



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 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 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 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 28.

4.3 *Aggregates*—Specification C 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 $\frac{1}{16}$ in. [1.5 mm] thick.

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.

Current edition approved Aug. 10, 2000. Published September 2000. Originally published as C 317 – 53 T. Last previous edition C 317 – 98.

² *Annual Book of ASTM Standards*, Vol 04.01.

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 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 rejection shall contain a statement documenting how the gypsum concrete has failed to conform to the requirements of this specification.

10. Certification

10.1 When specified in the purchase agreement, a producer's or supplier's report shall be furnished at the time of shipment certifying that the product is in compliance with this specification.

11. Packaging and Marking

11.1 Gypsum concrete shall be shipped dry and free of lumps.

11.2 When shipped for resale, the following information shall be legibly marked on each package or on a tag of suitable size attached thereto:

11.2.1 Name of the manufacturer or the seller,

11.2.2 Brand,

11.2.3 Description, and

11.2.4 Net and gross weight of the package.

12. Keywords

12.1 aggregates; calcined gypsum; gypsum; gypsum concrete

SUMMARY OF CHANGES

This section identifies the location of changes to this specification that have been incorporated since the last issue. Committee C-11 has highlighted those changes that affect the technical interpretation or use of this specification.

C 317/C 317M-00:

(1) The designation was changed to a dual inch-pound/SI standard.

(2) Paragraph 1.2 was revised to designate a dual inch-pound/SI standard.

(3) Paragraphs 4.4, 5.2, 5.3, and 6.1 were revised to reflect a metric conversion.

(4) All SI units were placed in brackets.

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).