

Determination of Percentage of Chocolate Rock In Coarse Aggregate

1. Scope:

This test is for determining chocolate rock in + #4 coarse aggregate. Brownish clay lumps, silt-stone, chalk, iron materials, and various concretions are referred to as chocolate rock.

NOTE: The sample of coarse aggregate used for SD 206 and/or SD 218 should be used for this test, to eliminate the need for separate samples.

2. Apparatus:

- 2.1 Scale or balance having the capacity to weigh any sample which may be tested utilizing this procedure and readable to the nearest 0.1 gram.
- 2.2 Drying oven capable of maintaining a temperature of $230^{\circ} \pm 9^{\circ}\text{F}$.
- 2.3 Sieve. A #4 sieve conforming to the requirements of ASTM E11.

3. Procedure:

- 3.1 Obtain a sample of 5000 grams minimum in accordance with SD 201.
- 3.2 Wash and dry the material retained on the #4 sieve in an oven at $230^{\circ} \pm 9^{\circ}\text{F}$. Weigh the material to the nearest 0.1 gram and dry it to a constant weight as per SD 108.
- 3.3 Weigh the sample to the nearest 0.1 gram.
- 3.4 Spread the aggregate out on a flat surface so that each rock can be examined to determine if it is chocolate rock.
- 3.5 Collect all chocolate rock and weigh to the nearest 0.1 gram.

NOTE: When this test is performed in conjunction with SD 218, the chocolate rock is collected from the individual sieve sizes and then combined and weighed to the nearest 0.1 gram.

4. Report:

4.1 The percentage of chocolate rock shall be calculated from the following formula:

$$\begin{aligned} & \% \text{ of chocolate rock} = \\ & \frac{\text{Weight of chocolate rock}}{\text{Total weight of + \#4 aggregate}} \times 100 \end{aligned}$$

4.2 Report on a DOT-38.

4.3 Report the percentage to the nearest 0.1%.

5. References:

ASTM E11
SD 108
SD 201
SD 206
SD 218
DOT-38