TGSelect (0.45 Btu/hr ft °F)
PRODUCT SUBMITTAL INFORMATION

When materials are supplied by GeoPro, Inc. and are mixed according to the following specifications, Thermal Grout Select will yield a bentonite-based grouting material with a minimum thermal conductivity of 0.45 Btu/hr ft °F.†

† Tested in accordance to ASTM D-5334, "Standard Test Method for Determination of Thermal Conductivity of Soils and Soft Rock by Thermal Needle Probe Procedure."

Target Thermal Conductivity (Btu/hr ft °F)	Silica Compound (lb)	Fresh Water (gal)	Yield (gal)	Density (lb/gal)	% Solids (by weight)	% Silica (by weight)
0.45	0	13.5	16.5	9.86	30.7	0.0

Thermal Conductivity values are based on using a silica compound supplied by GeoPro, Inc.

GeoPro grouts are shipped on heat shrunk 54 bag pallets.

MIXING INSTRUCTIONS

1. Fill conventional paddle mixer with required volume of fresh water (according to mix table).
2. Start mixer and add a bag of TG Select (part I). Let mix for 1 minute.
3. Slowly add required weight of Silica Compound (part II) should take 1-2 minutes.

   Once all Silica Compound is added, continue mixing for an additional 1-2 minutes.

PUMPING

Pump with a positive displacement pump (piston pump recommended) through a 1-¼" inside diameter tremie pipe at a rate of 5 to 15 gallons per minute.

WARNING:

Adding more than the specified amount of water may make this product more difficult to pump.

Mix water should be between 50°F and 80°F.

The permeability of this mixture will be equal to or less than 1.0 x 10^{-7} cm/sec, which has been verified by an independent testing laboratory using ASTM D-5084, "Measurement of Hydraulic Conductivity of Saturated Porous Materials using a Flexible Wall Permeameter, Method C - test with increasing tailwater level". This permeability is below most state's regulations and the U.S. Environmental Protection Agency's maximum recommendations of 1.0 x 10^{-7} cm/sec. Copies of the independent lab reports are available upon request.

FIELD QUALITY CONTROL

GeoPro, Inc. strongly recommends that a field quality control process be employed when using any thermally-enhanced grouting material. Therefore, GeoPro will supply, at no charge, three sample containers with return cartons per commercial project using Thermal Grout Select. Through the course of the project, it is recommended that at least three sample specimens be taken of the mixed grouting material.

The recommended frequency would be as follows: once at the beginning of the installation; once approximately one-third through the installation; and once approximately two-thirds through the installation. Each time GeoPro receives the sample, an analysis will be performed in accordance to ASTM D-5334 to verify the specified thermal performance of the sample with a written report being sent immediately to the entity requesting the analysis.

For each project, additional sample containers can be supplied and analyses performed for a modest fee.

Sincerely,

Ryan Carda, Lead Support Engineer
GeoPro, Inc.