



Designation: C 587 – 97<sup>ε1</sup>

## Standard Specification for Gypsum Veneer Plaster<sup>1</sup>

This standard is issued under the fixed designation C 587; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

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

<sup>ε1</sup> NOTE—Note 1 was editorially added May 2002.

### 1. Scope

1.1 This specification covers calcined gypsum mixed at the mill with other ingredients to control working quality and setting time; specifically designed as a veneer plaster to be applied over gypsum base for veneer plasters, masonry or concrete surfaces to a maximum thickness of ¼ in. (6.4 mm) providing a surface ready for decoration.

NOTE 1—Specification C 843 contains application procedures for gypsum veneer plaster.

1.2 This specification covers test methods for determining the physical properties of gypsum veneer plasters and sets forth minimum requirements that must be met.

1.3 The values stated in inch-pound units are to be regarded as the standard. The SI (metric) values given in parentheses are approximate and are provided for information purposes only.

1.4 The text of this standard references notes and footnotes which provide explanatory material. These notes and footnotes shall not be considered as requirements of the standard.

1.5 The following safety hazards caveat applies only to the Test Methods portion, Section 5 of this specification: *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

### 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 588 Specification for Gypsum Base for Veneer Plasters<sup>2</sup>
- C 843 Specification for Application of Gypsum Veneer Plaster<sup>2</sup>

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee C-11 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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<sup>2</sup> Annual Book of ASTM Standards, Vol 04.01.

### 3. Terminology

#### 3.1 Definitions:

3.1.1 Definitions of terms shall be in accordance with Terminology C 11 and Specification C 843.

#### 3.2 Definition of Term Specific to This Standard:

3.2.1 *gypsum veneer plaster systems, n*— veneer plaster applied in accordance with Specification C 843 to gypsum base for veneer plasters.

### 4. Physical Properties

4.1 *Joint Strength*—Gypsum veneer plaster systems applied in accordance with Specification C 843 shall be tested in accordance with 5.7.4. The breaking load shall be not less than the parallel to surfacing loads specified in Specification C 588.

4.2 *Bond Strength*—The bond strength of the gypsum veneer plaster to the gypsum veneer base and, where applicable, between the base coat plaster and the finish coat shall not delaminate when tested in accordance with 5.7.1.

4.3 *Impact Strength*—Gypsum veneer plaster systems shall not crack or lose bond beyond the impact area when tested in accordance with 5.7.2.

4.4 *Flexure*—Gypsum veneer plaster systems shall exhibit crack resistance within the field of the gypsum base for veneer plasters such that radial or random cracking shall extend not more than ½ in. (13 mm) from the break line at failure when tested in accordance with 5.7.3. At rupture of the panel the veneer plaster shall be securely bonded to the face paper.

### 5. Test Methods

5.1 *Significance and Use*—These test methods provide procedures for evaluating the physical properties of gypsum veneer plaster. The degree of correlation between these test methods and service performance has not been determined.

5.2 *Materials*—Gypsum Base for Veneer Plaster, see Specification C 588.

5.3 *Sampling*—Sample not less than 1 % of the packages, but not less than 5 packages. Select packages to be sampled at random. Take samples both from the outer portion and the center of each package. Thoroughly mix the materials so obtained to provide a composite sample of not less than 15 lb (6.8 kg). Place this composite sample immediately in a clean,



dry, airtight container for delivery to the laboratory.

5.4 *Test Unit Preparation*—From the sample, prepare panels of veneer plaster system and cut four 2 ft (600 mm) square, and three 12 by 16 in. (300 by 400 mm) specimens.

5.5 *Conditioning*—Condition specimens to constant weight at a temperature of  $85 \pm 15^\circ\text{F}$  ( $29.5 \pm 8.5^\circ\text{C}$ ) and relative humidity of  $50 \pm 2\%$  (see Note 2). Test specimens individually after constant weight is reached.

NOTE 2—Laboratory test results indicate that conditioning temperatures may range from 70 to 100°F (21 to 38°C) without significantly affecting the results. However, relative humidity is critical. Therefore, specimens shall be tested within 10 min upon removal from the conditioning chamber.

5.6 *Number of Tests*—Run each test in triplicate.

5.7 *Test Procedure*:

5.7.1 *Bond Strength*:

5.7.1.1 Select three 2 ft (600 mm) square specimens. Raise the specimen and slam the back side (face not treated with veneer plaster) on a bare concrete floor repeatedly until the specimen is broken.

5.7.2 *Impact Strength*—Select one 2 ft (600 mm) square. Place the specimen horizontally, with the plaster surface face up, on a firm background. Drop a 1½ in. (38 mm) diameter polished steel ball that weighs  $7.8 \pm 0.1$  oz ( $221 \pm 3$  g) three times onto different areas of the panel surface. Drop the ball from a height of 36 in. (915 mm).

5.7.3 *Flexure*—Select three 12 by 16 in. (300 by 400 mm) specimens. Subject each specimen to a continuous, midpoint, loading applied at a rate of 1 in./min  $\pm 5\text{s}$  (25 mm/min  $\pm 5\text{s}$ ) downward to the back of the panel (plaster surface in tension) supported over a clear span of 14 in. (356 mm) until failure.

5.7.4 *Joint Strength*:

5.7.4.1 *Specimen preparation*—Cut two 8 by 12-in. (200 by 300 mm) pieces of gypsum base for veneer plaster for each specimen to be tested. One 12-in. edge of each piece shall be the paper-bound edge. Place the two pieces of gypsum base for veneer plaster face down with the paper-bound edges forming the joint. Apply a pregummed tape over the joint. (The tape will keep the joint from flexing during the specimen prepara-

tion.) Turn face up and apply joint tape and gypsum veneer plaster in accordance with Specification C 843.

5.7.4.2 *Procedure*—Condition the specimen and determine the flexural strength in accordance with Test Methods C 473. Apply the load parallel to and directly over the back of the joint.

5.8 *Precision and Bias*—Precision and bias have not been determined for these test methods.

## 6. Inspection

6.1 Inspection of the gypsum veneer plaster shall be agreed upon between the purchaser and the supplier as part of the purchase agreement.

## 7. Rejection and Rehearing

7.1 Rejection of gypsum veneer plaster 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 veneer plaster has failed to conform to the requirements of this specification.

## 8. Certification

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

## 9. Packaging and Package Marking

9.1 Gypsum veneer plaster shall be dry and free from lumps, and shall be shipped in packages.

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

9.2.1 Name of producer or supplier,

9.2.2 Brand,

9.2.3 Description, and

9.2.4 Net or gross weight, or both, of package.

## 10. Keywords

10.1 gypsum; gypsum veneer plaster; plaster; veneer plaster

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