

Colorado Procedure 31-20

Standard Method of Test for

Sieve Analysis of Aggregates

1. SCOPE

1.1 This method covers the determination of the particle size distribution of fine and coarse aggregate

2. REFERENCED DOCUMENTS

2.1 AASHTO Standards:

T 11 Materials Finer than the No. 200 Sieve in Mineral Aggregates by Washing
T 27 Sieve Analysis of Fine and Coarse Aggregates

2.2 Colorado Procedures:

CP 30 Sampling of Aggregates
CP 32 Reducing Field Samples of Soil and Aggregate to Testing Size

3. PROCEDURE

3.1 AASHTO T 11 and T 27 shall be used to determine the sieve analysis of fine and coarse aggregates with the following exceptions:

3.1.1 Unless otherwise specified, follow CP 30 for obtaining a sample of aggregates.

3.1.2 The minimum test sample weight shall be that in Table 31-1.

Table 31-1

Aggregate Nominal Maximum Size Square Opening, inches	Minimum Weight (Mass) of Test Sample, Pounds (kg)
< 3/8	0.66 (0.30)
3/8	2.2 (1.0)
1/2	3.3 (1.5)
3/4	4.4 (2.0)
1	5.5 (2.5)
1-1/2	11.0 (5.0)
2	16.0 (7.5)
2-1/2	22.0 (10.0)
3	27.5 (12.5)
3-1/2	33.0 (15.0)

NOTE 1: Nominal maximum size is as defined in the Appendix of the Field Materials Manual.

3.1.3 A split moisture sample may be used to accelerate the test procedure using the following procedure:

3.1.3.1 Following CP 32 split and weigh the material immediately into two approximately equal samples.

3.1.3.2 Dry one of the samples to a constant mass using a hot plate or a 230°F ± 9° F oven to determine its moisture content.

3.1.3.3 Determine the dry weight of the second sample using the following equation:

$$W_{Dry} = \frac{W_{Wet}}{100+MC} \times 100$$

Where:

W_{Dry} = Dry weight (mass) of 2nd sample

W_{Wet} = Wet weight of 2nd sample

MC = Moisture content of 1st sample

3.1.3.4 Determine the sieve analysis on the 2nd sample using AASHTO T 11 and T 27.