



Specification for Gypsum Ceiling Board¹

This standard is issued under the fixed designation C 1395 / C 1395M; 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 ½ in. [12.7 mm] thick gypsum ceiling board designed for use on interior ceilings with framing spaced not more than 24 in. [610 mm] on center and that affords a surface suitable to receive water-based texture and other decoration. This product is also suitable for use on interior walls.

1.2 The values stated in either inch-pound units or SI (metric) are to be regarded separately as standard. Within the text, the SI units are shown in brackets. The values stated in each system shall be used independent of the other. Values from the two systems shall not be combined.

2. Referenced Documents

2.1 ASTM Standards:

- C 11 Terminology Relating to Gypsum and Related Building Materials and Systems²
- C 473 Test Methods for Physical Testing of Gypsum Panel Products²
- C 645 Specification for Nonstructural Steel Framing Members²
- C 1264 Specification for Sampling, Inspection, Rejection, Certification, Packaging, Marking, Shipping, Handling, and Storage of Gypsum Board²
- E 84 Test Methods for Surface Burning Characteristics of Building Materials³
- E 119 Test Methods for Fire Tests of Building Construction and Materials³

3. Terminology

3.1 Definitions used in this specification shall be in accordance with Terminology C 11.

4. Materials and Manufacture

4.1 Gypsum ceiling board shall consist of a noncombustible core, essentially gypsum, surfaced with paper bonded to the core.

4.2 *Gypsum ceiling board, type X (special fire-resistant)*, designates gypsum ceiling board complying with this speci-

cation that provides not less than ¾ h fire-resistance for boards applied parallel with and on each side of load bearing 2 × 4 wood studs spaced 16 in. [406 mm] on centers with 6d coated nails, 1½ 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 centers with gypsum board joints staggered 16 in. [406 mm] on each side of the partition and tested in accordance with Test Methods E 119.

NOTE 1—Consult producers for independent test data on assembly details and fire resistance classifications for other types of construction. See official fire test reports for assembly particulars, materials, and classifications.

4.3 Gypsum ceiling board shall have a flame spread index of not more than 25 when tested in accordance with Test Method E 84.

5. Physical Properties

5.1 Specimens shall be taken from the samples obtained in accordance with Specification C 1264.

5.1.1 Specimens shall be tested in accordance with Test Methods C 473.

5.1.2 *Flexural Strength*—The specimens shall be tested face up and face down. The average breaking load shall be not less than that given in Table 1.

5.1.3 *Humidified Deflection*—The specimens shall have an average deflection of not more than ⅝ in. [8 mm].

5.1.4 *Core, End, and Edge Hardness*—The specimens shall have an average hardness of not less than 15 lbf [67 N] when tested by Method A and 11 lbf [49 N] when tested by Method B.

5.1.5 *Nail Pull Resistance*—The specimens shall have an average nail-pull resistance of not less 80 lbf [356 N] when tested by Method A and 77 lbf [343 N] when tested by Method B.

6. Dimensions and Permissible Variations

6.1 Specimens shall be taken from the samples obtained in accordance with Specification C 1264.

6.2 Thickness, width, length, and end squareness shall be determined in accordance with Test Methods C 473.

6.2.1 *Thickness*—The nominal thickness shall be ½ in. [12.7 mm] with permissible variations in the nominal thickness of ± ⅛ in. [0.4 mm] with permissible local variations of ± ⅓2 in. [0.8 mm] from the nominal thickness.

6.2.2 *Width*—The width shall be up to 48 in. [1220 mm]

¹ This test method is under the jurisdiction of ASTM C-11 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.

Current edition approved July 10, 1998. Published December 1998.

² *Annual Book of ASTM Standards*, Vol 04.01.

³ *Annual Book of ASTM Standards*, Vol 04.07.

TABLE 1 Flexural Strength

METHOD A		METHOD B	
Load, lbf [N]	Load, lbf [N]	Load, lbf [N]	Load, lbf [N]
Bearing Edges	Bearing Edges	Bearing Edges	Bearing Edges
Across Fiber of	Parallel to Fiber of	Across Fiber of	Parallel to Fiber of
Surfacing	Surfacing	Surfacing	Surfacing
110 [489]	40 [178]	107 [476]	36 [160]

with a permissible variation of $\frac{3}{32}$ in. [3 mm] under the specified width.

6.2.3 *Length*—The permissible variation in length shall be $\pm \frac{1}{4}$ in. [6 mm].

6.2.4 *Tapered Edge Depth*—The average thickness of the edge of recessed or tapered edge shall be not less than 0.020 in. [0.51 mm] but not more than 0.090 in. [2.29 mm] less than the average thickness of the gypsum ceiling board.

6.2.5 *End Squareness*—Corners shall be square with a permissible variation of $\pm \frac{1}{8}$ in. [± 3 mm] in the full width of the board.

6.3 *Edges and Ends*—The edges and ends shall be straight

and either square, recessed, beveled, featured, tapered, or featured and tapered.

7. Finish and Appearance

7.1 The surfaces of gypsum ceiling board shall be true and free from imperfections that would render it unfit for use with or without decoration.

8. Sampling, Inspection, Rejection, Certification, Packaging, Marking, Shipping, Handling, and Storage

8.1 Sampling, Inspection, Rejection, Certification, Packaging, Marking, Shipping, Handling, and Storage of gypsum ceiling board shall be in accordance with Specification C 1264.

9. Keywords

9.1 ceiling; drywall; gypsum; gypsum board; gypsum ceiling board; gypsum wallboard; type X

APPENDIX

(Nonmandatory Information)

This Appendix gives general information and also suggests for inclusions to be made elsewhere by the specifier. It is not part of this specification.

X1. Alternate Definition for Type X

X1.1 Gypsum ceiling board, type X (special fire-resistant) designates gypsum ceiling board providing a greater fire resistance than regular gypsum ceiling board of the same thickness. Type X (special fire-resistant) gypsum ceiling board, when tested in accordance with Test Methods E 119, shall provide the following minimum fire resistance ratings for the assembly described.

X1.1.1 2-h for a $\frac{1}{2}$ in. [12.7 mm] thickness applied to a partition in a double layer application on each side of 2- $\frac{1}{2}$ in. [64 mm] deep non-loadbearing galvanized steel studs complying with Specification C 645 spaced 24 in. [610 mm] on center. The base layer 48 in. [1220 mm] wide shall be attached using 1 in. [25 mm] long drywall screws spaced 12 in. [305 mm] on

center along board edges, ends, and along intermediate studs. Joints shall be oriented parallel to and located over studs and staggered on opposite sides of the assembly. The face layer 48 in. [1220 mm] wide shall be attached using 1- $\frac{5}{8}$ in. [41 mm] long drywall screws spaced 12 in. [305 mm] along board edges, ends, and along intermediate studs. Joints shall be oriented parallel to and located over studs, offset 24 in. [610 mm] from the base layer joints, and staggered on opposite sides of the assembly. All joints in the face layer shall be filled with joint compound, covered with joint tape and covered with an additional coat of joint compound. All screw heads in the face layer shall be covered with two coats of joint compound.

The American Society for Testing and Materials takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.

This standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of this standard or for additional standards and should be addressed to ASTM Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing you should make your views known to the ASTM Committee on Standards, 100 Barr Harbor Drive, West Conshohocken, PA 19428.