



Designation: C 318/C 318M – 00<sup>ε1</sup>

## Standard Specification for Gypsum Formboard<sup>1</sup>

This standard is issued under the fixed designation C 318/C 318M; 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.

<sup>ε1</sup> NOTE—The word “variances” was editorially corrected to “tolerances” in Section 6 in July 2002.

### 1. Scope \*

1.1 This specification covers the minimum requirements for gypsum formboard designed for use as a permanent form for poured-in-place reinforced gypsum concrete roof decks.

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.

1.3 The text of this standard references notes which provide explanatory material. These notes shall not be considered requirements of the standard.

### 2. Referenced Documents

#### 2.1 ASTM Standards:

- C 11 Terminology Relating to Gypsum and Related Building Materials and Systems<sup>2</sup>
- C 473 Test Methods for Physical Testing of Gypsum Board Products and Gypsum Lath<sup>2</sup>
- C 1264 Specification for Sampling, Inspection, Rejection, Certification, Packaging, Marking, Shipping, Handling and Storage of Gypsum Board<sup>2</sup>
- G 21 Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi<sup>3</sup>

### 3. Terminology

3.1 *Definitions*—Definitions of terms used in this standard shall be in accordance with Terminology C 11.

### 4. Materials and Manufacture

4.1 Gypsum formboard shall consist of a noncombustible core, essentially gypsum, containing not more than 15 % by weight of fiber, either mineral or organic, synthetic or natural.

4.2 The face surface shall be specifically treated to resist fungus growth.

### 5. Physical Properties

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

NOTE 1—Since this product is laid between subpurlins without mechanical attachment, a nail pull requirement is not specified for this gypsum panel product.

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

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

	Bearing Edges Across Fiber of Surfacing, lbf [N]	Bearing Edges Parallel Fiber of Surfacing, Face, lbf [N]	Bearing Edges Parallel Fiber of Surfacing, Back, lbf [N]
Method A	160 [715]	60 [270]	40 [180]
Method B	157 [700]	56 [250]	36 [160]

5.1.3 *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]

5.1.4 *Core, End, and Edge Hardness*—The specimens shall have an average hardness of 15 lbf [65 N] when tested by Method A and 11 lbf [50 N] when tested by Method B.

5.1.5 *Resistance to Fungi*—The specimens shall obtain a rating not more than 1 (one) when judged in accordance with Practice G 21, paragraph 9.3, (Observation for Visible Effects).

### 6. Dimensions and Tolerances

6.1 Specimens shall be taken from the samples obtained in accordance with Section 8.

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 tolerances in the nominal thickness of  $\pm 1/64$  in. [0.4 mm] with local variations of  $\pm 1/32$  in. [0.8 mm] from the nominal thickness.

6.2.2 *Width*—The nominal width shall be 32 in. [813 mm] with a tolerance of 1/8 in. [3 mm] over the specified width, and 1/4 in. [6 mm] under the specified width.

<sup>1</sup> 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 Specifications and Test Methods for Gypsum Products. Current edition approved July 10, 2000. Published August 2000. Originally published as C 318 – 53 T. Last previous edition C 318/C 318M-96.

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

<sup>3</sup> *Annual Book of ASTM Standards*, Vol 14.02.

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