



How to Run a Sieve Analysis for SSTS Sand Analysis

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1. Collect, crush and dry sample (air dry 24 hours or longer).
2. Determine weight of entire sample and record.
3. Sieve sample with a #10 sieve. Material that does not pass through this sieve is non-soil material (rock) according to USDA texturing.
4. Weigh the amount of material on the top of the #10 sieve – this is the % rock in the sample.
5. Weigh the soil that passed through the #10 sieve and record. This is the entire sample of soil materials.
6. Sieve sample with a #35 sieve. This sieve separates the coarse and very coarse sand from medium sand and finer particles.
7. Weigh the soil that remains on top of the #35 sieve – this is the % coarse sand in the sample.
 $\% \text{ coarse sand} = (\text{weight on top of \#35 sieve} / \text{weight of soil passed through \#10}) * 100$
8. Sieve sample with a #60 sieve. This sieve separates the medium sand from the finer particles.
9. Weigh the soil that remains on top of the #60 sieve – this is the % medium sand in the sample.
 $\% \text{ medium sand} = (\text{weight on top of \#60 sieve} / \text{weight of soil passed through \#10}) * 100$
10. Sieve sample with a #270 sieve. This sieve separates the fine and very fine sand from the silts and clays.
11. Weigh the soil that remains on top of the #270 sieve – this is the % fine and very fine sand in the sample. $\% \text{ fine sand} = (\text{weight on top of \#270 sieve} / \text{weight of soil passed through \#10}) * 100$
12. Proceed to Determining the Sand Textural Classification

Determining the Sand Textural Classification

- a. If the coarse sand is >25% and there is less than 50% medium sand or fine and very fine sand, then the sample is coarse sand.
- b. If the coarse sand (cannot exceed 25%) + medium sand is > 25% with <50% fine sand or very fine sand, then the sample is medium sand.
- c. Any other combination of sand sizes not meeting a. or b. above, is not coarse sand or medium sand.
- d. A Soil Texture Calculator is also available from the following USDA-NRCS website. Note that it requires portioning of the sand into each of the sand sizes (very coarse, coarse, medium, fine and very fine sands) <http://soils.usda.gov/technical/aids/investigations/texture/>

FIGURE 3.6 Soil Textural Classification Systems in the United States

