



Standard Specification for Cellular Melamine Thermal and Sound-Absorbing Insulation¹

This standard is issued under the fixed designation C 1410; 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 type, physical properties, and dimensions of open-cell melamine foam intended for use as thermal and sound-absorbing insulation for temperatures from -40 to $+350^{\circ}\text{F}$ (-40 to $+177^{\circ}\text{C}$) in industrial environments.

1.2 The use of thermal insulation materials covered by this specification may be governed by building codes that address fire performance.

1.3 The use of an appropriate vapor retarder is required on cold surface applications where water vapor could condense and cause a decrease in thermal performance. Refer to Practice C 755 for selection of vapor retarders. Facings shall be agreed upon between the purchaser and the manufacturer or supplier. This specification addresses the foam alone.

1.4 The values stated in inch-pounds are to be regarded as the standard. The SI units given in parentheses are provided for information only and may be approximate.

1.5 *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 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 236 Test Method for Steady-State Thermal Performance of Building Assemblies by Means of a Guarded Hot Box²
- C 335 Test Method for Steady-State Heat Transfer Properties of Horizontal Pipe Insulation²
- C 356 Test Method for Lineal Shrinkage of Preformed High-Temperature Thermal Insulation Subjected to Soaking Heat²

- C 390 Criteria for Sampling and Acceptance of Preformed Thermal Insulation Lots²
- C 423 Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method²
- C 518 Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus²
- C 585 Practice for Inner and Outer Diameters of Rigid Thermal Insulation for Nominal Sizes of Pipe and Tubing (NPS Systems)²
- C 755 Practice for Selection of Vapor Retarders for Thermal Insulation²
- 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 Under Steady-State Conditions²
- C 1104/C 1104M Test Method for Determining the Water Vapor Sorption of Unfaced Mineral Fiber Insulation²
- D 2863 Test Method for Measuring the Minimum Oxygen Concentration to Support Candle-Like Combustion of Plastic (Oxygen Index)³
- D 3574 Test Methods for Flexible Cellular Materials—Slab, Bonded, and Molded Urethane Foams³
- E 84 Test Method for Surface Burning Characteristics of Building Materials⁴
- E 176 Terminology of Fire Standards⁴
- E 662 Test Method for Specific Optical Density of Smoke Generated by Solid Materials⁴
- E 795 Practices for Mounting Test Specimens During Sound Absorption Tests²
- E 800 Guide for Measurement of Gases Present or Generated During Fires⁴

3. Terminology

3.1 *Definitions*—Terms used in this specification are defined in Terminology C 168 and also in Terminology E 176 as appropriate

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *melamine foam*—a low-density, semirigid, open-cell foam made from a melamine-formaldehyde or aldehyde polymer.

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 Insulation.

Current edition approved December 10, 1998. Published February 1999.

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

³ *Annual Book of ASTM Standards*, Vol 08.02.

⁴ *Annual Book of ASTM Standards*, Vol 04.07.