



Designation: C 960/C 960M – 9701

Standard Specification for Predecorated Gypsum Board¹

This standard is issued under the fixed designation C 960/C 960M; 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.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope*

1.1 This specification covers predecorated gypsum board which is designed to be used as the finished surface for walls or ceilings.

NOTE 1—Specification C 840 contains application procedures for predecorated gypsum board.

1.2 The values stated in inch-pound units are to be regarded separately as the 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.

1.3 The following safety hazards caveat pertains only to the test method portion, Section 10 of this specification: *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.*

1.4 The text of this specification 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.

2. Referenced Documents

2.1 *ASTM Standards:*

¹ This specification is under the jurisdiction of ASTM Committee 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.

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

C 11 Terminology Relating to Gypsum and Related Building Materials and Systems²

C 36/C 36M Specification for Gypsum Wallboard²

C 645 Specification for Non-Load Bearing (Axial) Steel Studs, Runners (Tracks), and Rigid Furring Channels for Screw Application of Gypsum Board²

C 840 Specification for Application and Finishing of Gypsum Board²

C 1264 Specification for Sampling, Inspection, Rejection, Certification, Packaging, Marking, Shipping, Handling and Storage of Gypsum Board²

E 84 Test Method for Surface Burning Characteristics of Building Materials³

E 119 Test Methods for Fire Tests of Building Construction and Materials³

3. Terminology

3.1 Definitions of terms shall be in accordance with Terminology C 11.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *face, n*—the surface of the predecorated gypsum wallboard that is called the finish side.

4. Classification

4.1 Predecorated gypsum board is furnished in two classes as follows:

4.1.1 Class I predecorated gypsum board shall have a decorative sheet or film laminated to the paper surface.

4.1.2 Class II predecorated gypsum board shall have a decorative coating applied to the paper surface.

5. Materials and Manufacture

5.1 Predecorated gypsum board shall consist of a noncombustible core, essentially gypsum, surfaced with paper bonded to the core with the face covered with a decorative sheet, film, or coating.

5.2 Predecorated gypsum board, type X (special fire resistant) designates predecorated gypsum board complying with this specification that provides not less than 1 h fire-resistance for boards $\frac{5}{8}$ in. [15.9 mm] thick or $\frac{3}{4}$ h fire-resistance for boards $\frac{1}{2}$ in. [12.7 mm] thick, applied parallel with and on each side of load bearing 2×4 wood studs spaced 16 in. [406 mm] on center with 6d coated nails, $1\frac{1}{8}$ in. [48 mm] long, 0.0915 in. [2.32 mm] diameter shank, $\frac{1}{4}$ in. [6.4 mm] diameter heads, spaced 7 in. [178 mm] on center with wallboard joints staggered 16 in. [406 mm] on each side of the partition and tested in accordance with the requirements of 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 or listings from recognized fire testing laboratories for assembly particulars, materials, and classifications.

6. Physical Properties

6.1 Flexural strength, humidified deflection, core, end and edge hardness, and nail pull resistance shall be in accordance with Specification C 36.

6.2 No part of the test surface shall be disturbed where Class I predecorated gypsum board is tested by the pick (tape) test described in Section 10.

7. Dimensions and Permissible Variations—Tolerances

7.1 After decoration, thickness, width, length and end squareness shall be in accordance with Specification C 36.

7.1.1 Where decorative coating, sheet or film thicker than 0.020 in. [0.508 mm] is used, the dimension specification shall be waived when specified in the purchase order.

7.2 *Edges and Ends*—The edges and ends shall be straight. Edges shall be either square or featured.

8. Finish and Appearance

8.1 The surfaces of predecorated gypsum board shall be true and free from imperfections that would render it unfit for use.

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

9.1 Sampling, inspection, rejection, certification, packaging, marking, shipping, handling, and storage shall be in accordance with Specification C 1264.

9.2 When required by the purchaser, the flame spread index, as tested in accordance with Test Method E 84, shall be legibly marked on each board, package, or pallet.

10. Test Method for Pick Resistance

10.1 *Significance and Use:*

² Annual Book of ASTM Standards, Vol 04.01.

³ Annual Book of ASTM Standards, Vol 04.07.

10.1.1 This test method provides a procedure for measuring the adhesion and integrity of the decorative sheet or film laminated to the paper surface.

10.2 *Sampling and Test Specimens:*

10.2.1 Obtain samples in accordance with Section 9.

10.2.2 Prepare test specimens by cutting or marking full sheets of predecorated gypsum board into not less than 24 × 24 in. [600 × 600 mm] areas. Prepare not less than two specimens from each sheet of gypsum board in the sample.

10.3 *Procedure:*

10.3.1 Apply a ½ to ⅜ in. [12.7 to 14.3 mm] wide strip of transparent adhesive tape⁴ approximately 3 in. [76 mm] in length to the test specimen face, leaving 1 in. [25 mm] free. Press the tape firmly to the test specimen face using thumb pressure for not less than 5 s. Grasp the free end of the tape and pull quickly at a 90° angle.

10.3.2 *Number of Tests*— Test not less than six specimens, three in the machine direction and three perpendicular to the machine direction.

10.4 *Precision and Bias*—Precision and bias of this test method have not been determined.

11. Keywords

11.1 ceiling; gypsum; partitions; predecorated gypsum board; predecorated gypsum board; type X; wall

⁴ “Scotch” brand transparent tape No. 600, manufactured by 3M Co., St. Paul, MN 55101, or equivalent, has been found satisfactory for this purpose.

APPENDIX

(Nonmandatory Information)

—This Appendix gives general information and also suggestions for inclusions to be made elsewhere by the specifier. They are not part of this specification.

The definition of type X¹ as given in 5.—A2 and the alternate definition given in this appendix are intended only as a test to define the gypsum board as meeting the requirements of type X. These tests do not indicate a preferred application nor do they limit the use of the product in other fire-rated assemblies.

All gypsum panel products for which type X- is defined, except gypsum lath and gypsum shaftliner board, use the same test for type X products, therefore, the type X definition indicates a consistent level of fire resistance.

X1. ALTERNATE DEFINITION FOR TYPE X

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

X1.1.1 One hour for a ⅝-in. [15.9-mm] thickness applied to a partition in a single layer application on each side of 3⅝-in. [92-mm] deep non-loadbearing galvanized steel studs complying with Specification C 645, spaced 24 in. [610 mm] on center. The ⅝-in. [15.9-mm] thick predecorated gypsum board 48 in. [1220 mm] wide shall be attached using 1-in. [25-mm] long drywall screws spaced 8 in. [203 mm] on center along the edges and ends, and 12 in. [305 mm] along intermediate studs. All joints shall be oriented parallel to and located over studs and staggered on opposite sides of the assembly, and

X1.1.2 Two hours for a ½-in. [12.7-mm] thickness applied to a partition in a double layer application on each side of 2½-in. [64-mm] deep non-loadbearing galvanized steel studs complying with Specification C 645, spaced 24 in. [610 mm] on center. The 48-in. [1220-mm] wide base layer 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 48-in. [1220-mm] wide face layer shall be attached using 1⅝-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.

SUMMARY OF CHANGES

- ~~(1) Terminology for “decorative coating” and “decorative sheet or film” was deleted from Section 3.~~
- ~~(2) Paragraph 7.1.1 was revised to be more specific as to~~

Committee C11 has identified the thickness location of decoration and refer it to selected changes in this standard since the p last issuee (C 960/C 960M – 97) that may impact the use of this standard.

- (1) Note 2 was revised.
- (2) Definition of type X statement was added to the appendix.

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