Percentages of Fractured Particles in Coarse Aggregate ASTM D5821 - 13

APPARATUS / SECTION 5.

1. Balance / Clause 5.1 – Accurate and readable to within 0.1% of the test sample mass
   At any point within the range of use ..... _____

2. Sieves / Clause 5.2 - Conforming to ASTM E11……..... _____

3. Splitter / Clause 5.3 ..... _____

4. Spatula / Clause 5.4 ..... _____

SAMPLING / SECTION 6. & SAMPLE PREPARATION SECTION 7.

1. Field Sample / Clause 6.1
   - Sampled in accordance with ASTM D75 …… _____

2. Sample Preparation / Section 7.0

   - Sample sufficiently dried to separate CA and FA material on 4.75mm (No. 4) sieve? _____
   - 4.75mm material reduced in accordance with ASTM C702 to appropriate test size?.. _____
   - Mass of sample shall be at least large enough so that the largest particle
     Is not more than 1% of the sample mass? …… _____

Or

The test sample shall be a least as large as indicated in chart below,
whichever is smaller? …… _____

Nominal Maximum Size Square Opening, mm (in.)	Minimum Test Sample Mass, g (Approx. lb)
9.5 (3/8)	200 (0.5)
12.5 (½)	500 (1.0)
19.0 (¾)	1,500 (3.0)
25.0 (1.0)	3,000 (6.5)
37.5 (1 ½)	7,500 (16.5)
50 (2.0)	15,000 (33.0)
63 (2 ½)	30,000 (66.0)
75 (3)	60,000 (132)
90 (3 ½)	90,000 (198)

Clause 7.3 - Samples of nominal maximum size 19.0 mm or larger, the portion passing 9.5 mm sieve may be further reduced in accordance with the ASTM C702 to a minimum of 200 g. Determine fracture count on both portions and determine weighted average percentage of fractured particles.

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PROCEDURE / SECTION 8.

1. Washed sample over 4.75 mm or smaller designated sieve and oven dried? …….. _____
2. Determined mass to the nearest 0.1% of the original dry sample mass? ……... _____
3. Spread sample on a suitably large clean flat surface area and separate into 2 categories? ___

   - Fractured particles having the required number of fractured faces according to specifications? …… _____
   - Particles not meeting the specified criteria?..... _____

   Definitions:

   Fractured Face: Fractured face representing at least ¼ of the **maximum** cross- sectional area of the particle. Face has a sharp or slightly blunt edge.

   Fractured Particle: Particle having at least the minimum number of fractured faces specified.

4. Determine the mass or count of particles in the fractured particle category and the mass or count of the non fractured category? …… _____
5. Calculate % fractured particles? …… _____

REPORT / SECTION 9.

1. Clause 9.1 - Mass or count percentage reported to the nearest 1%? …… _____

$$P = [F / (F + N)] \times 100$$

Where:
P = percentage of particles with specified number of fractured faces,
F = mass or count of fractured particles with at least the specified number of fractured faces, and
N = mass or count of particles in the non-fractured category not meeting the fractured particle criteria.

COMMENTS: