

SUBSECTION M9.40.0 Drilling Slurry.

(page 409 English, page III.98 Metric) Add this new Subsection:

Drilling slurry shall conform to one of the following specifications. Reports of all required tests shall be furnished to the Engineer upon completion of each drilled shaft.

Mineral Slurry.

Mineral slurry shall be premixed thoroughly with water and adequate time, as prescribed by the manufacturer, shall be allotted for hydration prior to introduction into the shaft hole. Slurry tanks of adequate capacity are required for slurry circulation, storage, and treatment. Control tests shall be performed on the mineral slurry by the Contractor to determine density, viscosity, sand content and pH. Properties of mineral slurry (Bentonite or Attapulgate) in water shall meet the following range of values:

Property	Value Required	Test Method
Density (Unit Weight)*	64-75 lb/ft ³ (1030-1200 kg/m ³)	Mud Density API 13B-1 Section 1
Viscosity	26-50 sec/qt (27.5-53 sec/l)	Marsh Funnel and Cup API 13B-1 Section 2.2
pH	8-11	Glass Electrode, pH Meter, or pH Paper
Sand Content	4.0% by volume maximum	Sand Content API 13B-1 Section 5

* To be increased by 2 lb/ft³ (32 kg/m³) in salt water or brackish water.

Tests to determine density, viscosity and pH shall be performed during shaft excavation to establish a consistent working pattern. Four sets of tests shall be made during the first 8 hours of slurry use. When the results show consistent behavior, one set of testing shall be made every 4 hours of slurry use thereafter.

Water Slurry.

The use of water slurry without full length steel casings will only be allowed if approved in writing by the Engineer. In that case, all of the properties of mineral slurry shall be met, except that the maximum density shall not exceed 70 lb/ft³ (1120 kg/m³). Mixtures of water and on-site soils shall not be allowed for use as a drilling slurry, since particulate matter falls out of suspension easily and can contaminate the concrete.

Polymer slurry.

Natural or synthetic slurry shall have specific properties at the time of mixing and of concreting that are in conformance with the written recommendations of the manufacturer and the Contractor's Drilled Shaft Installation Plan. The Contractor shall perform the required tests at the specified frequency and shall provide slurry that complies with the maximum and/or minimum property requirements for the subsurface conditions at the site and with the construction methods that are used. Whatever product is used, the sand content at the base of the shaft excavation shall not exceed 1% when measured by the API sand content test, immediately prior to concreting.

SUBSECTION M9.50.0 Geotextile Fabrics.

(page 410 English, page III.98 Metric) Replace existing Subsection with the following:

Geotextile fabric used for subsurface drainage, separation, stabilization, permanent erosion control, temporary silt fences, or paving fabric shall conform to requirements of AASHTO M 288 for the intended application.

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