HIGHEST PERFORMANCE AT THE LEAST COST

SLOWGROUT™

Two Fluids In One : Lubrication Slurry & Annulus Grout.

INFORMATION SHEET

Composition	Proprietary mixture of clays and cements with additives.
Solids content	14 to 20%
Slurry properties	Viscosity : 40" marsh funnel min. at time of injection. Specific gravity : 1.12
Special	Setting time : From 72 hours to 28 days depending on formulation (Higher temperature will reduce setting time). formulation will provide setting time extended to 60 days.
Grout properties	U.C. ≥ 50 psi @ 28 days (curing @ 60°F), U.C. ≥ 120 psi @ 90 days. API Filtrate = 16 cc Shrinkage after set : none in-situ.
Conditioning	50 lbs bags palletized and shrink wrapped
Toxicity	None (pH ≈ 9).
Impurities	None.
Storage and Handling	Store in a dry, cool place. Wear proper dust mask while breaking bags.
Spillage	Sweep up and return to process if possible.
Precautions	Good housekeeping.
Fire	Non flammable product.

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SLOWGROUT APPLICATIONS

SLOWGROUT is a low filtrate loss self-hardening slurry in which setting time can be controlled from 72 hours up to 8 weeks. Actual set is a gradual phenomenon that takes place over a day or two depending on ambient temperature; the end product is a chemically stable and non-shrink grout with very low permeability. Unconfined compressive strengths can be designed in a range from 50 to 200 psi. In view of these particular properties, SLOWGROUT becomes an interesting and versatile product for the Trenchless Technology Industry.

Directional Drilling

As a working slurry, SLOWGROUT is a low filtrate, heavy drilling mud that will optimize hole stability. The fluidity of this particular slurry can be maintained to permit de-sanding through conventional mechanical shakers. An open-works formation will be permeated and consolidated by the slurry after gelling in place. Since conventional directional drilling operations preclude an effective grouting of the annulus between pipe and soil, SLOWGROUT is the only answer each time grouting the pipe in place is made a design requirement. A compromise approach when boring for large diameter pipes is to use conventional drilling mud for the pilot hole and to use SLOWGROUT for the reaming cycles. The intermixing of slurries will be taken into account for the SLOWGROUT formulation.

Microtunneling

A way to minimize the settlements caused following a microtunneling operation is to grout the annulus. The SLOWGROUT concept consists in providing the same product for both the lubricating slurry and the grout instead of implementing these operations, in two steps.

SLOWGROUT is an ideal substitute for conventional bentonite slurry since, when used in pervious soils, a bentonite slurry constantly builds a weak cake until the annulus progressively fills up and looses its continuity for proper lubrication. This renders ineffective the efforts of grouting the annulus upon the drive's completion. This also explains why so much bentonite slurry is actually pumped with the traditional approach: a multiple of annulus volume is pumped in the form of a thick bentonite slurry in which the water is forced out into the ground leaving the clay cake to accumulate as a paste in the annulus. As a lubricating slurry, SLOWGROUT is a moderately viscous fluid (36-40 Marsh seconds when new) with 14 to 16% solids content. Filtration can be reduced to an API filtrate test of less than 10 cc (100 psi, 30 min.). The slurry is formulated to remain mobile for 3-8 weeks. In case of major breakdowns that would overrun the live life of the slurry, the set can be prevented by injection of an appropriate retarding solution. Typically, work requiring half the SLOWGROUT live life can be undertaken safely. The only caveat that one must be aware of is the affect of ambiant temperature on the slurry live life cycle: the warmer, the shorter the live life.

Pipe laying

SLOWGROUT is the ideal trenching fluid for the installation of steel or plastic pipes in trenches. Installation below groundwater level can be performed expeditiously without dewatering or shoring by trenching under self-hardening slurry. SLOWGROUT is a self-hardening slurry with very long setting time providing ample time for the installation. Contrary to conventional cement-bentonite slurries, SLOWGROUT exhibits very low filtrate which assimilates it to a pure bentonite slurry. No backfill of the trench is necessary after positioning the pipe since the slurry sets in place as a firm grout. By creating a strong (100 to 200 psi) and very impervious incasement, SLOWGROUT provides long term physical and chemical protection for the pipe. In that respect, SLOWGROUT is a new flowable fill.

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