 0.00025 inch.

D. Foil must be folded in accordance with TAPPI Standard No. 512-OM86, and the folded edge smoothed using a light finger pressure. The finished insulation must not crack when folded to 180 degree bend at a temperature of 70 degrees Fahrenheit (plus or minus two degrees Fahrenheit) and a relative humidity of 50 percent (plus or minus five percent).

E. Reflective foil insulation that conforms to all requirements of ICBO Evaluation Service Acceptance Criteria for Reflective Foil Insulation, June 1987 (with the exception that thermal performance shall be tested with a temperature differential of 30 degrees Fahrenheit between the inside surfaces of the test panel), meets the Minnesota testing standards in this subpart.

Subp. 8. **Other insulation.** Insulation other than insulation specified in subparts 1 to 7, to be sold, marketed, or advertised for use in residential structures in Minnesota must comply with the following requirements:

A. thermal performance and surface burning characteristics must be determined in accordance with subpart 2;

B. results of the water absorption test must be reported;

C. if the material is foam in place, a test of the shrinkage using ASTM C 591-85, section 8.5 must be used;

D. if the material contains formaldehyde, a formaldehyde content test is necessary; and

E. the initial report as required by part 7640.0150, subpart 2, must include a description of other tests applied to the product.

Before insulation is sold, marketed, or advertised for use in residential structures in Minnesota, the manufacturer shall test the insulation with an approved laboratory and submit a certification of compliance with a federal, state, or ASTM standard specification that addresses all of the performance characteristics of the product. When no federal, state, or ASTM standard specification has been developed, the manufacturer shall present test data from an approved laboratory that shows the insulation and its intended uses are safe and effective and does not pose a threat to human health.

Statutory Authority: *MS s 325F.20 subd 1; 325F.21 subds 1,2*

History: *10 SR 1208; 11 SR 2285; L 1987 c 186 s 15, c 312 art 1 s 9; 13 SR 532; 13 SR 754*

7640.0140 REQUIREMENTS FOR INSULATION FOR SPECIAL APPLICATIONS.

Subpart 1. **Application testing requirements for exterior, underground insulation.**

A. Insulation by itself or as part of a system must be in service tested in a testing facility designed to duplicate actual underground conditions. The testing environment must reflect the extremes of weather, moisture, and soil conditions. The purpose of the testing must be to determine aged R-value performance, giving consideration to the conditions listed in item C. A summary of the test results must be submitted to the department.

B. As an alternative to item A, the testing initiator may elect to have an insulation tested by an approved laboratory and listed for underground use, with consideration given to the conditions listed in item C.

C. The listing of the product for underground use must be based on the most recent applicable ASTM tests or any other tests that are available that give consideration to each of the following conditions:

(1) moisture absorption;

(2) mechanical durability under freeze thaw cycling conditions;

(3) soil compatibility;

(4) flexural strength or compression; and

(5) vapor drives due to high low pressure gradients.

D. The initiator seeking the listing shall select the appropriate tests that best address the conditions stated in item C.

E. An association or trade representative may initiate a product's listing on behalf of its constituency. The association shall submit representative samples for testing and certify to the department which manufacturers within its constituency the samples are representative of. The association must have an internal certification procedure to determine constituency conformity to the representative samples submitted for testing.

F. A summary of test results for item B must be submitted to the department.

Subp. 2. **Installation instructions for underground use.** Written instructions on underground use of insulation must, at a minimum, contain instructions or information regarding:

A. optimal application techniques;

B. drainage, as specified in section R-305 of the One & Two Family Dwelling Code by CABO (1983 Edition);

C. waterproofing and dampproofing, as specified in section R-306 of the One & Two Family Dwelling Code by CABO (1983 Edition);

D. varying soil and soil moisture conditions;

E. temperature effects on application;

F. optimal backfill techniques for protection from physical damage; and

G. the manufacturers' warranty, if any. The manufacturer shall state whether it warrants the insulation for underground use and, if applicable, the conditions of warranty and the length of warranty, including a statement of the number of years for which the product is warranted to maintain 80 percent of its advertised R value.

Manufacturers that recommend a product for underground use in the vertical or horizontal position shall provide complete instructions for its respective applications.

Subp. 3. **Practice of insulation use for exterior underground installation.** The following requirements apply to the exterior installation or application of insulation below the ground:

A. The installation or application of insulation in the vertical and horizontal position must conform to the manufacturers' instructions and recommendations.

B. Insulation extending above the ground line must be covered with an exterior wall finish to protect the insulation from ultraviolet sunlight, moisture absorption, freeze thaw durability, air erosion, and general weather conditions.

C. Polyurethane or polyisocyanurate spray applied application must meet the following conditions:

(1) Manufacturers shall recommend the type of urethane systems to be used for underground use and applicators shall only use a recommended system.

(2) Polyurethane or polyisocyanurate spray applied application must have a protective coating applied to its exterior surface above and below ground.

The type of protective coating and method of application must be in accordance with the insulation manufacturer's instructions and recommendations.

D. Mineral fiber foundation insulation and drainage boards must meet the following conditions:

(1) The board must be manufactured to facilitate proper downward drainage, or in the alternative, manufactured in such a manner that moisture will not substantially penetrate horizontally toward the foundation wall.

(2) The board must not be used without exterior drainage, as defined in part 7640.0120.

Subp. 4. **Pipe insulation, duct wrap insulation, and water heater blanket insulation.** Pipe insulation, duct wrap insulation, and water heater blanket insulation must meet the standards of part 7640.0130, including the flammability requirements for insulation in part 7640.0130, subpart 2, item B, clause (6). Water heater blanket products must meet the flammability requirements of flame spread 50 and smoke developed 100, when tested in accordance with ASTM standard E84-84, Revision A, Surface Burning Characteristics of Building Materials.

Statutory Authority: *MS s 325F.20 subd 1; 325F.21 subds 1,2*

History: *L 1987 c 312 art 1 s 9; 13 SR 532*

7640.0150 REPORTING REQUIREMENTS.

Subpart 1. **Applicability.** This subpart identifies all industry members to whom subparts 2 and 3 apply.

A. Manufacturers of insulation materials, components, or products shall file an initial report as required by subpart 2.

B. A reseller, repackager, or industry member who alters the physical properties of an insulation product manufactured by another industry member shall file an initial report as required by subpart 2.

C. An industry member that intends to sell an insulation product manufactured by another industry member under its own trade or brand name, desires to be listed as the manufacturer, and does not alter physical properties of the insulation product, shall file an initial report. The filing insulation member can comply with subpart 2, item B, by certifying that the product is the same as when it was previously filed.

Subp. 2. **Initial report.** An industry member shall file an initial report at least 30 days before offering for sale in the state any new products, significant changes to a product already filed, or changes to product installation instructions to a product already filed.

The initial report must include the following:

A. the manufacturer's name, address, phone number, and contact person;

B. product names, including any and all generic, trade, and brand names the product may be identified by;

C. type of product;

D. product literature, including installation instructions, a copy of the label affixed to the product, and a list of the intended uses of the product;

E. a fact sheet as required by FTC R value rule, identified in Code of Federal Regulations, title 16, part 460;

F. results of initial tests, as required by part 7640.0130, identifying tests performed, name of laboratory, testing dates, and test results;

G. a statement that each product meets or exceeds the test standards required by this chapter;

H. if follow up agreement is required by part 7640.0130, the:

(1) scope of material characteristics of the product encompassed by this agreement; and

(2) frequency of unannounced inspections; and

I. a description of the quality assurance program.

Subp. 3. **Annual filing requirement.**

A. Industry members who have made initial filings shall file by June 1 of each year.

B. For each product, the report must include:

(1) the manufacturer's name, address, phone number, and contact person;

(2) product names, including all generic, trade, and brand names by which the product may be identified;

(3) certification that the product has not undergone significant changes since the initial report was filed; and

(4) identification of and changes in information that may have changed from the initial or previous annual report, including product brand names, product literature, Federal Trade Commission fact sheet, product usage, or discontinuation of manufacture.

C. Additional testing information must be made available as follows:

(1) Upon the request of the commissioner, the manufacturer, a representative of the manufacturer, or the testing laboratory shall provide all applicable information pertaining to the testing program. The information must include test procedures and protocols, test equipment specifications and calibrations, the qualifications of test laboratory personnel exclusive of personal identifiers, full test data, and proof of an approved laboratory's certification.

(2) Upon the written request of intermediate and ultimate consumers of insulation the manufacturer shall make available a current certification of conformance to applicable test standards.

Statutory Authority: *MS s 325F.20 subd 1; 325F.21 subds 1,2*

History: *L 1987 c 312 art 1 s 9; 13 SR 532*

7640.0160 APPLICATION AND INSTALLATION STANDARDS.

Subpart 1. **Applicability.** Industry members who offer insulation installation services for residential buildings shall comply with the application standards in this part.

The application standards in this part do not apply to nonresidential buildings or construction.

This part applies to new residential construction and retrofit applications.

Subp. 2. **Application and inspection.** Industry members installing insulation shall follow manufacturer's written application instructions.

In attic areas where insulation is to be installed, the installer shall comply with part 7640.0110, subpart 5.

Subp. 3. **Manufacturer's installation or application instructions.** Manufacturers shall provide installation and application instructions that comply with this subpart:

A. The manufacturer's written instructions describing areas of recommended use, the proper methods of application, and required or recommended safety measures must be provided to each intermediate consumer and installer of all insulation sold for use in Minnesota within ten days of the sale.

B. Intermediate consumers and installers shall provide or make available all written instructions to ultimate consumers.

C. Urea formaldehyde foam insulation installation must conform with Minnesota Statutes, section 325F.18 and Minnesota Rules, part 4620.2100.

Statutory Authority: *MS s 325F.20 subd 1; 325F.21 subds 1,2*

History: *L 1987 c 312 art 1 s 9; 13 SR 532*

7640.0170 LABELING.

Insulation used or offered for sale in Minnesota must be labeled according to the Federal Trade Commission requirements in Code of Federal Regulations, title 16, part 460. All cellulose insulation products must also comply with the United States Consumer Product Safety Commission requirements in Code of Federal Regulations, title 16, part 1209.

Statutory Authority: *MS s 325F.20 subd 1; 325F.21 subds 1,2*

History: *10 SR 1208; L 1987 c 312 art 1 s 9; 13 SR 532*

7640.0180 INCORPORATIONS BY REFERENCE AND CITATIONS.

Subpart 1. **Generally.** Portions of the following standards listed in subparts 2 and 3 which are found throughout this chapter are incorporated by reference; most of the material is subject to frequent change, and all of the standards listed are available to the public at the public libraries listed in subpart 4.

The standards and tests selected are all an integral part of current insulation industry testing procedures. All manufacturers and testing laboratories presently possess or have access to each referenced incorporation.

Subp. 2. **ASTM.** The following ASTM standards are incorporated by reference:

A. ASTM C 168-80a, Standard Definitions of Terms Relating to Thermal Insulation Materials.

B. ASTM C 177-85, Steady State Thermal Transmission Properties by means of the Guarded Hot Plate.

C. ASTM C 236-87, Steady State Thermal Performance of Building Assemblies by means of a Guarded Hot Box.

D. ASTM C 516-80 (reapproved 85), Standard Specification for Vermiculite Loose Fill Thermal Insulation.

E. ASTM C 518-85, Steady State Thermal Transmission Properties by means of the Heat Flow Meter.

F. ASTM C 549-81 (reapproved 86), Standard Specification for Perlite Loose Fill Insulation.

G. ASTM C 553-70 (reapproved 77), Standard Specification for Mineral Fiber Blanket and Felt Insulation.

H. ASTM C 578-87A, Standard Specification for Preformed, Cellular Polystyrene Thermal Insulation.

I. ASTM C 591-85, Standard Specification for Unfaced Preformed Rigid Cellular Polyurethane Thermal Insulation.

J. ASTM C 665-86, Standard Specification for Mineral Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.

K. ASTM C 739-86, Standard Specification for Cellulosic Fiber (woodbase) Loose Fill Thermal Insulation.

L. ASTM C 764-84, Standard Specification for Mineral Fiber Loose Fill Thermal Insulation.

M. ASTM C 951-85, Standard Specification for Urea Formaldehyde Based, Foam in Place Insulation.

N. ASTM C 976-82, Thermal Performance of Building Assemblies by means of a Calibrated Hot Box.

O. ASTM C 1014-84, Standard Specification for Spray Applied Mineral Fiber Thermal or Acoustical Insulation.

P. ASTM E 84-84 Revision A, Surface Burning Characteristics of Building Materials.

Q. ASTM E 605-77 reapproved 1982, Thickness and Density of Sprayed Fire Resistive Material Applied to Structural Members.

R. ASTM C 1029-85, Standard Specification for Spray Applied Rigid Cellular Polyurethane Thermal Insulation.

Subp. 3. **Other incorporation and citations.** The following non ASTM standards are also incorporated by reference:

A. ASHRAE Handbook of Fundamentals, (1981 Edition) by the American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc. (Technical Reference Book).

B. CABO, sections R-305 and R-306 of the One & Two Family Dwelling Code, by the Council of American Building Officials (1983 Edition).

C. Federal Trade Commission requirements in Code of Federal Regulations, title 16, part 460.

D. National Electrical Code, section 410-66 (1987), by the National Fire Protection Association.

E. Consumer Products Safety Commission (CPSC) Interim Safety Standard for Cellulose Insulation, Code of Federal Regulations, title 16, part 1209.

F. Uniform Building Code (1985 Edition), by the International Conference of Building Officials.

G. Federal Specification HH-I-1972 by the General Services Administration.

H. ICBO Evaluation Service Acceptance Criteria for Reflective Foil Insulation (June 1987), of the International Conference of Building Officials.

I. TAPPI Standard No. 512-OM86 by the Technical Association of the Pulp and Paper Industry.

Subp. 4. **Availability.** The standards incorporated by reference are available for public inspection as follows:

A. All documents incorporated by reference in this chapter are available at the following locations:

(1) Minnesota State Law Library; and

(2) James J. Hill Reference Library.

B. All ASTM test standards are available through the following additional locations:

(1) Minneapolis Public Library;

(2) University of Minnesota Engineering Library; and

(3) American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

Statutory Authority: *MS s 325F.20 subd 1; 325F.21 subds 1,2*

History: *10 SR 1208; L 1987 c 312 art 1 s 9; 13 SR 532*