### ASTM Terminology

The basic reference for the Unified Soil Classification System is ASTM D 2487.  Terms include:

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| **Coarse-Grained Soils** |  | More than 50 percent retained on a 0.075 mm (No. 200) sieve |
| **Fine-Grained Soils** |  | 50 percent or more passes a 0.075 mm (No. 200) sieve |
| **Gravel** |  | Material passing a 75-mm (3-inch) sieve and retained on a 4.75-mm (No. 4) sieve. |
| **Coarse Gravel** |  | Material passing a 75-mm (3-inch) sieve and retained on a 19.0-mm (3/4-inch) sieve. |
| **Fine Gravel** |  | Material passing a 19.0-mm (3/4-inch) sieve and retained on a 4.75-mm (No. 4) sieve. |
| **Sand** |  | Material passing a 4.75-mm sieve (No. 4) and retained on a 0.075-mm (No. 200) sieve. |
| **Coarse Sand** |  | Material passing a 4.75-mm sieve (No. 4) and retained on a 2.00-mm (No. 10) sieve. |
| **Medium Sand** |  | Material passing a 2.00-mm sieve (No. 10) and retained on a 0.475-mm (No. 40) sieve. |
| **Fine Sand** |  | Material passing a 0.475-mm (No. 40) sieve and retained on a 0.075-mm (No. 200) sieve. |
| **Clay** |  | Material passing a 0.075-mm (No. 200) that exhibits plasticity, and strength when dry (PI ³ 4). |
| **Silt** |  | Material passing a 0.075-mm (No. 200) that is non-plastic, and has little strength when dry (PI < 4). |
| **Peat** |  | Soil of vegetable matter. |

Note that these definitions are Unified Soil Classification system definitions and are slightly different than [those of AASHTO](http://training.ce.washington.edu/WSDOT/Modules/04_design_parameters/aashto_terms.htm).  The table below shows the Unified Soil Classification system (ASTM).

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| **Unified Soil Classification (USC) System (from ASTM D 2487)** | | | | |
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| **Major Divisions** | | | **Group Symbol** | **Typical Names** |
| **Course-Grained Soils** More than 50% retained on the 0.075 mm  (No. 200) sieve | **Gravels** 50% or more of course fraction retained on the 4.75 mm (No. 4) sieve | Clean Gravels | GW | Well-graded gravels and gravel-sand mixtures, little or no fines |
| GP | Poorly graded gravels and gravel-sand mixtures, little or no fines |
| Gravels with Fines | GM | Silty gravels, gravel-sand-silt mixtures |
| GC | Clayey gravels, gravel-sand-clay mixtures |
| **Sands** 50% or more of course fraction passes the 4.75 (No. 4) sieve | Clean Sands | SW | Well-graded sands and gravelly sands, little or no fines |
| SP | Poorly graded sands and gravelly sands, little or no fines |
| Sands with Fines | SM | Silty sands, sand-silt mixtures |
| SC | Clayey sands, sand-clay mixtures |
| **Fine-Grained Soils** More than 50% passes the 0.075 mm  (No. 200) sieve | **Silts and Clays** Liquid Limit 50% or less | | ML | Inorganic silts, very fine sands, rock four, silty or clayey fine sands |
| CL | Inorganic clays of low to medium plasticity, gravelly/sandy/silty/lean clays |
| OL | Organic silts and organic silty clays of low plasticity |
| **Silts and Clays** Liquid Limit greater than 50% | | MH | Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts |
| CH | Inorganic clays or high plasticity, fat clays |
| OH | Organic clays of medium to high plasticity |
| **Highly Organic Soils** | | | PT | Peat, muck, and other highly organic soils |
| Prefix: G = Gravel, S = Sand, M = Silt, C = Clay, O = Organic      Suffix: W = Well Graded, P = Poorly Graded, M = Silty, L = Clay, LL < 50%, H = Clay, LL > 50% | | | | |