

1.1 **Department of Commerce**

1.2 **Proposed Permanent Rules Relating to Commerce; Thermal Insulation Standards;**
1.3 **Materials and Installation**

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

1.5 [For text of subps 1 and 2, see M.R.]

1.6 Subp. 3. **Incorporations by reference.** This chapter incorporates numerous standards
1.7 by reference that are published by ASTM, Conshohocken, Pennsylvania. This chapter also
1.8 incorporates an ANSI/ISO/ASQ standard by reference, published by the American Society
1.9 for Quality, Milwaukee, Wisconsin. This chapter also incorporates an ICC-Evaluation
1.10 Services standard by reference, published by the ICC-Evaluation Service, Whittier,
1.11 California. This chapter also incorporates an ASHRAE standard by reference, published
1.12 by ASHRAE, Atlanta, Georgia. The standards and tests incorporated by reference are all
1.13 an integral part of current insulation industry testing procedures. All manufacturers and
1.14 testing laboratories presently possess or have access to each referenced incorporation.

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

1.18 **7640.0110 APPLICABILITY AND CONDUCT.**

1.19 [For text of subp 1, see M.R.]

1.20 Subp. 2. **Conduct.**

1.21 [For text of items A to E, see M.R.]

1.22 F. If any representation is made that a product to be installed in Minnesota
1.23 residential buildings will affect heat flow or energy savings, the representation must be
1.24 based on the building envelope climate criteria for Minnesota as set forth in the American

2.1 Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) Standard
 2.2 90.1-2010.

2.3 [For text of subps 3 to 5, see M.R.]

2.4 **7640.0120 DEFINITIONS.**

2.5 Subpart 1. **Applicability.** For the purposes of this chapter, the following definitions
 2.6 of terms apply. Technical, scientific, and engineering terms undefined by this part have the
 2.7 meanings given in ASTM ~~C168-05a~~ C168-13, Standard Definitions of Terms Relating
 2.8 to Thermal Insulation Materials.

2.9 [For text of subps 2 to 26, see M.R.]

2.10 **7640.0130 STANDARDS FOR INSULATION MATERIALS AND INSTALLATION.**

2.11 [For text of subps 1 and 2, see M.R.]

2.12 Subp. 3. **Cellulose insulation.**

2.13 [For text of item A, see M.R.]

2.14 B. Cellulose fiber in loose-fill form must comply with ASTM ~~C739-05be1~~
 2.15 C739-11, Standard Specification for Cellulosic Fiber Loose-Fill Thermal Insulation.
 2.16 Cellulose loose-fill insulation must be installed in accordance with ASTM
 2.17 C1015-06(2011)e1, Standard Practice for Installation of Cellulosic and Mineral Fiber
 2.18 Loose-Fill Thermal Insulation.

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

2.20 (1) Type II requirements of ASTM ~~C1149-06e1~~ C1149-11, Standard
 2.21 Specification for Self-Supported Spray Applied Cellulosic Thermal Insulation; ~~or,~~

2.22 (2) ~~ASTM C739-05be1, Standard Specification for Cellulosic Fiber~~
 2.23 ~~Loose-Fill Thermal Insulation. Design density and thermal resistance must be determined~~

3.1 ~~for specimens prepared as spray-applied according to manufacturer's installation~~
3.2 ~~instructions.~~

3.3 D. Cellulose fiber stabilized must comply with ~~this item.~~

3.4 (1) ~~Thermal performance, shrinkage, and settling must be determined~~
3.5 ~~by sections 5.8, 5.10, and 5.11, respectively of ASTM ~~C1497-04~~ C1497-12, Standard~~
3.6 ~~Specification for Cellulosic Fiber Stabilized Thermal Insulation.~~

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

3.10 E. Cellulosic fiber insulating board must comply with ASTM C208-12,
3.11 Standard Specification for Cellulosic Fiber Insulating Board.

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

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

3.16 A. Mineral fiber in loose fill form must comply with ASTM ~~C764-07~~ C764-11,
3.17 Standard Specification for Mineral Fiber Loose Fill Thermal Insulation.

3.18 (1) Mineral fiber loose fill must achieve not less than stated performance at
3.19 winter design conditions as shown by ASTM ~~C1373-03~~ C1373/C1373M-11, Standard
3.20 Practice for Determination of Thermal Resistance of Attic Insulation Systems Under
3.21 Simulated Winter Conditions.

3.22 (2) Mineral fiber loose fill must be installed in accordance with ASTM
3.23 ~~C1015-06~~ C1015-06(2011)e, Standard Practice for Installation of Cellulosic and Mineral
3.24 Fiber Loose-Fill Thermal Insulation.

4.1 B. Mineral fiber in batts and blankets form must comply with ASTM ~~C665-06~~
4.2 C665-12, Standard Specification for Mineral Fiber Blanket Thermal Insulation for Light
4.3 Frame Construction and Manufactured Housing. Mineral fiber in batts and blankets must
4.4 be installed in accordance with ASTM C1320-10, Standard Practice for Installation of
4.5 Mineral Fiber Batt and Blanket Thermal Insulation for Light Frame Construction.

4.6 C. Mineral fiber in board form must comply with ASTM ~~C612-04~~ C612-10,
4.7 Standard Specification for Mineral Fiber Block and Board Thermal Insulation.

4.8 D. Spray applied mineral fiber must comply with ASTM ~~C1014-03e1~~
4.9 C1014-08(2013), Standard Specification for Spray Applied Mineral Fiber Thermal ~~or~~
4.10 Acoustical and Sound Absorbing Insulation.

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

4.17 A. Rigid, cellular polystyrene insulation must comply with either ASTM
4.18 ~~C578-07~~ C578-12b, Standard Specification for Rigid, Cellular Polystyrene Thermal
4.19 Insulation, or item F.

4.20 B. Faced polyisocyanurate in board form must comply with either ASTM
4.21 ~~C1289-07~~ C1289-13e1, Standard Specification for Faced Rigid Cellular Polyisocyanurate
4.22 Thermal Insulation Board, or item F.

4.23 [For text of item C, see M.R.]

5.1 D. Spray-applied polyurethane foam must comply with either ASTM
 5.2 ~~C1029-05a~~ C1029-13, Standard Specification for Spray Applied Rigid Polyurethane
 5.3 Thermal Insulation, or item F.

5.4 E. Rigid cellular phenolic insulation must comply with either ASTM ~~C1126-04~~
 5.5 C1126-13, Standard Specification for Faced or Unfaced Rigid Cellular Phenolic Thermal
 5.6 Insulation, or item F.

5.7 [For text of item F, see M.R.]

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

5.9 [For text of item A, see M.R.]

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

5.11 (1) The product must comply with ASTM ~~C516-02~~ C516-08, Standard
 5.12 Specification for Vermiculite Loose Fill Thermal Insulation.

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

5.15 Subp. 7. **Reflective foil insulation.**

5.16 A. Reflective insulation for building applications must meet the requirements
 5.17 of either ASTM ~~C1224-03~~ C1224-11, Standard Specification for Reflective Insulation
 5.18 for Building Applications:

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

5.21 Reflective foil insulation must be installed according to ASTM ~~C727-01(2007)e1~~
 5.22 C727-12, Standard Practice for Installation and Use of Reflective Insulation in Building
 5.23 Constructions.

6.1 B. Radiant barrier products must meet the requirements of either ASTM
6.2 ~~C1313-05~~ C1313/C1313M-13, Standard Specification for Sheet Radiant Barriers for
6.3 Building Construction Applications:

6.4 ~~Exception: Products having a current ICC-Evaluation Services Report in accordance~~
6.5 ~~with,~~ or ICC-EG220, Evaluation Guideline for Sheet Radiant Barriers. Radiant barriers
6.6 must be installed according to ASTM C1158-05, Standard Practice for Installation and
6.7 Use of Radiant Barrier Systems (RBS) in Building Construction.

6.8 Subp. 7a. Cotton fiber insulation products. Cotton fiber insulation products must
6.9 meet the criteria of ICC-EG81, Evaluation Guideline for Cotton Fiber Insulation.

6.10 Subp. 7b. Polyester loose-fill and blanket insulation products. Polyester loose-fill
6.11 and blanket insulation products must meet the criteria of ICC-AC187, Acceptance Criteria
6.12 for Polyester Loose-Fill and Blanket Insulations.

6.13 Subp. 7c. Vacuum insulation panel insulation. Vacuum insulation panel insulation
6.14 must meet the requirements of ASTM C1484-10, Standard Specification for Vacuum
6.15 Insulation Panels.

6.16 Subp. 8. **Other insulation.** Insulation other than insulation specified in subparts 1 to
6.17 ~~7~~ 7c must comply with the requirements of this subpart. The thermal insulation material
6.18 chosen for testing must be representative of material produced by the manufacturer during
6.19 normal production runs.

6.20 ~~Exceptions: Cotton fiber Insulation products must comply with either items A to G~~
6.21 ~~or ICC-EG81, Evaluation Guideline for Cotton Fiber Insulation. Polyester loose-fill~~
6.22 ~~and blanket insulation products must comply with either items A to G or ICC-AC187,~~
6.23 ~~Acceptance Criteria for Polyester Loose-Fill and Blanket Insulations.~~

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

7.1 (1) One of the following test methods must be used: ASTM ~~C177-04~~
7.2 C177-13, ASTM ~~C518-04~~ C518-10, ASTM ~~C1199-00~~ C1199-12, or ASTM C1114-06.
7.3 Manufacturers shall select the appropriate test method for the material unless a specific
7.4 method or procedure is referenced within a materials specification.

7.5 [For text of subitems (2) and (3), see M.R.]

7.6 B. Water or moisture absorption must be determined according to one of the
7.7 following methods: ASTM ~~C272-04~~ C272/C272M-12; ASTM ~~C553-02~~ C553-11, section
7.8 14; ASTM ~~C739-05~~ C739-11, section 12; or ASTM ~~D2842-06~~ D2842-12.

7.9 C. If the material is foam in place, a test must be conducted to determine the
7.10 response to thermal and humid aging in accordance with ASTM ~~C1029-05~~ C1029-13,
7.11 section 10.6.

7.12 [For text of item D, see M.R.]

7.13 E. The product must not produce a detectable odor that is classified as
7.14 objectionable and strong or very strong by ASTM ~~C1304-95 (2001)~~ C1304-08, Standard
7.15 Test Method for Assessing the Odor Emission of Thermal Insulation Materials.

7.16 F. Surface burning characteristics must be determined in accordance with
7.17 ASTM ~~E84-07b~~ E84-13a, "Standard Test Method for Surface Burning Characteristics of
7.18 Building Materials," or Underwriters Laboratories Standard UL 723, "Standard for Fire
7.19 Tests of Building Construction and Materials."

7.20 [For text of item G, see M.R.]

7.21 **7640.0150 REPORTING REQUIREMENTS.**

7.22 Subpart 1. [See repealer.]

7.23 Subp. 2. **Initial report Reporting.** ~~An industry member shall file an initial report at~~
7.24 ~~least 30 days before offering for sale in the state any new products, significant changes~~

8.1 ~~to a product already filed, or changes to product installation instructions to a product~~
8.2 ~~already filed.~~

8.3 ~~The initial report must include the following:~~ Upon request by the commissioner,
8.4 an industry member who offers for sale in this state any products subject to this part
8.5 shall provide the following information:

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

8.7 D. product literature, including installation instructions and promotional
8.8 materials, a copy of the label affixed to the product, a copy of the product's material safety
8.9 data sheet, and a list of the intended uses of the product, including whether the product is
8.10 recommended for exterior below-grade application;

8.11 [For text of items E to I, see M.R.]

8.12 Subp. 3. [See repealer.]

8.13 **REPEALER.** Minnesota Rules, part 7640.0150, subparts 1 and 3, are repealed.