



Standard Specification for Gypsum Casting Plaster and Gypsum Molding Plaster¹

This standard is issued under the fixed designation C59/C59M; 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 U.S. Department of Defense.

1. Scope

1.1 This specification covers gypsum casting plaster and gypsum molding plaster materials consisting essentially of calcined gypsum.

1.2 The values stated in either inch-pound or SI (metric) units are to be regarded as 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.

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

2. Referenced Documents

2.1 *ASTM Standards:*²

C11 Terminology Relating to Gypsum and Related Building Materials and Systems

C471M Test Methods for Chemical Analysis of Gypsum and Gypsum Products (Metric)

C472 Test Methods for Physical Testing of Gypsum, Gypsum Plasters and Gypsum Concrete

E11 Specification for Woven Wire Test Sieve Cloth and Test Sieves

3. Terminology

3.1 Definitions of terms shall be in accordance with Terminology **C11**.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *gypsum casting plaster, n*—a calcined gypsum plaster used primarily to form objects, such as lamp bases, art ware, and novelties, etc.

¹ 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** on Specifications and Test Methods for Gypsum Products.

Current edition approved Oct. 1, 2015. Published October 2015. Originally approved in 1926. Last previous edition approved in 2011 as C59/C59M – 00 (2011). DOI: 10.1520/C0059_C0059M-00R15.

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

3.2.2 *gypsum molding plaster, n*—a calcined gypsum plaster used primarily for plaster casts or molds, sometimes used as a gauging plaster.

4. Chemical Composition

4.1 Gypsum casting plaster and gypsum molding plaster shall have a purity of not less than 85 % $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ when tested in accordance with Test Methods **C471M**.

5. Physical Properties

5.1 Specimens shall be tested in accordance with Test Methods **C472**.

5.1.1 *Setting Time*—Gypsum casting plaster and gypsum molding plaster shall set in not less than 10 nor more than 50 min using the procedure for gypsum concrete and all gypsum plasters, except gypsum neat plaster.

5.1.2 *Compressive Strength*—Gypsum casting plaster and gypsum molding plaster shall have a compressive strength of not less than 1800 psi [12.4 MPa].

5.1.3 *Fineness*—Gypsum casting plaster and gypsum molding plaster shall all pass a No. 30 [600- μm] sieve and not less than 90 % shall pass a No. 100 [150- μm] sieve.³

6. Sampling

6.1 Randomly select not less than 1 % of the packages, but not less than 5 packages. Take samples of approximately equal amounts both from the outer portion and the center of each package. Mix the samples so obtained to provide a composite sample of not less than 7 lb [3 kg]. Immediately place the composite sample in a clean, dry, airtight container for delivery to the laboratory.

7. Inspection

7.1 Inspection of the gypsum casting and molding plaster shall be agreed upon by the purchaser and the supplier as part of the purchase agreement.

8. Rejection

8.1 Rejection of gypsum casting plaster and gypsum molding plaster that fails to conform to the requirements of this

³ Detailed requirements for these sieves are given in ASTM Specification **E11**.

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