Designation: C 786 – 96

Standard Test Method for Fineness of Hydraulic Cement and Raw Materials by the 300-µm (No. 50), 150-µm (No. 100), and 75-µm (No. 200) Sieves by Wet Methods[1]

This standard is issued under the fixed designation C 786; 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.

1. Scope

1.1 This test method covers wet sieving techniques for determination of fineness of hydraulic cement and raw materials by means of the 300-µm (No. 50), the 150-µm (No. 100), and the 75-µm (No. 200) sieves.

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

2. Referenced Documents

2.1 *ASTM Standards:*

C 114 Test Methods for Chemical Analysis of Hydraulic Cement[2]

C 184 Test Method for Fineness of Hydraulic Cement by the 150-µm (No. 100) and 75-µm (No. 200) Sieves[2]

C 430 Test Method for Fineness of Hydraulic Cement by the 45-µm (No. 325) Sieve[2]

E 11 Specification for Wire-Cloth Sieves for Testing Purposes[3]

3. Apparatus

3.1 *Wet Test Sieves*—Standard 300-µm (No. 50), 150-µm (No. 100), or 75-µm (No. 200) sieve cloth conforming to the requirements of Specification E 11, for standard sieves shall be woven from AISI Type 304 wire. The cloth shall be mounted in the frame without distortion, looseness, or wrinkling. Sieve frames are designated as 3 or 4-in. (76.2 or 101.6-mm) diameter type, as follows:

Sieves	76 mm (3-in.) mm (in.)	102 mm (4-in.) mm (in.)
Diameter of frame	76 ± 6 (3.0 ± 0.25)	102 ± 6 (4.0 ± 0.25)
Depth of sieve from top of frame	83 ± 6 (3.25 ± 0.25)	108 ± 6 (4.25 ± 0.25)
Overall height	102 ± 6 (4.0 ± 0.25)	127 ± 6 (5.0 ± 0.25)

3.1.1 For a sieve fabricated by soldering the cloth to the frame, the joint shall be made smooth to prevent material from lodging in the joints between the sieve cloth and the frame. Two-piece sieves shall clamp tightly on the cloth to prevent particles from lodging in the joints between the sieve cloth and the frame, and shall have legs of sufficient length, 19-mm (0.75-in.) minimum, to allow air circulation beneath the sieve cloth.

3.2 *Spray Nozzle*, conforming to the requirements of Test Method C 430. Nozzles having an alternative design are acceptable if the sieve test results agree with those performed using a nozzle conforming to Test Method C 430.

3.3 *Pressure Gage*, conforming to the requirements of Test Method C 430.

3.4 *Balance*, analytical, accurate to within 0.005 g.

3.5 *Weights*—The weights used in fineness determinations shall conform to the requirements of Test Methods C 114.

3.6 *Brush*—A nylon or pure bristle brush will be required for use in cleaning the sieves. A13-mm (0.5-in.) diameter round-style brush with a 229-mm (9-in.) handle is a convenient size.

NOTE 1—**Caution:** Do not use brass or steel-bristle brushes for cleaning sieves due to the possibility that the stiff bristle will part the wire weave, thereby altering the size of the openings and rendering the sieve useless. A13-mm (½-in.) hog bristle stencil brush is also satisfactory for brushing sieves.

3.7 *Dry Test Sieves*—The standard samples for calibrating the wet test sieves must be standardized on 203-mm (8-in.) diameter sieves meeting the requirements of Test Method C 184. The 300-µm (No. 50) sieve shall meet the same requirements.

[1] This test method is under the jurisdiction of ASTM Committee C-1 on Cement and is the direct responsibility of Subcommittee C01.25 on Fineness.

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

[3] *Annual Book of ASTM Standards*, Vol 14.02.