



Standard Specification for Inorganic Aggregates for Use in Gypsum Plaster¹

This standard is issued under the fixed designation C 35; 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 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 the standard. The values given in parentheses are provided for information purposes only.

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.*

2. Referenced Documents

2.1 ASTM Standards:

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

C 29/C 29M Test Method for Unit Weight and Voids in Aggregate³

C 40 Test Method for Organic Impurities in Fine Aggregates for Concrete³

C 136 Test Method for Sieve Analysis of Fine and Coarse Aggregates³

C 471 Test Methods for Chemical Analysis of Gypsum and Gypsum Products²

D 75 Practice for Sampling Aggregates⁴

E 11 Specification for Wire-Cloth and Sieves for Testing Purposes⁵

3. Terminology

3.1 Definitions shall be in accordance with Terminology C 11.

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 C 40, 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 μm) and No. 100 (150 μm) sieves.

5.2 Density:

5.2.1 Perlite shall have a density of not less than 6 nor more than 12 lb/ft³ (96 to 192 kg/m³) when tested in accordance with Test Method C 29/C 29M using the shoveling procedure.

5.2.2 Vermiculite shall have a density of not less than 6 nor more than 10 lb/ft³ (96 to 160 kg/m³) when tested in accordance with Test Method C 29/C 29M using the shoveling procedure.

6. Sampling

6.1 *Apparatus*—Suitable thief tube.

6.2 *Bulk Aggregate*—Obtain specimens of sand in accordance with Practice D 75.

6.3 *Bagged Aggregate*—Obtain from one bag randomly selected from each 100 bags but not less than 6 bags from the shipment. For smaller shipments, not less than 6 % of the number of bags shall constitute the sample.

¹ This specification is under the jurisdiction of ASTM Committee C11 on Ceiling and Walls and is the direct responsibility of Subcommittee C11.02 on Specifications and Test Methods for Accessories and Related Products.

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

³ *Annual Book of ASTM Standards*, Vol 04.02.

⁴ *Annual Book of ASTM Standards*, Vol 04.03.

⁵ *Annual Book of ASTM Standards*, Vol 14.02.

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