



Designation: C 778 – 02

Standard Specification for Standard Sand¹

This standard is issued under the fixed designation C 778; 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 standard sand for use in the testing of hydraulic cements.

1.2 The values stated in SI units are to be regarded as the standard.

1.3 Values in SI units shall be obtained by measurement in SI units or by appropriate conversion, using the Rules for Conversion and Rounding given in IEEE/ASTM SI 10, of measurements made in other units.

1.4 *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 109/C 109M Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)²

C 127 Test Method for Specific Gravity and Absorption of Coarse Aggregate³

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

C 150 Specification for Portland Cement²

C 185 Test Method for Air Content of Hydraulic Cement Mortar²

C 595 Specification for Blended Hydraulic Cements²

C 702 Practice for Reducing Samples of Aggregate to Testing Size³

C 1005 Specification for Reference Masses and Devices for Determining Mass for Use in the Physical Testing of Hydraulic Cements²

E 11 Specification for Wire-Cloth and Sieves for Testing Purposes⁴

¹ This specification is under the jurisdiction of ASTM Committee C01 on Cement and is the direct responsibility of Subcommittee C01.95 on Coordination of Standards.

Current edition approved Dec. 10, 2002. Published January 2003. Originally approved in 1974. Last previous edition approved in 2000 as C 778 – 00.

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 14.02.

IEEE/ASTM SI 10 Standard for Use of the International System of Units (SI): The Modern Metric System⁵

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *20–30 sand, n*—standard sand, predominantly graded to pass a 850- μm (No. 20) sieve and be retained on a 600- μm (No. 30) sieve.

3.1.2 *graded sand, n*—standard sand, predominantly graded between the 600- μm (No. 30) sieve and the 150- μm (No. 100) sieve.

3.1.3 *standard sand, n*—silica sand, composed almost entirely of naturally rounded grains of nearly pure quartz, used for preparing mortars in the testing of hydraulic cements.

4. Requirements

4.1 Sand shall meet the requirements of Table 1 with respect to grading, source of sand, and absence of undesirable air entraining characteristics.

METHODS OF SAMPLING AND TESTING STANDARD SANDS

5. Apparatus

5.1 *Sieves*—The sieves shall be standard 203-mm (8-in.) diameter, full-height, wire-cloth sieves, conforming to the requirements of Specification E 11, and of the following sizes:

1.18-mm (No. 16)	425- μm (No. 40)
850- μm (No. 20)	300- μm (No. 50)
600- μm (No. 30)	150- μm (No. 100)

5.2 *Sample Splitter*—The sample splitter shall be of the riffle type and shall have an even number of equal-width chutes that alternately discharge in opposite directions. The device shall have no fewer than eight chutes having a maximum opening no greater than 13 mm, and a minimum opening at least three times the diameter of the largest particle of sand in a sample to be split. It shall be equipped with a hopper or straightedged pan by which a sample may be fed to the chutes at a controlled rate, and two receptacles to hold the two halves

⁵ *Annual Book of ASTM Standards*, Vol 14.04.