diameter) 4 percent may be too high to permit full displacement by concrete. One simple, although not always sufficient, axiom to follow is that the most important characteristic of a mineral slurry is its density and that the slurry should be only dense enough to maintain a stable borehole.

With particular reference to Table 7-2, a wide range of polymer products is available and the range of properties specified in the table is typical for many of the PAM products on the market at the present time (2009). Adjustments may be necessary and appropriate, based on recommendations provided by the polymer supplier or manufacturer, and taking into account job-specific conditions and new products. For example, some of the proprietary polymers now on the market operate optimally at Marsh funnel viscosities up to 150.

TABLE 7-1 RECOMMENDED MINERAL SLURRY SPECIFICATIONS FOR DRILLED SHAFT CONSTRUCTION (AASHTO, 2008)

Property of Slurry (units)	Requirement	Test Method (API Standard Method)
Density (lb/ft3)	64.3 to 72	Mud Weight Density Balance (API 13B-1)
Viscosity (sec/quart)	28 to 50	Marsh Funnel and Cup (API 13B-1)
pH	8 to 11	Glass electrode pH meter or pH paper strips
Sand Content immediately prior to concrete placement (percent by volume)	≤ 4.0	Sand Content (API 13B-1)

TABLE 7-2 RECOMMENDED POLYMER (PAM) SLURRY SPECIFICATIONS FOR DRILLED SHAFT CONSTRUCTION (AASHTO, 2008)

Property of Slurry (units)	Requirement	Test Method (API Standard Method)
Density (lb/ft3)	≤ 64	Mud Weight Density Balance (API 13B-1)
Viscosity (sec/quart)	32 to 135	Marsh Funnel and Cup (API 13B-1)
pH	8 to 11.5	Glass electrode pH meter or pH paper strips
Sand Content immediately prior to concrete placement (percent by volume)	≤ 1.0	Sand Content (API 13B-1)

Water is sometimes used to maintain stability by simply offsetting the hydrostatic or artesian groundwater pressure, thereby preventing inflow of groundwater to the borehole. For example, a borehole in sand that is cased could have basal stability issues as groundwater from outside the casing seeps upward. Maintaining water levels inside the casing above the hydrostatic or artesian level can prevent this type of bottom disturbance. Water is sometimes used in rock to prevent inflow at the base and along the side of