



Standard Specification for Aggregate for Masonry Mortar¹

This standard is issued under the fixed designation C144; 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 aggregate for use in masonry mortar.
- 1.2 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.
- 1.3 The following precautionary caveat pertains only to the test methods portion, Section 7, of this standard. *This standard does not purport to address all of the safety problems, 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:²

- C40 Test Method for Organic Impurities in Fine Aggregates for Concrete
- C87 Test Method for Effect of Organic Impurities in Fine Aggregate on Strength of Mortar
- C88 Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
- C117 Test Method for Materials Finer than 75- μ m (No. 200) Sieve in Mineral Aggregates by Washing
- C123 Test Method for Lightweight Particles in Aggregate
- C128 Test Method for Density, Relative Density (Specific Gravity), and Absorption of Fine Aggregate
- C136 Test Method for Sieve Analysis of Fine and Coarse Aggregates
- C142 Test Method for Clay Lumps and Friable Particles in Aggregates
- C270 Specification for Mortar for Unit Masonry
- C404 Specification for Aggregates for Masonry Grout
- D75 Practice for Sampling Aggregates

3. Materials and Manufacture

3.1 Aggregate for use in masonry mortar shall consist of natural sand or manufactured sand. Manufactured sand is the product obtained by crushing stone, gravel, or air-cooled iron blast-furnace slag specially processed to ensure suitable gradation.

NOTE 1—Care should be taken to ensure a suitable particle shape, since excessive quantities of flat and elongated particles have historically caused problems with workability.

4. Grading

4.1 Aggregate for use in masonry mortar shall be graded within the following limits, depending upon whether natural sand or manufactured sand is to be used:

| Sieve-Size Sieve Designation | | Percent Passing | |
|---------------------------------|--|-----------------|-------------------|
| | | Natural Sand | Manufactured Sand |
| 4.75-mm (No. 4) | | 100 | 100 |
| 2.36-mm (No. 8) | | 95 to 100 | 95 to 100 |
| 1.18-mm (No. 16) | | 70 to 100 | 70 to 100 |
| 600- μ m (No. 30) | | 40 to 75 | 40 to 75 |
| 300- μ m (No. 50) | | 10 to 35 | 20 to 40 |

¹ This specification is under the jurisdiction of ASTM Committee C12 on Mortars and Grouts for Unit Masonry and is the direct responsibility of Subcommittee C12.04 on Specifications for Aggregates for Mortars.

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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.