



# Standard Test Method for Clay Lumps and Friable Particles in Aggregates<sup>1</sup>

This standard is issued under the fixed designation C142/C142M; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope

1.1 This test method covers the approximate determination of clay lumps and friable particles in aggregates.

1.2 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

NOTE 1—Sieve sizes openings are identified by their Specification E11 designation with their alternative Specification E11 designation given in parentheses for information 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:*<sup>2</sup>

C33 Specification for Concrete Aggregates

C117 Test Method for Materials Finer than 75- $\mu$ m (No. 200) Sieve in Mineral Aggregates by Washing

C125 Terminology Relating to Concrete and Concrete Aggregates

C1005 Specification for Reference Masses and Devices for Determining Mass and Volume for Use in the Physical Testing of Hydraulic Cements

E11 Specification for Woven Wire Test Sieve Cloth and Test Sieves

<sup>1</sup> This test method is under the jurisdiction of ASTM Committee C09 on Concrete and Concrete Aggregates and is the direct responsibility of Subcommittee C09.20 on Normal Weight Aggregates.

Current edition approved Dec. 15, 2010. Published January 2011. Originally approved in 1938. Last previous edition approved in 2004 as C142-97(2004). DOI: 10.1520/C0142\_C0142M-10.

<sup>2</sup> 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.

## 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 C33.

## 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 C1005.

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 E11.

4.4 *Drying Oven*—An oven providing free circulation of air and capable of maintaining a temperature of  $110 \pm 5$  °C [ $230 \pm 10$  °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 C117. 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 C117.

5.2 Dry the aggregate to substantially constant mass at a temperature of  $110 \pm 5$  °C [ $230 \pm 10$  °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 ( $\frac{3}{8}$ -in.), 19.0-mm ( $\frac{3}{4}$ -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 $\frac{3}{8}$ -in.)	1000
9.5 to 19.0-mm ( $\frac{3}{8}$ to $\frac{3}{4}$ -in.)	2000
19.0 to 37.5-mm ( $\frac{3}{4}$ to 1½-in.)	3000
Over 37.5-mm (1½-in.)	5000