



Designation: C 317/C 317M – 00

Standard Specification for Gypsum Concrete¹

This standard is issued under the fixed designation C 317/C 317M; 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 mill-mixed gypsum concrete, consisting essentially of calcined gypsum and suitable aggregate, requiring the addition of water only at the job site. Gypsum concrete is intended for use in the construction of poured-in-place roof decks or slabs. Two classes, based on the compressive strength and density, are covered.

1.2 The values stated in either inch-pound units or SI units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in nonconformance with the standard.

2. Referenced Documents

2.1 *ASTM Standards:*

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

C 28 Specification for Gypsum Plasters²

C 35 Specification for Inorganic Aggregates for Use in Gypsum Plaster²

C 472 Test Methods for Physical Testing of Gypsum, Gypsum Plasters and Gypsum Concrete²

3. Terminology

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

4. Materials and Manufacture

4.1 Gypsum concrete shall consist of calcined gypsum to which is added aggregates, wood chips, or wood shavings in proportion to meet the applicable requirements of this specification.

4.2 *Calcined Gypsum*—Specification C 28C 28.

4.3 *Aggregates*—Specification C 35C 35.

4.4 *Wood Chips or Wood Shavings*, shall be dry wood, uniform and clean in appearance, passing a 1-in. [25-mm] sieve, and not more than 1/16 in. [1.5 mm] thick.

5. Physical Properties

5.1 *Setting Time*—Gypsum concrete shall set in not less than 20 min and not more than 90 min.

5.2 *Compressive Strength*—Gypsum concrete shall have the following compressive strength for the respective classes:

Class	Compressive Strength, min,	
	psi	[MPa]
A	500	[3.5]
B	1000	[7.0]

5.3 *Density*—Gypsum concrete, Class A, shall have a density of not more than 60 lb/ft³ [960 kg/m³].

6. Sampling

6.1 Randomly select at least 1 % of the packages, but not less than five packages. Take samples from both the outer portion and the center of each package. Mix the samples so obtained to provide a composite sample of not less than 15 lb [6.5 kg]. Immediately place the sample in a clean, dry, airtight container for delivery to the laboratory.

7. Test Methods

7.1 Determine the physical properties of gypsum concrete in accordance with Test Methods C 472C 472.

7.1.1 Determine the setting time by the Vicat method.

8. Inspection

8.1 Inspection of the gypsum concrete shall be agreed upon between the purchaser and the supplier as part of the purchase agreement.

9. Rejection

9.1 Rejection of gypsum concrete that fails to conform to the requirements of this specification shall be reported to the producer or supplier promptly and in writing. The notice of

¹ This specification is under the jurisdiction of ASTM Committee C11 on Gypsum and Related Building Materials 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.

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