

**IA Checklist  
 T-88  
 PARTICLE SIZE ANALYSIS OF SOILS**

Procedure		P	F	NA
1	The test sample for particle size analysis shall be prepared in accordance with R 58 for Dry Preparation of Disturbed Soil and Soil-Aggregate Samples for Test. The representative portion of the original air-dry sample selected for test shall be weighed.			
2	The size of the portion passing the 2.00-mm (No. 10) or 0.425-mm (No. 40) sieve shall be approximately 100 g for sandy soil and approximately 50 g for silty or clayey soils, and for hygroscopic moisture determination, at least 10 g. The test sample selected shall be processed by one of the following methods:			
3	<b><u>Alternate Method Using 2.00-mm (No. 10) Sieve—</u></b> The sample shall be separated on the 2.00-mm (No.10) sieve as described in R 58. The portion retained on the 2.00-mm (No.10) sieve after the second sieving shall be processed and sieve Analysis of Fraction Retained on 2.00-mm No.10 Sieve. The portion passing the 2.00-mm (No.10) sieve in both sieving operations shall be weighed and prepared as described in R 58. Subsamples for hygroscopic moisture and sieve analysis shall be weighed immediately or placed in air-tight containers until tested.			
4	<b><u>SIEVE ANALYSIS OF FRACTION RETAINED ON 2.00-MM (NO. 10) SIEVE</u></b> The portion of the sample retained on the 2.00-mm (No. 10) sieve shall be separated into a series of sizes by the use of the (3 in., 2 in., 1 in., 3/8in., and the No. 4) sieves, and using other sieves as may be needed depending on the sample or upon the specification for the material being tested.			
5	The sieving operation shall be conducted by means of a lateral and vertical motion of the sieve, accomplished by jarring action so as to keep the sample moving continuously over the surface of the sieve. In no case shall fragments in the sample be turned or manipulated through the sieve by hand. Sieving shall be continued until not more than 1 percent by mass of the residue passes any sieve during 60 sec. When sieving machines are used, their thoroughness of sieving shall be tested by comparison with hand methods of sieving. The portion of the sample retained on each sieve shall be weighed and the mass recorded, although it shall be permissible to record the accumulated masses as the contents of each successive sieve are added to the fractions previously deposited on the scales pan.			
6	The Sample prepared according to R-58 is separated on the 2.00 mm (No.10) sieve to meet the minimum sample size requirements. (Note) With the Hydrometer portion omitted, the remainder of the test method is a wet wash of over the 0.075 mm (No 200) sieve followed by a dry sieve analysis.			
7	The sample passing the 2.00 mm (No. 10) sieve for sieve analysis is mixed with the dispersing agent and agitated using a malt mixer and washed over the 0.075 mm (No. 200) sieve. The portion retained on the 0.075 mm (No. 200) sieve is dried, weighed and the mass recorded.			
8	The dried portion retained on the 0.075 mm (No. 200) sieve is separated using finer sieves, typically the 0.425 mm (No. 40) sieve and 0.075mm (No. 200) sieve. The portion retained on each sieve is weighed and the mass recorded. Calculate corrected percent passing for total specimen.			
9	Determine the mass of the sample for the hygroscopic moisture determination. Dry the sample according to T 265 to determine the moisture content, and record the results. Sample weights corrected using hygroscopic moisture results.			