

Method of Test for Amount of Material Finer than #200 Sieve

1. Scope:

This test covers the determination of the amount of material finer than a #200 sieve.

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 Sieves. A nest of two sieves with the lower being a #200 sieve and the upper being a sieve with openings in the range of #8 to #16, both conforming to the requirements of AASHTO M 92.
- 2.3 Container. A pan or vessel of a size sufficient to contain the sample covered with water and to permit vigorous agitation without loss of material or water.
- 2.4 Drying oven capable of maintaining a temperature of $230^{\circ} \pm 9^{\circ}\text{F}$.

3. Procedure:

- 3.1 Obtain samples in accordance with SD 201.
- 3.2 The size of the specimen shall conform to the following:

NOTE: Nominal maximum size of particle is denoted by the smallest sieve opening listed below, through which 90% or more of the sample being tested will pass.

Nominal maximum size of particles	Minimum weight of sample, grams
#4	500
3/8"	1000
1/2"	2000
3/4"	2500
1"	3500
1 1/2" & above	5000

- 3.3 Dry the sample to a constant weight in an oven at $230^{\circ} \pm 9^{\circ}\text{F}$ or in accordance with SD 108. Weigh the material to the nearest 0.1 gram.
- 3.4 Place the sample in the container and add enough water to cover it. Agitate the sample with sufficient vigor to result in complete separation of all particles finer than the #200 sieve from the coarser particles, and to bring the fine material into suspension. Pour the wash water containing the suspended and dissolved solids over the nest of sieves. Repeat the operation until the wash water is clear.

NOTE: Plain water should be used as noted above unless the finer material that is adhering to the larger particles can't be removed readily with plain water because of some clay coatings or when aggregates have been extracted from bituminous mixtures. In these cases the fine materials will be separated more readily when using a wetting agent such as Aerosol OT, Alconox, or liquid dishwashing detergents. Only use enough wetting agent so that a small amount of suds is obtained.

- 3.5 Dry the washed aggregate to a constant weight (As defined in section 3.3 above) in an oven at $230^{\circ} \pm 9^{\circ}\text{F}$ or in accordance with SD 108.

NOTE: If the material being tested also requires testing in accordance with SD 216 and/or SD 218, material from this test may be used to eliminate the need for additional testing specimens.

4. Report:

- 4.1 Calculate the amount of material passing a #200 sieve by washing as follows:

$$\frac{(\text{Original dry weight} - \text{weight after washing})}{\text{Original dry weight}} \times 100 = \begin{array}{l} \% \text{ of material finer than} \\ \#200 \text{ sieve} \end{array}$$

- 4.2 Percentages shall be reported to the whole number or decimal required by the specification.

5. References:

AASHTO M 92
SD 108
SD 201
SD 216
SD 218
DOT-3