



Designation: C 665 – 01

Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing¹

This standard is issued under the fixed designation C 665; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This specification covers the composition and physical properties of mineral-fiber blanket insulation used to thermally or acoustically insulate ceilings, floors, and walls in light frame construction and manufactured housing. The requirements cover fibrous blankets and facings. Values for water-vapor permeance of facings are suggested for information that will be helpful to designers and installers.

1.2 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are provided for information only.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

- C 167 Test Methods for Thickness and Density of Blanket or Batt Thermal Insulations²
- C 168 Terminology Relating to Thermal Insulation²
- C 177 Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded Hot-Plate Apparatus²
- C 390 Criteria for Sampling and Acceptance of Preformed Thermal Insulation Lots²
- C 518 Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus²
- C 653 Guide for Determination of the Thermal Resistance of Low-Density Blanket-Type Mineral-Fiber Insulation²
- C 1104/C 1104M Test Method for Determining the Water Vapor Sorption of Unfaced Mineral Fiber Insulation²
- C 1304 Test Method for Assessing the Odor Emission of Thermal Insulation Materials

C 1338 Test Method for Determining Fungi Resistance of Insulation Materials and Facings

E 84 Test Method for Surface Burning Characteristics of Building Materials³

E 96 Test Methods for Water Vapor Transmission of Materials²

E 970 Test Method for Critical Radiant Flux of Exposed Attic Floor Insulation Using a Radiant Heat Energy Source³

G 1 Practice for Preparing, Cleaning, and Evaluating Corrosion Test Specimens⁴

3. Terminology

3.1 **Definitions**—For definitions of terms defined in this specification, see Terminology C 168.

4. Classification

4.1 Typical mineral-fiber thermal insulation consists of three types:

4.1.1 *Type I*—Blankets without membrane coverings.

4.1.2 *Type II*—Blankets with nonreflective membrane coverings.

4.1.2.1 *Class A*—Membrane-faced surface with a flame spread of 25 or less.

4.1.2.2 *Class B*—Membrane-faced surface with a flame propagation resistance; critical radiant flux of 0.12 W/cm² (.11 Btu/ft²·s) or greater.

4.1.2.3 *Class C*—Membrane-faced surface not rated for flame propagation resistance (for use in nonexposed applications only).

4.1.2.4 *Category 1*—Membrane is a vapor retarder.

4.1.2.5 *Category 2*—Membrane is not a vapor retarder.

4.1.3 *Type III*—Blankets with reflective membrane coverings:

4.1.3.1 *Class A*—Membrane-faced surface with a flame spread of 25 or less.

4.1.3.2 *Class B*—Membrane-faced surface with a flame propagation resistance; critical radiant flux of 0.12 W/cm² (.11 Btu/ft²·s) or greater.

¹ This specification is under the jurisdiction of ASTM Committee C16 on Thermal Insulation and is the direct responsibility of Subcommittee C16.23 on Blanket and Loose Fill Insulation.

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² *Annual Book of ASTM Standards*, Vol 04.06.

³ *Annual Book of ASTM Standards*, Vol 04.07.

⁴ *Annual Book of ASTM Standards*, Vol 03.02.