



Standard Test Methods for Amount of Material in Soils Finer Than the No. 200 (75- μ m) Sieve¹

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This standard has been approved for use by agencies of the Department of Defense.

1. Scope *

1.1 These test methods cover determination of the amount of material finer than a 75- μ m (No. 200) sieve by washing.

1.2 Two methods for determining the amount of material finer than the No. 200 sieve are provided. The method to be used shall be specified by the requesting authority. If no method is specified, the choice should be based on the guidance given in 4.2 and 7.3

1.2.1 *Method A*—Test specimen is not dispersed prior to wash sieving.

1.2.2 *Method B*—Test specimen is dispersed by soaking in water containing a deflocculating agent prior to wash sieving

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

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 702 Practice for Reducing Field Samples of Aggregate to Testing Size²

D 75 Practice for Sampling Aggregates³

D 422 Test Method for Particle-Size Analysis of Soils⁴

D 2216 Test Method for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass⁴

D 2487 Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)⁴

D 3740 Practice for Minimum Requirement for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction⁴

D 4753 Specification for Evaluating, Selecting, and Specifying Balances and Scales for Use in Soil, Rock, and

Related Construction Materials for Testing⁴

D 6026 Practice for Using Significant Digits in Geotechnical Data⁵

E 11 Specification for Wire-Cloth Sieves for Testing Purposes⁶

E 145 Specification for Gravity-Convection and Force-Ventilation Ovens⁶

E 177 Practice for Use of the Terms Precision and Bias in ASTM Test Methods⁶

E 691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method⁶

3. Summary of Test Method

3.1 A specimen of the soil is washed over a 75- μ m (No. 200) sieve. Clay and other particles that are dispersed by the wash water, as well as water-soluble materials, are removed from the soil during the test. The loss in mass resulting from the wash treatment is calculated as mass percent of the original sample and is reported as the percentage of material finer than a 75- μ m (No. 200) sieve by washing.

4. Significance and Use

4.1 Material finer than the 75- μ m (No. 200) sieve can be separated from larger particles much more efficiently and completely by wet sieving than with dry sieving. Therefore, when accurate determinations of material finer than 75- μ m sieve in soil are desired, this test method is used on the test specimen prior to dry sieving. Usually the additional amount of material finer than 75- μ m sieve obtained in the dry sieving process is a small amount. If it is large, the efficiency of the washing operation should be checked, as it could be an indication of degradation of the soil.

4.2 With some soils, particularly clayey soils, in order to keep the finer material from adhering to the larger particles, it will be necessary to soak the soil prior to washing it through the sieve. A deflocculating agent (dispersing agent) should be added to the soil when it is soaked.

NOTE 1—The quality of the result produced by this standard is dependent on the competence of the personnel performing it, and the suitability of the equipment and facilities used. Agencies that meet the

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² Annual Book of ASTM Standards, Vol 04.02.

³ Annual Book of ASTM Standards, Vol 04.03.

⁴ Annual Book of ASTM Standards, Vol 04.08.

⁵ Annual Book of ASTM Standards, Vol 04.09.

⁶ Annual Book of ASTM Standards, Vol 14.02.

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