

FIGURE 1.1.1 Example particle-size distribution curves

TABLE 1.1.1 USDA Classification of Soil Particles According to Size

Class	Diameter (mm)
Gravel	>2
Sand	0.05-2
very coarse	1-2
coarse	0.5-1
medium	0.25-0.5
fine	0.10-0.25
very fine	0.05-0.10
Silt	0.002-0.05
Clay	<0.002

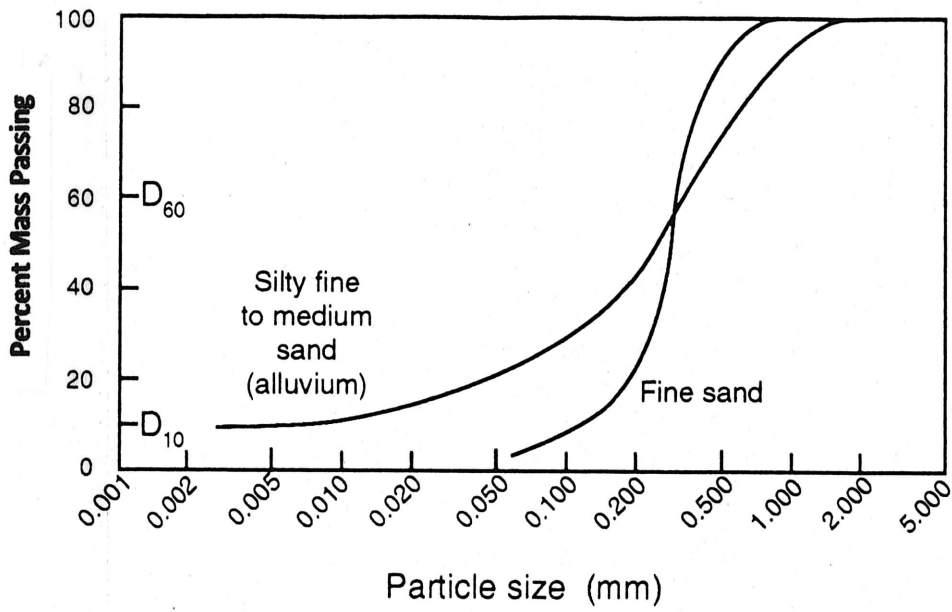


Figure 2.5 Particle-size distribution for two geologic samples. Source: Bedient and Huber, 1992.

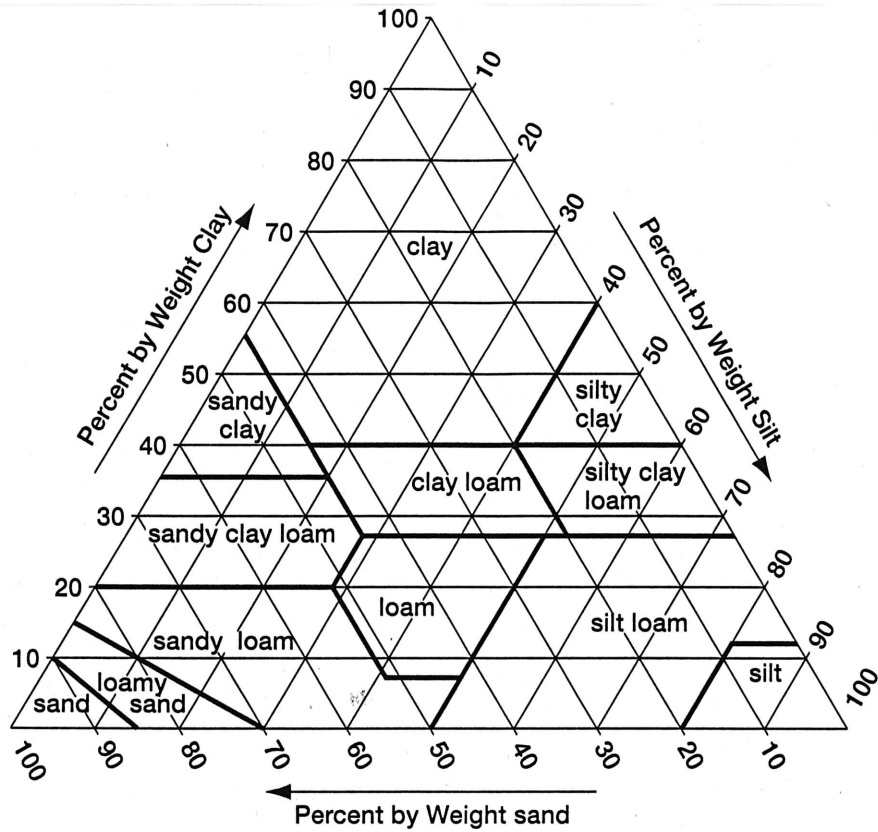


FIGURE 1.1.2 Texture triangle, showing the fractions of clay, silt, and sand in the soil textural classes (courtesy U.S. Soil Conservation Service)

On the Uniformity Coefficient U.C.

$D_{50\%}$ (% retaining or passing)
= average particle size

$D_{90\%}$ (% retaining) = $D_{10\%}$ (% passing)
= effective particle size
(most important parameter among
those governing permeability)
(de Marsily, 1986)

$$U.C. = \frac{D_{60\%} \text{ (% } \rightarrow \text{ passing)}}{D_{10\%}}$$
$$= \frac{D_{40\%} \text{ (% } \rightarrow \text{ retaining)}}{D_{90\%}}$$

$$\in (1, 10) \text{ (Bouwer, 78)}$$

1 = minimum or $D_{60\%} = D_{10\%}$
or one size

5 - 10 = well-graded range, $D_{60\%} > D_{10\%}$