



Designation: C1280 – 13a

Standard Specification for Application of Exterior Gypsum Panel Products for Use as Sheathing¹

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1. Scope*

1.1 This specification covers the minimum requirements for and methods of application of exterior gypsum panel products that are specifically designed for use as a substrate for exterior cladding.

1.1.1 This specification does not cover gypsum panel products that are specifically designed for interior applications.

1.2 Details of construction for a specific assembly to achieve the required fire resistance shall be obtained from reports of fire-resistance tests, engineering evaluations, or listings from recognized fire testing laboratories.

1.2.1 This specification shall govern where it is more stringent (size or thickness of framing and size and spacing of fasteners) than the fire-rated construction.

1.3 Where sound control is required for a gypsum panel product assembly, the details of construction shall be in accordance with the acoustical test report of an assembly that has met the required acoustical value(s).

1.3.1 This specification shall govern where it is more stringent (size or thickness of framing and size and spacing of fasteners) than the sound-rated construction.

1.4 Where resistance to racking loads or shear is required for a gypsum panel product assembly, the details of construction shall be in accordance with the racking or shear test report of an assembly that has met the required racking or shear value(s).

1.4.1 This specification shall govern where it is more stringent (size or thickness of framing and size and spacing of fasteners) than the racking or shear-tested construction.

1.5 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.6 The text of this standard references notes which provide explanatory material. These notes shall not be considered as requirements of the standard.

1.7 *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

C11 Terminology Relating to Gypsum and Related Building Materials and Systems

C954 Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness

C955 Specification for Load-Bearing (Transverse and Axial) Steel Studs, Runners (Tracks), and Bracing or Bridging for Screw Application of Gypsum Panel Products and Metal Plaster Bases

C1002 Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs

C1007 Specification for Installation of Load Bearing (Transverse and Axial) Steel Studs and Related Accessories

C1063 Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster

C1177/C1177M Specification for Glass Mat Gypsum Substrate for Use as Sheathing

C1278/C1278M Specification for Fiber-Reinforced Gypsum Panel

C1396/C1396M Specification for Gypsum Board

2.2 U.S. Department of Commerce Publication:
PS20 American Softwood Lumber Standard³

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 C11.03 on Specifications for the Application of Gypsum and Other Products in Assemblies.

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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.

³ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.

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

3. Terminology

3.1 *Definitions*—Definitions shall be in accordance with Terminology C11.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *exterior cladding, n*—a permanent material or system that impedes the transmission of environmental elements to the gypsum panel products used as sheathing.

3.2.2 *fastener, n*—nails, staples, or screws used for application of the gypsum panel product.

3.2.3 *framing member, n*—studs, headers, bracing, and blocking that serve to receive the gypsum panel product.

3.2.4 *horizontal application, n*—a synonym for *perpendicular application*.

3.2.5 *parallel application, n*—gypsum panel product applied with the factory edges parallel to the framing members; a synonym for *vertical application*.

3.2.6 *perpendicular application, n*—gypsum panel product applied with the factory edges at right angles to the framing members; a synonym for *horizontal application*.

3.2.7 *require, v*—to mandate by a force outside this specification, such as a building code, project specification, contract, or purchase order.

3.2.8 *specified, adj*—pertaining to a mandatory requirement of this specification or a referenced requirement.

3.2.9 *specify, v*—to mandate by an obligation of this standard or a referenced document.

3.2.10 *vertical application, n*—synonym for *parallel application*.

3.2.11 *weather-resistive barrier, n*—a temporarily exposed protective membrane that is intended to impede the penetration of environmental elements until the installation of a permanent exterior cladding.

4. Exposure After Installation

4.1 Gypsum sheathing board is a paper faced substrate that shall be covered by an exterior cladding or other weather-resistive barrier and is not intended for long-term exposure. It shall not be exposed to the elements for more than 30 days after it has been installed. Gypsum sheathing shall be covered with a weather-resistive barrier within 30 days if the exposure time will be more than 30 days.

NOTE 1—Some building codes require an additional weather-resistive barrier. The exterior face paper of the sheathing shall be dry prior to application of the additional weather-resistive barrier.

4.2 Water-Resistant Exterior Fiber-Reinforced Gypsum Sheathing Panels provide a substrate that shall be covered by an exterior cladding or other weather-resistive barrier and is not intended for long-term exposure. Refer to manufacturer’s recommendations for maximum exposure time. Water-Resistant Exterior Fiber-Reinforced Gypsum Sheathing Panels shall be covered with a water-resistive barrier if exposure time is expected to exceed the manufacturers’ recommended maximum exposure time.

4.2.1 Gypsum sheathing used in building construction shall be not less than 8 in. (200 mm) from the finish grade in fully

weather and water protected siding systems and in properly drained and ventilated crawl spaces. All cut edges shall be protected from water and moisture. The ground’s surface in the crawl space shall be covered with a vapor retarder.

4.3 Glass Mat Gypsum Substrate for Use as Sheathing provides a substrate that shall be covered by an exterior cladding or other weather-resistive barrier and is not intended for long-term exposure. Refer to manufacturer’s recommendations for maximum exposure time. Glass Mat Gypsum Substrate for Use as Sheathing shall be covered with a water-resistive barrier if exposure time is expected to exceed the manufacturers’ recommended maximum exposure time.

5. Materials and Manufacture

5.1 *Gypsum Sheathing*—Specification C1396/C1396M, Section 9.

5.1.1 *Type X (Special Fire-Resistant) Gypsum Sheathing*—Gypsum sheathing that provides a greater degree of fire resistance than regular gypsum sheathing as defined in Specification C1396/C1396M.

5.2 *Water-Resistant Exterior Fiber-Reinforced Gypsum Sheathing Panels*—Specification C1278/C1278M, Section 8.

5.2.1 *Type X (Special Fire-Resistant) Water-Resistant Exterior Fiber-Reinforced Gypsum Sheathing Panels*—Water-resistant exterior fiber-reinforced gypsum sheathing panels that provide a greater degree of fire resistance than regular water-resistant fiber-reinforced gypsum sheathing panels as defined in Specification C1278/C1278M.

5.3 *Glass Mat Gypsum Substrate for Use as Sheathing*—Specification C1177/C1177M.

5.3.1 *Type X Glass Mat Gypsum Substrate for Use as Sheathing*—Glass Mat Gypsum Substrate for Use as Sheathing that provides a greater degree of fire resistance than regular Glass Mat Gypsum Substrate for Use as Sheathing as defined in Specification C1177/C1177M.

5.4 *Fasteners*—Fasteners shall be as described in 5.4.1 through 5.4.3. The fastener length shall be not less than that specified in Table 1.

5.4.1 *Nails*—Nails shall be not less than 12-gauge galvanized, 7/16-in. (11-mm) diameter head.

5.4.2 *Screws:*

5.4.2.1 Screws for fastening gypsum panel products to wood framing members, and to steel framing members less

TABLE 1 Minimum Fastener Lengths

| Framing Type | Fastener Type | Sheathing Thickness, in. (mm) | Minimum Fastener Length, in. (mm) | |
|--------------|---------------|-------------------------------|-----------------------------------|------------|
| Wood | Nails | 1/2 (12.7) | 1-1/2 (38) | |
| | | 5/8 (15.9) | 1-3/4 (45) | |
| | Screws | 1/2 (12.7) | 1-1/4 (32) | |
| | | 5/8 (15.9) | 1-1/4 (32) | |
| | | Staples ^A | 1/2 (12.7) | 1-1/2 (38) |
| | | | 5/8 (15.9) | 1-3/4 (45) |
| Steel | Screws | 1/2 (12.7) | 1 (25) | |
| | | 5/8 (15.9) | 1-1/4 (32) | |

^A Staples shall be used to apply only Gypsum Sheathing board meeting Specification C1396/C1396M.