



Designation: C739 – 17

Standard Specification for Cellulosic Fiber Loose-Fill Thermal Insulation¹

This standard is issued under the fixed designation C739; 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 U.S. Department of Defense.

1. Scope

1.1 This specification covers the composition and physical requirements of chemically treated, recycled cellulosic fiber loose-fill type thermal insulation for use in attics or enclosed spaces in housing, and other framed buildings within the ambient temperature range from –45 to 90°C by pneumatic or pouring application. While products that comply with this specification are used in various constructions, they are adaptable primarily, but not exclusively, to wood joist, rafters, and stud construction.

1.2 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

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.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*²

B152/B152M Specification for Copper Sheet, Strip, Plate, and Rolled Bar
C168 Terminology Relating to Thermal Insulation
C177 Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of

the Guarded-Hot-Plate Apparatus

C518 Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus

C687 Practice for Determination of Thermal Resistance of Loose-Fill Building Insulation

C1114 Test Method for Steady-State Thermal Transmission Properties by Means of the Thin-Heater Apparatus

C1338 Test Method for Determining Fungi Resistance of Insulation Materials and Facings

C1363 Test Method for Thermal Performance of Building Materials and Envelope Assemblies by Means of a Hot Box Apparatus

C1374 Test Method for Determination of Installed Thickness of Pneumatically Applied Loose-Fill Building Insulation

C1485 Test Method for Critical Radiant Flux of Exposed Attic Floor Insulation Using an Electric Radiant Heat Energy Source

E177 Practice for Use of the Terms Precision and Bias in ASTM Test Methods

E691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method

E970 Test Method for Critical Radiant Flux of Exposed Attic Floor Insulation Using a Radiant Heat Energy Source

3. Terminology

3.1 *Definitions*—For definitions of terms used in this specification, see Terminology **C168**.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *attic*—an enclosed space between the roof and ceiling of the occupied part of a building.

3.2.2 *critical radiant flux*—the level of incident radiant heat energy on the attic floor insulation system at the most distant flame-out point (W/cm²).

4. Materials and Manufacture

4.1 The basic material shall be recycled cellulosic fiber made from selected paper, paperboard stock, or ground wood stock, excluding contaminated materials, which may reasonably be expected to be retained in the finished product. Suitable chemicals are introduced to provide properties such as flame resistance, processing, and handling characteristics.

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 For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.