

1.1 **Department of Commerce**

1.2 **Proposed Permanent Rules Relating to Minnesota Thermal Insulation Standards**

1.3 **7640.0100 AUTHORITY AND PURPOSE; INCORPORATIONS BY**
1.4 **REFERENCE.**

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

1.10 Subp. 2. **Purpose.**This chapter applies to the manufacture, distribution, sale, and
1.11 installation of thermal insulation material in residential buildings within Minnesota. This
1.12 chapter sets minimum standards for the product quality and safety of thermal insulation
1.13 materials specified in this chapter, minimum procedures for the testing of insulation
1.14 materials under these standards, and minimum standards for installation of those products.

1.15 Subp. 3. **Incorporations by reference.**This chapter incorporates numerous
1.16 standards by reference that are published by ASTM, Conshohocken, Pennsylvania. This
1.17 chapter also incorporates an ANSI/ISO/ASQ standard by reference, published by the
1.18 American Society for Quality, Milwaukee, Wisconsin. This chapter also incorporates
1.19 an ICC-Evaluation Services standard by reference, published by the ICC-Evaluation
1.20 Service, Whittier, California. The standards and tests incorporated by reference are all
1.21 an integral part of current insulation industry testing procedures. All manufacturers and
1.22 testing laboratories presently possess or have access to each referenced incorporation.

1.23 All of the incorporated standards are subject to frequent change. Copies of all
1.24 standards incorporated by reference are available in the Office of the Commissioner of
1.25 Commerce and through interlibrary loan from the Minnesota State Law Library.

1.26 **7640.0110 APPLICABILITY AND CONDUCT.**

2.1 Subpart 1. ~~Types of Residential insulation products covered~~ regulated.

2.2 A. This chapter applies to thermal insulation products for use in residential
2.3 buildings within Minnesota. Residential buildings covered are those that are not more than
2.4 three stories in height and contain no conditioned common space that is shared between
2.5 dwellings, and each dwelling unit contains a separate means of egress.

2.6 Exception: insulation installed in prefabricated buildings.

2.7 B. These Insulation products regulated by this chapter include:

2.8 (1) insulation for walls, ceilings, floors, foundation walls, pipe insulation,
2.9 duct insulation, and retrofit water heater blanket insulation.; and

2.10 (2) any material or assembly of materials designed to provide resistance to
2.11 heat flow in residential building structures, including but not limited to mineral fibrous,
2.12 mineral cellular, organic fibrous, organic and plastic cellular and reflective materials,
2.13 whether in loose fill, flexible, rigid, or semirigid form, and any material advertised for use
2.14 in residential buildings as having energy-saving value by virtue of its thermal resistance
2.15 (R value) or emissivity properties.

2.16 ~~Not included are~~ Exception: insulation used in manufactured prefabricated buildings,
2.17 appliances, windows, and doors.

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

2.22 A. Thermal insulation materials sold, distributed, or installed in Minnesota
2.23 residential buildings must be demonstrated by test to conform with the standards set
2.24 forth in part 7640.0130.

3.1 B. Industry members installing thermal insulation shall follow manufacturer's
3.2 written application instructions.

3.3 C. Insulation used for exterior below-grade application must be recommended
3.4 by the manufacturer for exterior below-grade application.

3.5 D. Industry members must comply with the requirements of the United States
3.6 Federal Trade Commission in Code of Federal Regulations, title 16, part 460.

3.7 E. Any false, misleading, or unsubstantiated statements in a sales presentation,
3.8 or on any label, product literature, or product intended for the purchaser, as identified in
3.9 Minnesota Statutes, section 325F.22, 325F.67, or 325F.69, subdivision 1, are subject to the
3.10 state's remedies provided in Minnesota Statutes, sections 325F.24 and 325F.70.

3.11 Subp. 3. ~~**Affected parties Retail sales.**~~ ~~This chapter applies to industry members,~~
3.12 ~~as defined in part 7640.0120.~~ Retailers of residential thermal insulation products must
3.13 make available to each purchaser the manufacturer's written instructions describing the
3.14 product's recommended use, proper application methods, and required or recommended
3.15 installation safety measures. "Make available to each purchaser" means either providing
3.16 the required materials or a conspicuous posting located where customers procure products
3.17 stating that the manufacturer's written instructions describing the product's recommended
3.18 use, proper application methods, and required or recommended installation safety
3.19 measures are immediately available on request.

3.20 Subp. 4. [See repealer.]

3.21 Subp. 5. [Repealed, 14 SR 2633]

3.22 **7640.0120 DEFINITIONS.**

3.23 Subpart 1. **Applicability.** For the purposes of this chapter, the following definitions
3.24 of terms apply. Technical, scientific, and engineering terms undefined by this part have

4.1 the meanings given in ASTM ~~C-168~~ C168-05a, Standard Definitions of Terms Relating
4.2 to Thermal Insulation Materials.

4.3 Subp. 2. [See repealer.]

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

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

4.9 B. ~~American Association for Laboratory Accreditation, Gaithersburg,~~
4.10 ~~Maryland; or~~

4.11 ~~C.~~ Standards Council of Canada, Ottawa, Ontario, Canada.

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

4.16 Subp. 4. [See repealer.]

4.17 Subp. 5. [See repealer.]

4.18 Subp. 6. [See repealer.]

4.19 Subp. 7. [See repealer.]

4.20 Subp. 8. [See repealer.]

4.21 Subp. 9. [See repealer.]

4.22 Subp. 10. [Repealed, 13 SR 2982]

4.23 Subp. 11. ~~**FTC ICC-Evaluation Services Report.**~~ "FTC" means the United States
4.24 Federal Trade Commission, Code of Federal Regulations, title 16, part 460, or a standard

5.1 ~~issued for thermal insulation materials by that commission.~~ ICC-Evaluation Services
 5.2 Report means an evaluation service report prepared in accordance with an acceptance
 5.3 criteria approved by the ICC-Evaluation Service, Whittier, California.

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

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

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

5.8 ~~C.~~ B. contractors and applicators who sell and install residential insulation; ~~and~~

5.9 ~~D.~~ C. those engaged in the marketing of insulation who are, or who purport to
 5.10 act as, agents of manufacturers or suppliers of insulation; and

5.11 D. installers of insulation the manufacture of which is completed at the job site
 5.12 who significantly alter the manufacturer's installation instructions. These installers are
 5.13 considered manufacturers for the purpose of this chapter.

5.14 Subp. 13. [See repealer.]

5.15 Subp. 14. [See repealer.]

5.16 Subp. 15. [See repealer.]

5.17 Subp. 16. [See repealer.]

5.18 [For text of subp 17, see M.R.]

5.19 Subp. 18. [See repealer.]

5.20 Subp. 19. [See repealer.]

5.21 Subp. 19a. **Quality assurance program.** "Quality assurance program" means the
 5.22 collective set of plans, activities, and events that are provided to ensure that the product or
 5.23 service will satisfy given needs. A quality assurance program must conform to "~~Generic~~
 5.24 ~~Guidelines for Quality Systems,~~" American National Standards Institute - American

6.1 ~~Society for Quality Control standard ANSI/ASQC Z-1.15-1979~~ ANSI/ISO/ASQ
6.2 Q9001-2000: "Quality Management Systems Requirements" or an equivalent standard.

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

6.7 Subp. 20a. [See repealer.]

6.8 Subp. 20b. [See repealer.]

6.9 Subp. 21. [See repealer.]

6.10 Subp. 22. [See repealer.]

6.11 Subp. 23. [See repealer.]

6.12 Subp. 24. [See repealer.]

6.13 Subp. 25. [See repealer.]

6.14 Subp. 26. [Repealed, 16 SR 2026]

6.15 **7640.0130 STANDARDS FOR INSULATION MATERIALS STANDARDS AND**
6.16 **INSTALLATION.**

6.17 Subpart 1. [See repealer.]

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

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

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

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

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

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

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

7.11 ~~B. A. All regulated thermal insulation materials must be tested for compliance~~
7.12 ~~with the standards according to subitems (1) to (4) subpart 3, 4, 5, 6, 7, or 8. An insulation~~
7.13 ~~product that has been tested for compliance with another version of an ASTM standard~~
7.14 ~~for the product type and is composed of the identical material, for example the same~~
7.15 ~~chemical make-up, composition, or physical properties, but that has different dimensional~~
7.16 ~~characteristics, such as width, length, or thickness, does not need to undergo additional~~
7.17 ~~testing.~~

7.18 ~~(1) Required testing must be performed by an approved laboratory within~~
7.19 ~~two years of the filing of the initial report required by part 7640.0150.~~

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

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

7.24 ~~(4) Insulation must have flammability characteristics in accordance with~~
7.25 ~~the Uniform Building Code, sections 1712 and 1713, for its intended uses.~~

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

8.4 ~~(1) One of the following test methods must be used: ASTM C 177, ASTM~~
8.5 ~~C 236, ASTM C 518, ASTM C 976, or ASTM C 1114. Manufacturers shall select~~
8.6 ~~the appropriate test method for the material unless a specific method or procedure is~~
8.7 ~~referenced within a materials specification. Thermal conductivity measurements at mean~~
8.8 ~~temperatures other than 75 degrees Fahrenheit are not required.~~

8.9 ~~(2) R-value testing must be performed at the insulation's representative~~
8.10 ~~thickness, and be consistent with the requirements of Code of Federal Regulations, title~~
8.11 ~~16, part 460. Unit R per inch must be derived from R-value testing performed to its~~
8.12 ~~representative thickness.~~

8.13 ~~(3) For foam plastic insulations that incorporate blowing agents other than~~
8.14 ~~air or pentane, R-value tests must be done on samples that have been treated to fully reflect~~
8.15 ~~the effect of aging on the product's R-value. If criteria for treating samples to reflect the~~
8.16 ~~effect of aging are not specified within a material specification, the samples must be~~
8.17 ~~treated for either 90 days at 140 ±2 degrees Fahrenheit (60 ±1 degree centigrade) or six~~
8.18 ~~months at ambient conditions prior to conditioning and thermal resistance testing. During~~
8.19 ~~treating, air circulation must be provided so that all surfaces of the insulation are exposed~~
8.20 ~~to the surrounding environmental conditions.~~

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

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

10.1 loose-fill insulation must be installed in accordance with ASTM C1015-06, Standard
10.2 Practice for Installation of Cellulosic and Mineral Fiber Loose-Fill Thermal Insulation.

10.3 B. C. Cellulose fiber spray-applied must comply with ~~ASTM C 1149~~. either:

10.4 (1) ~~If the product in loose-fill form meets the criteria in ASTM C 1149,~~
10.5 ~~section 4.8, for corrosion, then a test of the product in spray-applied form is unnecessary.~~
10.6 Type II requirements of ASTM C1149-06e1, Standard Specification for Self-Supported
10.7 Spray Applied Cellulosic Thermal Insulation; or

10.8 (2) ~~If the product in loose-fill form meets the criteria in ASTM C 1149,~~
10.9 ~~section 4.7, for fungi resistance, then a test of the product in spray-applied form is~~
10.10 ~~unnecessary.~~ ASTM C739-05be1, Standard Specification for Cellulosic Fiber Loose-Fill
10.11 Thermal Insulation. Design density and thermal resistance must be determined for
10.12 specimens prepared as spray-applied according to manufacturer's installation instructions.

10.13 D. Cellulose fiber stabilized must comply with this item.

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

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

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

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

10.24 A. Mineral fiber in loose fill form must comply with ~~ASTM C 764~~ C764-07,
10.25 Standard Specification for Mineral Fiber Loose Fill Thermal Insulation.

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

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

11.8 B. Mineral fiber in batts and blankets form must comply with ASTM ~~C-665~~
11.9 C665-06, Standard Specification for Mineral Fiber Blanket Thermal Insulation for Light
11.10 Frame Construction and Manufactured Housing.

11.11 C. Mineral fiber in board form must ~~meet the following requirements:~~ comply
11.12 with ASTM C612-04, Standard Specification for Mineral Fiber Block and Board Thermal
11.13 Insulation.

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

11.19 ~~(2) Thermal performance and surface burning characteristics must be~~
11.20 ~~determined in accordance with subpart 2.~~

11.21 D. Spray applied mineral fiber must comply with ASTM ~~C-1014~~ C1014-03e1,
11.22 Standard Specification for Spray Applied Mineral Fiber Thermal or Acoustical Insulation.

11.23 Subp. 5. **Foam plastic insulation.** All foam plastic insulation must achieve stated
11.24 performance at 75 degrees Fahrenheit mean temperature. For foam plastic insulations
11.25 that incorporate blowing agents other than air or pentane, R-value tests must be done on

12.1 specimens that have been treated in accordance with ASTM C1303-07, Standard Test
12.2 Method for Predicting Long-Term Thermal Resistance of Closed-Cell Foam Insulation to
12.3 fully reflect the effect of aging on the product's R-value.

12.4 A. ~~Molded expanded~~ Rigid, cellular polystyrene insulation must comply with
12.5 either ASTM C 578 C578-07, Standard Specification for Preformed Rigid, Cellular
12.6 Polystyrene Thermal Insulation and the accompanying Supplementary Requirements,
12.7 or item F.

12.8 B. ~~Extruded Polystyrene must comply with ASTM C 578, Standard~~
12.9 ~~Specification for Preformed, Cellular Polystyrene Thermal Insulation and the~~
12.10 ~~accompanying Supplementary Requirements.~~

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

12.14 ~~Exception: Aged R-value must be 5.6 per inch or greater at 75 degrees Fahrenheit.~~

12.15 D. ~~B. Faced polyurethane and polyisocyanurate in board form must comply~~
12.16 ~~with Federal Specification HH-I-1972, dated August 21, 1981, Insulation Board Thermal~~
12.17 ~~Faced Polyurethane or Polyisocyanurate either ASTM C1289-07 Standard Specification~~
12.18 ~~for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board, or item F.~~

12.19 E. ~~C.~~ Field-applied urea formaldehyde foam must meet the following
12.20 requirements:

12.21 (1) ~~The product must comply with ASTM C 951, Standard Specification~~
12.22 ~~for Field-Applied Urea Formaldehyde Based, Foam in Place Insulation and its installation~~
12.23 ~~must conform with Minnesota Statutes, section 325F.18, and part 4620.1800.~~

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

13.4 ~~F. D.~~ Spray-applied urethane must comply with ASTM ~~C-1029~~ C1029-05a,
13.5 Standard Specification for Spray Applied Rigid Polyurethane Thermal Insulation or item F.

13.6 ~~G. E.~~ Rigid cellular phenolic insulation must comply with ASTM ~~C-1126~~
13.7 C1126-04, Standard Specification for Faced or Unfaced Rigid Cellular Phenolic Thermal
13.8 Insulation or item F.

13.9 ~~H. F.~~ Foam plastic insulation products that ~~conforms to all requirements~~
13.10 ~~of ICBO Evaluation Service Acceptance Criteria for Foam Plastic for the intended~~
13.11 ~~application meets~~ have a current ICC-Evaluation Services Report prepared according to
13.12 ICC-ES AC12, Acceptance Criteria for Foam Plastic Insulation meet the requirements
13.13 ~~of part 7640.0130~~ this subpart.

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

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

13.16 (1) The product must comply with ASTM ~~C-549~~ C549-06, Standard
13.17 Specification for Perlite Loose Fill Insulation.

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

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

13.21 (1) The product must comply with ASTM ~~C-516~~ C516-02, Standard
13.22 Specification for Vermiculite Loose Fill Thermal Insulation.

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

14.1 Subp. 7. **Reflective foil insulation.**

14.2 A. ~~The following requirements apply to Reflective foil insulation: must meet~~
14.3 ~~the requirements of ASTM C1224-03, Standard Specification for Reflective Insulation~~
14.4 ~~for Building Applications.~~

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

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

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

14.16 ~~(2) Except for radiant barrier products, thermal performance for single or~~
14.17 ~~multiple sheet sections must be determined according to ASTM C 976 or ASTM C 236.~~
14.18 ~~The test panel must consist of a panel using a wooden frame of two- by six-inch boards~~
14.19 ~~16 inches apart and at least 24 inches long, covered with a minimum of 1/2-inch gypsum~~
14.20 ~~wallboard or 1/2-inch plywood on each side. For tests in the vertical position, the test~~
14.21 ~~panel must be at least seven feet high at a mean temperature of 75 degrees Fahrenheit, with~~
14.22 ~~a temperature differential of 30 degrees Fahrenheit. The resultant thermal performance~~
14.23 ~~must be based upon the insulation and the associated air spaces.~~

14.24 ~~(3) Layers of insulation composed of unsupported foil that is exposed~~
14.25 ~~must have a minimum thickness of 0.0004 inch. Unsupported foil that is sandwiched in~~

15.1 multilayer sheet must have a minimum thickness of 0.00035 inch. Foil bonded to kraft
15.2 paper must have a minimum thickness of 0.00025 inch.

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

15.8 (5) Foil must be folded in accordance with TAPPI Standard No.
15.9 512-OM86, and the folded edge smoothed using a light finger pressure. The finished
15.10 insulation must not crack when folded to 180-degree bend at a temperature of 70 degrees
15.11 Fahrenheit (plus or minus two degrees Fahrenheit) and a relative humidity of 50 percent
15.12 (plus or minus five percent).

15.13 (6) Reflective foil insulation that conforms to all requirements of ICBO
15.14 Evaluation Service Acceptance Criteria for Reflective Foil Insulation, June 1987 (with
15.15 the exception that thermal performance must be tested in accordance with item B, C, or
15.16 D), meets the Minnesota testing standards in this subpart.

15.17 B. Reflective insulation systems with more than one sheet must be tested
15.18 according to ASTM C 976 or ASTM C 236 to determine the thermal performance for heat
15.19 flow in horizontal, upward, and downward directions. The tested thermal performance in
15.20 the heat-flow direction or directions of the intended application must be labeled on the
15.21 material. The manufacturer shall test once in each direction of intended application;
15.22 except that, for products labeled with only one heat-flow direction, the manufacturer shall
15.23 test two samples in that direction. The tests must be done at a mean temperature of 75
15.24 degrees Fahrenheit, with a temperature differential of 30 degrees Fahrenheit.

15.25 C. A single sheet reflective insulation system must be tested according to
15.26 ASTM E 408 to determine its emissivity. To get the R-value for the measured emissivity

16.1 ~~and a specific air space and direction of heat flow, Table 2 in chapter 22 of the ASHRAE~~
16.2 ~~Handbook of Fundamentals must be used. The R-value shown for 50 degrees Fahrenheit~~
16.3 ~~must be used, with a temperature differential of 30 degrees Fahrenheit.~~

16.4 ~~D. B.~~ Radiant barrier products must meet the requirements of ~~the United~~
16.5 ~~States Federal Trade Commission in Code of Federal Regulations, title 16, section 460.5,~~
16.6 ~~paragraphs (b) and (c) ASTM C1313-05, Standard Specification for Sheet Radiant Barriers~~
16.7 ~~for Building Construction Applications.~~

16.8 ~~If the R-value listed on the Federal Trade Commission fact sheet is not that for a~~
16.9 ~~radiant barrier, the Federal Trade Commission fact sheet must also include the following~~
16.10 ~~statement: "These R-values are not for a radiant barrier and are likely to differ when the~~
16.11 ~~product is installed as a radiant barrier."~~

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

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

16.16 Subp. 8. **Other insulation.** Insulation other than insulation specified in subparts
16.17 1 to 7 must comply with the requirements ~~in items A to F~~ of this subpart. The thermal
16.18 insulation material chosen for testing must be representative of material produced by the
16.19 manufacturer during normal production runs.

16.20 A. Thermal performance ~~and surface burning~~ characteristics must be determined
16.21 in accordance with ~~subpart 2~~ this item.

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

17.1 (2) For foam plastic insulations that incorporate blowing agents other
17.2 than air or pentane, R-value tests must be done on specimens that have been treated in
17.3 accordance with ASTM C1303-07, Standard Test Method for Predicting Long-Term
17.4 Thermal Resistance of Closed-Cell Foam Insulation, to fully reflect the effect of aging
17.5 on the product's R-value.

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

17.8 B. Water or moisture absorption must be determined according to one of the
17.9 following methods:

17.10 (1) ~~ASTM C 272~~ C272-01;

17.11 (2) ~~ASTM C 553~~ C553-02, section 14;

17.12 (3) ~~ASTM C 739~~ C739-05, section 12; or

17.13 (4) ~~ASTM D 2842~~ D2842-06.

17.14 C. If the material is foam in place, a test ~~of~~ must be conducted to determine the
17.15 shrinkage using ASTM C 951-83, section 8.5 must be used response to thermal and humid
17.16 aging in accordance with ASTM C1029-05, section 10.6.

17.17 D. If the material contains formaldehyde, ~~a formaldehyde content test is~~
17.18 ~~necessary~~ the product and installation must conform with Minnesota Statutes, section
17.19 325F.18, and part 4620.1800.

17.20 E. The product must not produce a detectable odor that is classified as
17.21 objectionable and strong or very strong by ~~two or more panel members when tested in~~
17.22 ~~accordance with ASTM C 739, section 13, or ASTM C 553, section 15~~ ASTM C1304-95
17.23 (2001), Standard Test Method for Assessing the Odor Emission of Thermal Insulation
17.24 Materials.

18.1 F. Surface burning characteristics must be determined in accordance with
18.2 ASTM E84-07b.

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

18.7 **7640.0150 REPORTING REQUIREMENTS.**

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

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

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

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

18.20 ~~D. Insulation products identified in part 7640.0130, subparts 3 to 8 that are~~
18.21 ~~composed of the identical material, for example the same chemical make-up, composition,~~
18.22 ~~or physical properties, but that have different dimensional characteristics, such as width,~~
18.23 ~~length, or thickness, need not undergo additional testing by the same manufacturer once~~
18.24 ~~the initial similar product meets the necessary requirements.~~

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

19.4 The initial report must include the following:

19.5 [For text of items A to C, see M.R.]

19.6 D. product literature, including installation instructions, a copy of the label
19.7 affixed to the product, a copy of the product's material safety data sheet, and a list of the
19.8 intended uses of the product, including whether the product is recommended for exterior
19.9 below-grade application;

19.10 [For text of item E, see M.R.]

19.11 F. a report demonstrating the performance of the product, including:

19.12 (1) results of initial tests, as required by part 7640.0130, identifying tests
19.13 performed, name of laboratory, testing dates, and test results; or

19.14 (2) a current ICC-Evaluation Services Report for the product.

19.15 ~~The report for "other" insulation products regulated by part 7640.0130, subpart 8,~~
19.16 ~~must also include the products' Material Safety Data Sheet;~~

19.17 [For text of items G to I, see M.R.]

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

19.19 [For text of items A and B, see M.R.]

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

19.21 ~~(1) Upon the request of the commissioner, the manufacturer, a~~
19.22 ~~representative of the manufacturer, or the testing laboratory shall provide all applicable~~
19.23 ~~information pertaining to the testing program. The information must include test~~
19.24 ~~procedures and protocols, test equipment specifications and calibrations, the qualifications~~

20.1 ~~of test laboratory personnel exclusive of personal identifiers, full test data, and proof~~
20.2 ~~of an approved laboratory's certification.~~

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

20.6 **REPEALER.** Minnesota Rules, parts 7640.0110, subpart 4; 7640.0120, subparts 2, 4, 5,
20.7 6, 7, 8, 9, 13, 14, 15, 16, 18, 19, 20a, 20b, 21, 22, 23, 24, and 25; 7640.0130, subpart 1;
20.8 7640.0140; 7640.0160; 7640.0170; and 7640.0180, are repealed.