Designation: C 630/C 630M – 00

Standard Specification for Water-Resistant Gypsum Backing Board[1]

This standard is issued under the fixed designation C 630/C 630M; 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 water-resistant gypsum backing board that is designed primarily to be used as a base for the application of ceramic or plastic tile on walls or ceilings. This product is also suitable for decoration.

NOTE 1—Specification C 840 contains application procedures for water-resistant gypsum backing board.

1.2 The values stated in either inch-pound units or SI (metric) units 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.

1.3 The text of this standard references notes and footnotes which 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:*

C 11 Terminology Relating to Gypsum and Related Building Materials and Systems[2]

C 473 Test Methods for Physical Testing of Gypsum Board Products and Gypsum Lath[2]

C 645 Specification for Nonstructural Steel Framing Members[2]

C 840 Specification for Application and Finishing of Gypsum Board[2]

C 1264 Specification for Sampling, Inspection, Rejection, Certification, Packaging, Marking, Shipping, Handling, and Storage of Gypsum Board[2]

E 119 Test Methods for Fire Tests of Building Construction and Materials[3]

3. Terminology

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

4. Materials and Manufacture

4.1 Water-resistant gypsum backing board shall consist of a noncombustible water-resistant core, essentially gypsum, surfaced on both the face and back of the board with waterrepellent paper bonded to the core.

4.2 Water-resistant gypsum backing board, type X (special fire resistant), designates water-resistant gypsum backing board complying with this specification that provides not less than 1-h fire-resistance for boards ⅝ in. [15.9 mm] thick or ¾-h fire-resistance for boards ½ 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, 1⅞ in. [48 mm] long, 0.0915 in. [2.32 mm] diameter shank, ¼ in. [6.4 mm] diameter heads, spaced 7 in. [178 mm] on center with gypsum backing board 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 2—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.

5. Physical Properties

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

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

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

	Method A		Method B	
Thickness, in. [mm]	Load, lbf [N] Bearing Edges Across Fiber of Surfacing	Load, lbf [N] Bearing Edges Parallel to Fiber of Surfacing	Load, lbf [N] Bearing Edges Across Fiber of Surfacing	Load, lbf [N] Bearing Edges Parallel to Fiber of Surfacing
½ [12.7]	110 [489]	40 [178]	107 [476]	36 [160]
⅝ [15.9]	150 [667]	50 [222]	147 [654]	46 [205]

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

Thickness, in. [mm]	Humidified Deflection, Eighths of an in. [mm]
½ [12.7]	10 [32]
⅝ [15.9]	5 [16]

5.2.3 *Core, End, and Edge Hardness*—The specimens shall

[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] *Annual Book of ASTM Standards*, Vol 04.01.

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

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