



Standard Specification for Exterior Gypsum Soffit Board¹

This standard is issued under the fixed designation C 931/C 931M; 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 reappraisal. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reappraisal.

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

1. Scope

1.1 This specification covers exterior gypsum soffit board, designed to be used for exterior soffits and carport ceilings that are completely protected from contact with liquid water.

1.2 The values stated in either inch-pound units or SI (metric) 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 independently of the other. Values from the two systems shall not be combined.

2. Referenced Documents

2.1 ASTM Standards:

C 473 Test Methods for Physical Testing of Gypsum Panel Products²

C 645 Specification for Nonstructural Steel Framing Members²

C 1264/C 1264M Specification for Sampling, Inspection, Rejection, Certification, Packaging, Marking, Shipping, Handling, and Storage²

E 84 Test Method for Surface Burning Characteristics of Building Materials³

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

3. Materials and Manufacture

3.1 Gypsum soffit board shall consist of an incombustible core, essentially gypsum, surfaced with paper bonded to the core.

3.2 Exterior gypsum soffit board, Type X (special fire-resistant) designates exterior gypsum soffit 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 by 4 wood studs spaced 16 in. (406 mm) on center with 6d coated nails, $1\frac{7}{8}$ -in.

(48-mm) long, 0.0915-in. (2.3-mm) diameter shank, $\frac{1}{4}$ -in. (6.4-mm) diameter heads, spaced 7 in. (178 mm) on center with exterior gypsum soffit board joints staggered 16 in. (406 mm) on each side of the partition and tested in accordance with Test Methods E 119.

3.3 Gypsum soffit board shall have a maximum flame-spread classification of 25 when tested in accordance with the requirements of Test Method E 84.

4. Physical Properties

4.1 Flexural Strength:

4.1.1 Specimens shall be tested in accordance with Test Methods C 473. When tested face up and when tested face down the specimens shall have an average breaking load of not less than the following:

Thickness, in. (mm)	Method A		Method B	
	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
$\frac{1}{2}$ (12.7)	110 (489)	40 (178)	107 (476)	36 (160)
$\frac{5}{8}$ (15.9)	150 (668)	50 (222)	147 (654)	46 (205)

4.2 Humidified Deflection:

4.2.1 When tested in accordance with Test Methods C 473, specimens taken from the gypsum soffit board shall have an average deflection of no more than the following:

Thickness, in. (mm)	Humidified Deflection, Eighths of an in. (mm)
$\frac{1}{2}$ (12.7)	7 (22)
$\frac{5}{8}$ (15.9)	4 (13)

4.3 Core, End, and Edge Hardness:

4.3.1 When tested in accordance with Test Methods C 473, specimens taken from the gypsum soffit board 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 for the core, ends, or edges.

4.4 Nail Pull Resistance:

4.4.1 When tested in accordance with Test Methods C 473, specimens taken from the gypsum soffit board shall have an average nail pull resistance of not less than the following:

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.

Current edition approved April 10, 1998. Published December 1998. Originally published as C 930-80. Last previous edition C 930-97.

² Annual Book of ASTM Standards, Vol 04.01.

³ Annual Book of ASTM Standards, Vol 04.07.

Thickness, in. (mm)	Method A Nail Pull Resistance, lbf(N)	Method B Nail Pull Resistance, lbf (N)
1/2 (12.7)	80 (356)	77 (343)
5/8 (15.9)	90 (400)	87 (387)

mm), inclusive, with permissible variations of $\pm 1/4$ in. (6 mm) from the specified length.

6. Workmanship, Finish, and Appearance

6.1 The surfaces of gypsum soffit board shall be true and free of imperfections that would render the board unfit for use with or without decoration. The edges shall be square with a permissible variation of $\pm 1/8$ in. (± 3 mm) in the full width of the board.

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

7.1 Sampling, inspection, rejection, certification, packaging, marking, shipping, handling, and storage of exterior gypsum soffit board shall be in accordance with Specification C 1264/C 1264M.

5. Dimensions and Permissible Variations

5.1 *Thickness, nominal*— $1/2$ or $5/8$ in. (12.7 or 15.9 mm) with permissible variations in the nominal thickness of $1/64$ in. (0.4 mm) and with permissible local variations of $\pm 1/32$ in. (0.8 mm) from the nominal thickness. Edges of $1/2$ and $5/8$ in. soffit board shall be either plain, recessed, beveled, or tapered to receive a joint reinforcing strip.

5.2 *Width, nominal*—up to 48 in. (1220 mm), with a permissible variation of $3/32$ in. (3 mm) under the specified width.

5.3 *Length, nominal*—from 4 to 16 ft (1220 mm to 4880

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.

X1. ALTERNATE DEFINITION FOR TYPE X

X1.1 Exterior gypsum soffit board, Type X (special fire-resistant) designates exterior gypsum soffit board providing a greater fire resistance than regular exterior gypsum soffit board of the same thickness. Type X (special fire-resistant) exterior gypsum soffit 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 $5/8$ -in. (15.9-mm) thickness applied to a partition in a single layer application on each side of $35/8$ -in. (92-mm) deep non-loadbearing galvanized steel studs complying with Specification C 645, spaced 24 in. (610 mm) on center. The $5/8$ -in. (15.9-mm) thick exterior gypsum soffit 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 $1/2$ -in. (12.7-mm) thickness applied to a partition in a double layer application on each side of $21/2$ -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 $15/8$ -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.

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, at the address shown below.

This standard is copyrighted by ASTM, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States. Individual reprints (single or multiple copies) of this standard may be obtained by contacting ASTM at the above address or at 610-832-9585 (phone), 610-832-9555 (fax), or service@astm.org (e-mail); or through the ASTM website (www.astm.org).