

## Colorado Procedure 31-23

*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.

**NOTE 2:** AASHTO T27 allows splitting the sample on the No. 4 screen.

3.1.3 To accelerate the test procedure, a split moisture sample may be used to determine the dry weight. Dry the 1<sup>st</sup> split sample, the moisture sample to a constant mass using a hot plate or a 230° F ± 9° F oven to determine its moisture content.

3.1.3.1 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 2<sup>nd</sup> sample

$W_{Wet}$  = Wet weight of 2<sup>nd</sup> sample

MC = Moisture content of 1<sup>st</sup> sample

3.1.3.2 Determine the sieve analysis on the 2<sup>nd</sup> sample using AASHTO T 11 and T 27.