



## Texture by Hydrometer

### EQUIPMENT

1. Balance
2. Mixer
3. 5% Dispersion solution
  - a. 0.06M Sodium-hexametaphosphate
  - b. 0.05M Sodium carbonate
4. Timer
5. Thermometer
6. Hydrometer

### PROCEDURE

Weigh 50.0 g (up to 100 g if the soil is very sandy) of soil into a 500-mL bottle and add 100 mL of the dispersion solution. Mix the solution into a slurry and transfer the contents to a dispersion cup. Rinse bottle with deionized water into the dispersion cup, using no more than 500 mL. Place on mixer and blend for 5 minutes. Transfer the blended material into a 1 L volumetric cylinder and bring to volume with deionized water. Mix the solution in the cylinder thoroughly, noting the temperature. Immediately place a hydrometer into the solution and take a reading 30s after mixing. After 2 hours, take another temperature reading and insert the hydrometer to take another reading. The texture is calculated by the change of density in the solutions relative to the control solution.

### REFERENCES

Gee, G.W. and J.W. Bauder. 1986. Particle size analysis. p. 383-411. *In* A. Klute (ed.) *Methods of Soil Analysis. Part 1. Physical and Mineralogical Methods.* Agronomy Monograph #9 (2nd Edition). Amer. Soc. Agron. Madison, WI.