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Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel[1]

This standard is issued under the fixed designation C1178/C1178M; 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 coated glass mat water-resistant gypsum backing panel designed for use on ceilings and walls in bath and shower areas as a base for the application of ceramic or plastic tile.

1.2 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. Within the text, the SI units are shown in brackets.

1.3 The text of this standard references notes and footnotes that provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the standard.

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]

C11 Terminology Relating to Gypsum and Related Building Materials and Systems
C22 Specification for Gypsum
C473 Test Methods for Physical Testing of Gypsum Panel Products
C645 Specification for Nonstructural Steel Framing Members
C1264 Specification for Sampling, Inspection, Rejection, Certification, Packaging, Marking, Shipping, Handling, and Storage of Gypsum Panel Products
D3273 Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
E119 Test Methods for Fire Tests of Building Construction and Materials

3. Terminology

3.1 Definitions used in this specification shall be in accordance with Terminology C11.

3.2 *Definitions of Terms Specific to This Standard:*

[1] This specification is under the jurisdiction of ASTM Committee C11 on Gypsum and Related Building Materials and Systems and is the direct responsibility of Subcommittee C11.01 on Specifications and Test Methods for Gypsum Products.

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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.

***A Summary of Changes section appears at the end of this standard**

~~3.2.1 *glass mat, n*—a mat of glass fibers with or without a binder.~~

~~3.2.2 *edge, n*—the bound edge as manufactured.~~

~~3.2.3 *face, n*—the coated surface.~~

3.2.1 *nominal thickness, n*—the ~~manufacturer-stated~~ manufacturer stated fractional value of thickness of ~~the gypsum panel product expressed in decimal value to the nearest one-thousandth (0.001) of an inch.~~gypsum panel products.

4. Materials and Manufacture

4.1 ~~*Coated glass mat water-resistant gypsum backing panel*~~ Coated glass mat water-resistant gypsum backing panel shall consist of ~~a noncombustible water-resistant core,~~ glass mat facers and a noncombustible, water-resistant core, composed of essentially gypsum complying with Specification C22~~, surfaced with glass mat,~~. The glass mat facers shall be partially or completely embedded in the core, ~~and~~ with a water-resistant coating on one surface.

4.2 Coated glass mat water-resistant gypsum panels, type X (special fire-resistant) designates glass mat gypsum panels complying with this specification that provide not less than 1-h fire resistance rating for boards ⅝ in. [15.9 mm] thick or ¾-h fire resistance rating for panels ½ in. [12.7 mm] thick, applied parallel with and on each side of load bearing 2 by 4 wood studs spaced 16 in. [406 mm] on center with 6d coated nails, 1 ⅞ in. [48-mm] long, 0.0915 in. [2.3 mm] diameter shank, ¼ in. [6.4 mm] diameter heads, spaced 7 in. [178 mm] on center with glass mat gypsum panel joints staggered 16 in. [406 mm] on each side of the partition and tested in accordance with Test Methods E119.

NOTE 1—Consult manufacturers for independent test data on assembly details and fire resistance ratings for other types of construction. See fire test reports or listings from recognized fire testing laboratories for assembly particulars, materials, and ratings.

4.3 Coated glass mat water-resistant gypsum backing panels, mold resistant, designates gypsum panels having not more than 20 % mold growth, based on surface area coverage, when tested in accordance with Test Method D3273.

5. Physical Properties

5.1 Specimens shall be taken from the samples obtained in accordance with Specification C1264.

5.2 Specimens shall be tested in accordance with Test Methods C473.

5.2.1 *Flexural Strength*—The specimens shall be tested face up and face down. The average breaking load shall not be less than the following:

Nominal Thickness, in. [mm]	Method B Load, lbf [N]	
	Bearing edges perpendicular to the board edge	Bearing edges parallel to the board edge
¼ [6.4]	50 [222]	40 [178]
5⁄16 [7.9]	65 [289]	50 [222]
½ [12.7]	100 [445]	80 [356]
⅝ [15.9]	140 [623]	100 [445]

5.2.2 *Humidified Deflection*—Specimens shall have an average deflection of not more than the following:

Nominal Thickness, in. [mm]	Humidified deflection, eighths of an in. [mm]
¼ [6.4]	not required
5⁄16 [7.9]	not required
½ [12.7]	2 [6]
⅝ [15.9]	1 [3]