



Standard Test Methods for Cellulosic Fiber Insulating Board¹

This standard is issued under the fixed designation C209; 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 These test methods cover those insulation products in specified Specification **C208**. The requirements for the products' physical properties are specified in Specification **C208**. The methods for the general insulation products' physical properties are given as follows:

	Section
Thickness	7
Size of Finished Board	8
Thermal Conductivity	9
Transverse Strength	10
Deflection at Specified Minimum Load	11
Tensile Strength Parallel to Surface	12
Tensile Strength Perpendicular to Surface	13
Water Absorption	14
Linear Expansion	15
Water Vapor Transmission	16
Flame Spread Index	17
Moisture Content and Density	18
Compressive Strength	19

1.2 Reference is provided to an established source for nomenclature and definitions.

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 Several of the test methods contained in this document are referenced by material specifications other than cellulosic fiber insulating board. These include mineral fiber, perlite, polyisocyanurate, polystyrene and phenolic materials.

2. Referenced Documents

2.1 ASTM Standards:²

C165 Test Method for Measuring Compressive Properties of Thermal Insulations

¹ These test methods are under the jurisdiction of ASTM Committee **C16** on Thermal Insulation and are the direct responsibility of Subcommittee **C16.32** on Mechanical Properties.

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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.

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

C208 Specification for Cellulosic Fiber Insulating Board

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

C870 Practice for Conditioning of Thermal Insulating Materials

C1045 Practice for Calculating Thermal Transmission Properties Under Steady-State Conditions

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

D1037 Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials

D1554 Terminology Relating to Wood-Base Fiber and Particle Panel Materials

E84 Test Method for Surface Burning Characteristics of Building Materials

E96/E96M Test Methods for Water Vapor Transmission of Materials

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

3. Terminology

3.1 *Definitions*—The definitions of terms used in these methods shall be in accordance with Definitions **D1554** and Terminology **C168**.

3.2 *cellulosic fiber insulating board*—a fibrous-felted, homogeneous panel made from ligno-cellulosic fibers (usually wood) and having a density of less than 31 lb/ft³ (497 kg/m³) but more than 10 lb/ft³ (160 kg/m³).

3.2.1 *Discussion*—Cellulosic fiber insulating board. It is characterized by an integral bond that is produced by interfelted fibers, but which has not been consolidated under heat and pressure as a separate stage in manufacture. Other materials may be added during manufacture to improve certain properties.

3.3 Definitions of Terms Specific to This Standard:

3.3.1 *board*—refers to the material as received.