



Standard Specification For Expanded Polystyrene (“EPS”) Thermal Insulation Boards for Use in Exterior Insulation and Finish Systems (“EIFS”)¹

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1. Scope

1.1 This specification is for flat, uncoated expanded polystyrene thermal insulation boards for use in exterior insulation and finish systems (EIFS).

1.2 EIFS producers may have requirements in addition to, or different than, those in this specification.

1.3 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

1.4 *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:*²

C578 Specification for Rigid, Cellular Polystyrene Thermal Insulation

E631 Terminology of Building Constructions

E2110 Terminology for Exterior Insulation and Finish Systems (EIFS)

3. Terminology

3.1 For general terminology regarding EIFS and building in general, see Terminology **E2110** (for EIFS terms) and Terminology **E631** (for buildings in general).

¹ This specification is under the jurisdiction of ASTM Committee **E06** on Performance of Buildings and is the direct responsibility of Subcommittee **E06.58** on Exterior Insulation and Finish Systems (EIFS).

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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.

4. Ordering Information

4.1 The following information shall be provided when shipping materials under this specification.

4.1.1 Thickness, width and length,

4.1.2 Number of pieces,

4.1.3 Shipping address,

4.1.4 Required delivery date,

4.1.5 Billing information,

4.1.6 Certificate of compliance with this specification, and

4.1.7 EIFS producer name and product name for which insulation is to be used.

5. Requirements

5.1 The thermal insulation boards shall meet the following requirements.

5.1.1 Insulation boards shall meet the properties listed in Table 1 of Specification **C578** for Type I.

5.1.2 Insulation boards shall be made of 100 % virgin EPS.

5.1.3 *Length*—1219 mm [48 in.] \pm 1.6 mm [$\pm 1/16$ in.].

5.1.4 *Width*—610 mm [24 in.] \pm 1.6 mm [$\pm 1/16$ in.].

5.1.5 *Thickness:*

5.1.5.1 Minimum: 20 mm [$3/4$ in.] + 1.6 mm [$1/16$ in.].

5.1.5.2 Maximum: as specified.

5.1.6 *Edge Trueness*—When measured with a straight edge, edges shall not deviate more than 0.8 mm [$1/32$ in.] in 305 mm [12 in.].

5.1.7 *Face Flatness*—When measured across the face with a straight edge, the maximum deviation for the straight edge shall not exceed more than 0.8 mm [$1/32$ in.].

5.1.8 *Squareness*—When measured on the large flat face from one corner to the opposing corner, the dimensional variations shall not exceed more than 0.8 mm [$1/32$ in.] in 305 mm [12 in.].

5.1.9 *Ageing*—Prior to cutting into individual boards, the insulation billet shall remain in one of the following states:

5.1.9.1 For a minimum of six weeks at ambient temperatures and humidity conditions of the storage locations.

5.1.9.2 For a minimum of five days at a constant temperature of 60°C [140°F].

5.1.9.3 For a minimum of twelve days at the existing temperature and humidity conditions of the storage location

when thermal insulation boards are manufactured using low pentane EPS resin (< 4.5 % pentane) and vacuum molding technology.

5.1.9.4 For a minimum of 18 days at existing temperature and humidity conditions of the storage location when thermal insulation boards are manufactured using full pentane resin (nominal 6 % pentane) and using vacuum molding technology.

5.1.10 *Inspection and Quality Assurance*—The thermal insulation boards shall be produced under the EIFS producer's quality assurance program, which shall meet the requirements of the applicable local building regulations and the requirements of the EIFS producer in whose system the insulation is to be used.

6. Workmanship, Finish, and Appearance

6.1 *Crushing and Depression*—Insulation boards shall have no crushed or depressed areas on any surface exceeding 1.6 mm [$1/16$ in.] in depth on no more than 5 % of the surface area.

6.2 *Voids*—Insulation board shall have no more than 8 voids having dimensions larger than 3.2 mm [$1/8$ in.] by 3.2 mm [$1/8$ in.] per 0.74 m² [8 ft²] of surface area.

6.3 *Projections*—Insulation board shall be free from surface projections or cutting marks in excess of 1.6 mm [$1/16$ in.].

7. Product Marking, Packaging, and Package Marking

7.1 Each board shall be marked with the insulation producer's name and the name of the EIFS producer with which the boards will be used, as follows:

7.1.1 *Marking of Individual Boards:*

7.1.1.1 Each board shall be marked on at least one edge, and

7.1.1.2 One board in each package shall be marked on both faces.

7.1.2 *Packaging:*

7.1.2.1 Insulation boards shall be packaged in plastic bags.

7.1.2.2 Alternate methods of packaging shall be submitted to the EIFS manufacturer and approved prior to use.

7.1.3 *Package Marking:*

7.1.3.1 The insulation producer shall mark the lot number on each package.

8. Keywords

8.1 EIFS; EPS; expanded polystyrene insulation; exterior insulation and finish system; thermal insulation board

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