



Designation: C 931/C 931M – 98

## Standard Specification for Exterior Gypsum Soffit Board<sup>1</sup>

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 ( $\epsilon$ ) 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 Products<sup>2</sup>

C 645 Specification for Nonstructural Steel Framing Members<sup>2</sup>

C 1264/C 1264M Specification for Sampling, Inspection, Rejection, Certification, Packaging, Marking, Shipping, Handling, and Storage<sup>2</sup>

E 84 Test Method for Surface Burning Characteristics of Building Materials<sup>3</sup>

E 119 Test Methods for Fire Tests of Building Construction and Materials<sup>3</sup>

### 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,  $1\frac{1}{8}$ -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:

<sup>1</sup> 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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<sup>2</sup> Annual Book of ASTM Standards, Vol 04.01.

<sup>3</sup> Annual Book of ASTM Standards, Vol 04.07.