Particle Size

Equipment Required

- Oven - adjust to 110+/-5°C.
- Balance - accurate to 0.01 g, at least 1 for every 2 groups.
- One set of 8- or 12-inch diameter sieves ( #4, #8, #16, #30, #50, #100, #200, and deep #200) for all groups.
- Malt mixer and mixing cup.
- Hydrometer - conforming to ASTM Specification E, type 152H, one for each group.
- Sedimentation cylinder - 1000 mL, one for each group.
- Thermometer - accurate to 0.5°C (1°F), one for each group.
- Beaker - 250 mL, one for each group.
- Porcelain dish - one for each group
- Mechanical sieve shaker.
- Mortar and rubber-tipped pestle - one for each group.

Sample Preparation - Begin 8-12 hours in advance of the scheduled lab period.

- Mass of Soil (sieve analysis): 500 g (passing No. 4 sieve) per group.
- Mass of Soil (hydrometer analysis): 50 g (passing No. 10 sieve) per group.
- Put the wet soil sample (for hydrometer analysis) in a dish, soak it in distilled, de-aired water for 8 to 12 hours.
- Prepare 250 ml of 4% sodium hexametaphosphate solution (sodium hexametaphosphate mixed with distilled water) for each group.

Procedures

1. Preheat the oven to 110+/- 5C. Be sure the gloves are near the oven and are dry.
2. Place the balance(s) in a convenient location and turn the power on.
3. Divide the air-dried soil samples passing the No. 4 sieve for each group into individual dishes. If the beginning of the lab period is more than 1 hour away, cover the soil sample with plastic wrap to avoid gaining moisture.
4. Divide the dried soil samples passing the No. 10 sieve for each group into individual beakers.