



Designation: C 1289 – 98

AMERICAN SOCIETY FOR TESTING AND MATERIALS
100 Barr Harbor Dr., West Conshohocken, PA 19428
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Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board¹

This standard is issued under the fixed designation C 1289; 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.

1. Scope

1.1 This specification covers the general requirements for faced thermal insulation boards composed of rigid cellular polyisocyanurate surfaced with other materials. The insulation boards are intended for use at temperatures between -40 and 200°F (-40 and 93°C). This specification does not cover cryogenic applications. Consult the manufacturer for specific recommendations and properties in cryogenic conditions. For specific applications, the actual temperature limits shall be agreed upon by the manufacturer and the purchaser.

1.2 This standard is intended to apply to rigid cellular polyurethane-modified polyisocyanurate thermal insulation board products that are commercially acceptable as non-structural panels useful in building construction. The term polyisocyanurate encompasses the term polyurethane. For engineering and design purposes, users should follow specific product information provided by board manufacturers regarding physical properties, system design considerations and installation recommendations.

1.3 The use of thermal insulation materials covered by this specification may be regulated by building codes, or other agencies that address fire performance, or both. The fire performance of the material should be addressed through standard fire test methods established by the appropriate governing documents.

1.4 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only and may be approximate. For conversion to metric units other than those contained in this standard, refer to IEEE/ASTM SI 10.

1.5 The following safety hazards caveat pertains only to the test methods, Section 11, in this specification. *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 The following documents, of the issue in effect on the date of material purchase, form a part of this specification to the extent specified herein:

2.2 ASTM Standards:

C 168 Terminology Relating to Thermal Insulating Materials²

C 177 Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus²

C 203 Test Methods for Breaking Load and Flexural Properties of Block Type Thermal Insulation²

C 208 Specification for Cellulosic Fiber Insulating Board²

C 209 Test Methods for Cellulosic Fiber Insulating Board²

C 236 Test Method for Steady-State Thermal Performance of Building Assemblies by Means of a Guarded Hot Box²

C 303 Test Method for Density of Preformed Block-Type Thermal Insulation²

C 390 Criteria for Sampling and Acceptance of Preformed Thermal Insulation Lots²

C 518 Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus²

C 550 Practice for Measuring Trueness and Squareness of Rigid Block Thermal Insulation²

C 728 Specification for Perlite Thermal Insulation Board²

C 976 Test Method for Thermal Performance of Building Assemblies by Means of a Calibrated Hot Box²

C 1045 Practice for Calculating Thermal Transmission Properties from Steady-State Heat Flux Measurements²

C 1058 Practice for Selecting Temperatures for Evaluating and Reporting Thermal Properties of Thermal Insulation²

C 1114 Test Method for Steady-State Thermal Transmission Properties by Means of the Thin-Heater Apparatus²

D 226 Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing³

D 1621 Test Method for Compressive Properties of Rigid Cellular Plastics⁴

D 2126 Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging⁴

¹ This specification is under the jurisdiction of ASTM Committee C-16 on Thermal Insulation and is the direct responsibility of Subcommittee C16.22 on Organic and Nonhomogeneous Inorganic Thermal Insulations.

Current edition approved March 10, 1998. Published June 1998. Originally published as C 1289 – 95. Last previous edition C 1289 – 95.

² Annual Book of ASTM Standards, Vol 04.06.

³ Annual Book of ASTM Standards, Vol 04.04.

⁴ Annual Book of ASTM Standards, Vol 08.01.