

Guide for Assigning the Class of Permeability from Soil Properties (Exhibit 618-9)

Permeability Class Name	Soil properties
Very rapid and rapid	<ul style="list-style-type: none">-- Fragmental, cindery, pumiceous-- Sandy and sandy-skeletal with coarse sand or sand texture, loose consistence-- More than 0.5 percent medium or coarser vertical pores with high continuity
Moderately rapid	<ul style="list-style-type: none">-- Other sandy, sandy-skeletal, coarse-loamy, medial, medial-pumiceous, medial-skeletal, ashy-pumiceous, ashy-skeletal, hydrous-pumiceous material that is very friable, friable, soft, or loose-- When very moist or wet, moderate or strong granular structure; strong blocky structure of any size or prismatic finer than very coarse-- Many surface features except stress surfaces or slickensides on vertical surfaces of structural units-- 0.5 to 0.2 percent medium or coarser vertical pores with high continuity
Moderate	<ul style="list-style-type: none">-- Other sandy and ashy material in other consistence classes except extremely firm or cemented-- 18 to 35 percent clay with moderate structure except platy or with strong very coarse prismatic-- Common surface features except stress surfaces or slickensides on vertical surfaces of structural units-- 0.1 to 0.2 percent medium or coarser vertical pores with high continuity-- Hydrous-skeletal or hydrous-- >35 percent clay* and oxidic /or kaolinitic that is dominated by oxides in the remaining clay fraction
Moderately slow	<ul style="list-style-type: none">-- Other sandy classes that are extremely firm or cemented-- 18 to 35 percent clay with other structures and surface conditions except pressure or stress surfaces-- \geq35 percent clay and moderate structure except if platy or very coarse prismatic or if oxidic, etc., (see moderate criteria)-- Common vertical surface features except stress surfaces or slickensides

- Medium or coarser vertical pores with high continuity percent but <0.1 percent medium or coarser vertical pores
- Hydrous

Slow

- Continuous moderate or weak cementation
- >35 percent clay and meets one of the following (except if oxidic etc., see moderate criteria):
 - weak structure; weak structure with few or no vertical surface features; platy structure; common or many stress surfaces or slickensides

Very slow

- Continuously indurated or strongly cemented and less than common roots
- >35 percent clay and massive or exhibits horizontal deposition strata and less than common roots

Impermeable

- Continuously indurated or strongly cemented with no evidence of water movement or root growth

* clay content may need to be calculated using 2.5 or 3 times 15-if bar/clay ratio is ≥ 0.6 .