



Designation: C35 – 01(Reapproved 2009)

## Standard Specification for Inorganic Aggregates for Use in Gypsum Plaster<sup>1</sup>

This standard is issued under the fixed designation C35; 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.*

### 1. Scope

1.1 This specification covers perlite, vermiculite, natural and manufactured sand for use as gypsum plaster aggregates.

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.3 *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.*

1.4 The text of this specification references notes and footnotes that provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the specification.

### 2. Referenced Documents

2.1 *ASTM Standards:*<sup>2</sup>

**C11 Terminology Relating to Gypsum and Related Building Materials and Systems**

**C29/C29M Test Method for Bulk Density (“Unit Weight”) and Voids in Aggregate**

**C40 Test Method for Organic Impurities in Fine Aggregates for Concrete**

**C136 Test Method for Sieve Analysis of Fine and Coarse Aggregates**

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

**D75 Practice for Sampling Aggregates**

**E11 Specification for Woven Wire Test Sieve Cloth and Test Sieves**

<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 C11.02 on Specifications and Test Methods for Accessories and Related Products.

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<sup>2</sup> 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. Terminology

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

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *manufactured sand, n*—the fine material resulting from the crushing and classification by screening, or otherwise, of rock, gravel, or blast furnace slag.

3.2.2 *natural sand, n*—the fine granular material resulting from the natural disintegration of rock or from the crushing of friable sandstone.

3.2.3 *perlite aggregate, n*—a siliceous volcanic glass expanded by heat.

3.2.4 *vermiculite aggregate, n*—a micaceous mineral expanded by heat.

### 4. Chemical Composition

4.1 Water-soluble impurities in sand shall not exceed 0.15 weight % and sodium ion content shall not exceed 0.02 weight % when tested in accordance with Section 7.

4.2 Sand shall develop a color no darker than the standard, when subjected to the colorimetric test for organic impurities in accordance with Test Method **C40**, unless it is established by adequate tests that the impurities causing the color are not harmful in plaster.

### 5. Mechanical Requirements

5.1 *Grading*—Shall be as follows when tested in accordance with Section 7:

5.1.1 Perlite and vermiculite shall be graded within the limits specified in **Table 1**.

5.1.2 *Natural and Manufactured Sand*—Shall be graded with not more than 50 % retained between any two consecutive sieves shown in **Table 1**, nor more than 25 % between the No. 50 (300  $\mu\text{m}$ ) and No. 100 (150  $\mu\text{m}$ ) sieves.

5.2 *Density:*

5.2.1 Perlite shall have a density of not less than 6 nor more than 12  $\text{lb/ft}^3$  (96 to 192  $\text{kg/m}^3$ ) when tested in accordance with Test Method **C29/C29M** using the shoveling procedure.

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