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American Association of State
Highway and Transportation Officials Standard
AASHTO No. T112

Standard Test Method for Clay Lumps and Friable Particles in Aggregates[1]

This standard is issued under the fixed designation C 142; 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 test method covers the approximate determination of clay lumps and friable particles in aggregates.

1.2 The values given in SI 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 33 Specification for Concrete Aggregates[2]

C 117 Test Method for Materials Finer Than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing[2]

C 125 Terminology Relating to Concrete and Concrete Aggregates[2]

C 1005 Specification for Reference Masses and Devices for Determining Mass for Use in the Physical Testing of Hydraulic Cements[3]

E 11 Specification for Wire-Cloth Sieves for Testing Purposes[4]

3. Significance and Use

3.1 This test method is of primary significance in determining the acceptability of aggregate with respect to the requirements of Specification C 33.

4. Apparatus

4.1 *Balance*—A balance or scale accurate to within 0.1 % of the mass of the test sample at any point within the range of use. Balances shall conform to the accuracy of the applicable sections of Specification C 1005.

4.2 *Containers*—Rust-resistant containers of a size and shape that will permit the spreading of the sample on the bottom in a thin layer.

4.3 *Sieves*—Sieves conforming to Specification E 11.

4.4 *Drying Oven*—An oven providing free circulation of air and capable of maintaining a temperature of 110 ± 5°C (230 ± 9°F).

5. Samples

5.1 Aggregate for this test method shall consist of the material remaining after completion of testing in accordance with Test Method C 117. To provide the quantities designated in 5.3 and 5.4 it may be necessary to combine material from more than one test by Test Method C 117.

5.2 Dry the aggregate to substantially constant mass at a temperature of 110 ± 5°C (230 ± 9°F).

5.3 Test samples of fine aggregate shall consist of the particles coarser than a 1.18-mm (No. 16) sieve and shall have a mass not less than 25 g.

5.4 Separate the test samples of coarse aggregate into different sizes, using the following sieves: 4.75-mm (No. 4), 9.5-mm (⅜-in.), 19.0-mm (¾-in.), and 37.5-mm (1½-in.). The test sample shall have a mass not less than indicated in the following table:

Size of Particles Making Up Test Sample	Mass of Test Sample, min, g
4.75 to 9.5-mm (No. 4 to ⅜-in.)	1000
9.5 to 19.0-mm (⅜ to ¾-in.)	2000
19.0 to 37.5-mm (¾ to 1½-in.)	3000
Over 37.5-mm (1½-in.)	5000

5.5 In the case of mixtures of fine and coarse aggregates, separate the material on the 4.75-mm (No. 4) sieve, and prepare the samples of fine and coarse aggregates in accordance with 5.3 and 5.4.

6. Procedure

6.1 Determine the mass of the test sample to the accuracy specified in 4.1 and spread it in a thin layer on the bottom of the container, cover it with distilled water, and soak it for a period of 24 ± 4 h. Roll and squeeze particles individually between

[1] This test method is under the jurisdiction of ASTM Committee C-9 on Concrete and Concrete Aggregates and is the direct responsibility of Subcommittee C09.20 on Normal Weight Aggregates.

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[2] *Annual Book of ASTM Standards*, Vol 04.02.

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

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