

**Standard Method of Test for  
Determination of Combined Silt and Clay**  
SCDOT Designation: SC-T-5 (8/08)

**1. SCOPE**

- 1.1. This method covers a procedure for determining the combined silt and clay (total material passing the No. 200 sieve) in a local sand passing the No. 4 sieve.
- 1.2. This standard may involve hazardous materials, operations and equipment. This standard does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this standard to consult and establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

**2. REFERENCED DOCUMENT**

- 2.1. SC-T-3.

**3. SUMMARY OF TEST METHOD**

- 3.1. The total percentage of silt and clay of a sample of fine aggregate is determined by washing the sample over a No. 200 sieve.

**4. SIGNIFICANCE AND USE**

- 4.1. The total percentage of silt and clay of a sample of natural fine aggregate can be tested quickly to determine the material's suitability for use in asphalt mixes. Excess fines can be detrimental to the performance of certain asphalt mixes.

**5. APPARATUS**

- 5.1. No. 4 sieve, No. 200 sieve, pan (approximately 11 inches in diameter and 3 inches in depth), balance or electronic scales, wetting agent.

**6. TEST SPECIMENS**

- 6.1. The sample shall consist of approximately 1000 grams of material. Larger samples shall be reduced to this size by the procedures in SC-T-3.

**7. PROCEDURE**

- 7.1. The material should be screened through a No. 4 sieve and the material retained on this sieve shall be discarded.
- 7.2. Approximately 300 grams of the material passing the No. 4 sieve shall be weighed and placed in a pan approximately 11 inches in diameter and 3 inches deep. The sample shall be covered with water containing a sufficient amount of wetting agent to assure a thorough separation of the material finer than the No. 200 sieve from the coarser particles and allowed to stand for approximately 15 minutes.

- 7.3. The contents of the pan should be stirred vigorously with a trowel or spoon and allowed to settle for about a minute. The wash water shall then be poured down a No. 200 sieve. Care should be taken to avoid spilling any of the contents. The operations shall be repeated until the wash water is clear. Do not leave the material on the spoon used for stirring. Any material that is retained on the No. 200 sieve shall then be washed back into the pan and the material in the pan dried to a constant weight. This material shall then be weighed.

## 8. CALCULATIONS

- 8.1. To determine the percentage of material passing the No. 200 sieve, divide the weight of the sample lost during washing by the original dry weight of the sample as follows:

$$\begin{array}{lcl} \text{Original Dry Weight of Sample} & = & 427.4 \text{ grams} \\ \text{Dry Weight of Sample After Washing} & = & 401.5 \text{ grams} \\ \text{Total Material Lost through Washing} & = & 427.4 - 401.5 = 25.9 \text{ grams} \end{array}$$

$$\text{Percentage Passing the No. 200 Sieve} = \left( \frac{25.9 \text{ grams}}{427.4 \text{ grams}} \right) \times 100 = 6.1\%$$

## 9. REPORT

- 9.1. Report the percentage of the sample passing the No. 200 sieve to the nearest 0.1 percent.