7640.0130 STANDARDS FOR INSULATION MATERIALS AND INSTALLATION.

Subpart 1. [Repealed, 32 SR 2213]

Subp. 2. **General requirements.**

A. All regulated thermal insulation materials must be tested for compliance with the standards according to subpart 3, 4, 5, 6, 7, or 8. An insulation product that has been tested for compliance with another version of an ASTM standard for the product type and is composed of the identical material, for example the same chemical make-up, composition, or physical properties, but that has different dimensional characteristics, such as width, length, or thickness, does not need to undergo additional testing.

B. When the 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, pursuant to Minnesota Statutes, sections 14.055 and 14.056, to use the new test method version.

C. Manufacturers shall have a quality assurance program in place for all regulated thermal insulation products. A quality assurance program must be in place for installers of products whose manufacture is completed at the job site.

Manufacturers and other industry members must maintain an in-house quality assurance program in order for products to meet the required standards.

If a manufactured product fails to meet those required standards, the department shall notify the industry member to pursue corrective measures.

D. Installers must follow manufacturer's installation instructions.

Subp. 3. **Cellulose insulation.**

A. Cellulose insulation must comply with item B, C, or D and meet the following requirements:

(1) The product must comply with the United States Consumer Product Safety Commission Interim Safety Standard for Cellulose Insulation, Code of Federal Regulations, title 16, part 1209 subpart B.

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

(a) The laboratory shall conduct unannounced inspections.

(b) The inspections must be:

i. monthly, if production is 350,000 pounds or more per month; or

ii. quarterly, if production is less than 350,000 pounds per month.

(c) The inspector shall conduct tests on a sample at the plant laboratory for settled density, smoldering combustion, critical radiant flux, and corrosiveness (ph).

(d) The inspector shall examine the manufacturer's quality assurance program.

(3) Containers of cellulose insulation products must carry the label identifying the laboratory performing the follow-up program required by subitem (2).

B. Cellulose fiber in loose-fill form must comply with ASTM C739-05be1, Standard Specification for Cellulosic Fiber Loose-Fill Thermal Insulation. Cellulose loose-fill insulation must be installed in accordance with ASTM C1015-06, Standard Practice for Installation of Cellulosic and Mineral Fiber Loose-Fill Thermal Insulation.

C. Cellulose fiber spray-applied must comply with either:

(1) Type II requirements of ASTM C1149-06e1, Standard Specification for Self-Supported Spray Applied Cellulosic Thermal Insulation; or

(2) ASTM C739-05be1, Standard Specification for Cellulosic Fiber Loose-Fill Thermal Insulation. Design density and thermal resistance must be determined for specimens prepared as spray-applied according to manufacturer's installation instructions.

D. Cellulose fiber stabilized must comply with this item.

(1) Thermal performance, shrinkage, and settling must be determined by sections 5.8, 5.10, and 5.11, respectively of ASTM C1497-04, Standard Specification for Cellulosic Fiber Stabilized Thermal Insulation.

(2) Corrosiveness, critical radiant flux, fungi resistance, water vapor sorption, odor emission, and smoldering combustion must be determined by the appropriate sections of either ASTM C1497-04 or ASTM C739-05be1.

E. 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.

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

A. Mineral fiber in loose fill form must comply with ASTM C764-07, Standard Specification for Mineral Fiber Loose Fill Thermal Insulation.

(1) Mineral fiber loose fill must achieve not less than stated performance at winter design conditions as shown by ASTM C1373-03, Standard Practice for Determination of Thermal Resistance of Attic Insulation Systems Under Simulated Winter Conditions.

(2) Mineral fiber loose fill must be installed in accordance with ASTM C1015-06, Standard Practice for Installation of Cellulosic and Mineral Fiber Loose-Fill Thermal Insulation.

B. Mineral fiber in batts and blankets form must comply with ASTM C665-06, Standard Specification for Mineral Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.

C. Mineral fiber in board form must comply with ASTM C612-04, Standard Specification for Mineral Fiber Block and Board Thermal Insulation.

D. Spray applied mineral fiber must comply with ASTM C1014-03e1, Standard Specification for Spray Applied Mineral Fiber Thermal or Acoustical Insulation.

Subp. 5. **Foam plastic insulation.** All foam plastic insulation must achieve stated performance at 75 degrees Fahrenheit mean temperature. For foam plastic insulations that incorporate blowing agents other than air or pentane, R-value tests must be done on specimens that have been treated in accordance with either the test method identified for the product in items A to F or the Federal Trade Commission R-Value rule, Code of Federal Regulations, title 16, part 460, to fully reflect the effect of aging on the product's R-value.

A. Rigid, cellular polystyrene insulation must comply with either ASTM C578-07, Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation, or item F.

B. Faced polyisocyanurate in board form must comply with either ASTM C1289-07 Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board, or item F.

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

(1) Field-Applied Urea Formaldehyde Based, Foam in Place Insulation and its installation must conform with Minnesota Statutes, section 325F.18, and part 4620.1800.

(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.

D. Spray-applied polyurethane foam must comply with ASTM C1029-05a, Standard Specification for Spray Applied Rigid Polyurethane Thermal Insulation or item F.

E. Rigid cellular phenolic insulation must comply with ASTM C1126-04, Standard Specification for Faced or Unfaced Rigid Cellular Phenolic Thermal Insulation or item F.

F. Foam plastic insulation products that have a current ICC-Evaluation Services Report prepared according to ICC-ES AC12, Acceptance Criteria for Foam Plastic

Insulation or ICC-ES AC377, Acceptance Criteria for Spray-applied Foam Plastic Insulation meet the requirements of this subpart.

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

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

(1) The product must comply with ASTM C549-06, 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 C516-02, 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.**

A. Reflective insulation must meet the requirements of ASTM C1224-03, Standard Specification for Reflective Insulation for Building Applications.

Exception: Products having a current ICC-Evaluation Services Report in accordance with ICC-AC02, Acceptance Criteria for Reflective Foil Insulation.

Reflective foil insulation must be installed according to ASTM C727-01(2007)e1 Standard Practice for Installation and Use of Reflective Insulation in Building Constructions.

B. Radiant barrier products must meet the requirements of ASTM C1313-05, Standard Specification for Sheet Radiant Barriers for Building Construction Applications.

Exception: Products having a current ICC-Evaluation Services Report in accordance with ICC-EG220, Evaluation Guideline for Sheet Radiant Barriers.

Radiant barriers must be installed according to ASTM C1158-05, Standard Practice for Installation and Use of Radiant Barrier Systems (RBS) in Building Construction.

Subp. 8. **Other insulation.** Insulation other than insulation specified in subparts 1 to 7 must comply with the requirements of this subpart. The thermal insulation material chosen for testing must be representative of material produced by the manufacturer during normal production runs.

Exceptions: Cotton fiber insulation products must comply with either items A to G or ICC-EG81, Evaluation Guideline for Cotton Fiber Insulation. Polyester loose-fill

and blanket insulation products must comply with either items A to G or ICC-AC187, Acceptance Criteria for Polyester Loose-Fill and Blanket Insulations.

A. Thermal performance characteristics must be determined in accordance with this item.

(1) One of the following test methods must be used: ASTM C177-04, ASTM C518-04, ASTM C1199-00, or ASTM C1114-06. Manufacturers shall select the appropriate test method for the material unless a specific method or procedure is referenced within a materials specification.

(2) For foam plastic insulations that incorporate blowing agents other than air or pentane, R-value tests must be done on specimens that have been treated in accordance with the Federal Trade Commission R-Value rule, Code of Federal Regulations, title 16, part 460, to fully reflect the effect of aging on the product's R-value.

(3) Thermal conductivity measurement must be performed at 75 degrees Fahrenheit mean temperature.

B. Water or moisture absorption must be determined according to one of the following methods: ASTM C272-01; ASTM C553-02, section 14; ASTM C739-05, section 12; or ASTM D2842-06.

C. If the material is foam in place, a test must be conducted to determine the response to thermal and humid aging in accordance with ASTM C1029-05, section 10.6.

D. If the material contains formaldehyde, the product and installation must conform with Minnesota Statutes, section 325F.18, and part 4620.1800.

E. The product must not produce a detectable odor that is classified as objectionable and strong or very strong by ASTM C1304-95 (2001), Standard Test Method for Assessing the Odor Emission of Thermal Insulation Materials.

F. Surface burning characteristics must be determined in accordance with ASTM E84-07b, "Standard Test Method for Surface Burning Characteristics of Building Materials," or Underwriters Laboratories Standard UL 723, "Standard for Fire Tests of Building Construction and Materials."

G. The manufacturer shall provide a statement that the insulation and its intended uses are safe and effective and do not pose a threat to human health. The manufacturer shall disclose any known or reasonably suspected attributes of the product that will adversely affect its safety or effectiveness.

Statutory Authority: *MS s 325F.20; 325F.21*

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; 13 SR 2982; 14 SR 2633; 16 SR 2026; 32 SR 2213*

Published Electronically: *July 2, 2008*