

PRODUCT DATA

Therm-Ex™ Grout

Thermally Conductive Backfill, Sealant

Description

Therm-Ex™ Grout is an engineered, thermally-enhanced grout system for use as backfill material. Developed using high-swelling Wyoming Bentonite, this new generation of grouting material aids in the efficient installation of closed-loop geothermal heat pump systems.

Application

Therm-Ex™ Grout is used in earth-coupled heat pump systems.



Properties

Thermal Conductivity	0.93 Btu/hr-ft-°F	1.05 Btu/hr-ft-°F
Permeability	$<2 \times 10^{-8}$	6×10^{-8}
Solids Content	64%	67%
Slurry Weight	13.6 lb/gal	14.4 lb/gal
Slurry Volume/Batch	29 gal	36 gal

Mixing

The combination of fresh water, **Therm-Ex™ Grout** and sand constitutes “the system” for backfilling geothermal loops. Use locally available dry bagged sand. For best results, use sand ranging in size from 40 to 140 mesh. For example, a 40/70 or 70/140 sand works very well.

Add **Therm-Ex™ Grout** to the water while agitating. Mix for approximately 1 minute, then add the sand. Agitate until the sand is uniformly dispersed, and pump into place using a tremie line. For best results, place the tremie line near the bottom of the loop and pump into place. Providing local regulations allow, slowly extract the tremie line as you come up the hole. This reduces pump pressure, aids the grout in setting more quickly and reduces the opportunity for formation damage.

To increase work time for deep sets, add *Thinz-It* to the make-up water. Addition rates vary, but generally 2 ounces to make up water yields the desired results.

Therm-Ex™ Grout should be pumped using a positive displacement pump, capable of generating pressures in excess of 300 psi.

Dosage

	0.93 Btu/hr-ft-°F	1.05 Btu/hr-ft-°F
Water	17 gal	20 gal
Therm-Ex™ Grout	50 lb	50 lb
Sand	200 lb	300 lb

WHMIS: Controlled (see MSDS)

TDG: Not regulated

Packaging: 50 lb multi-wall paper sack and is available in bulk

Physical properties and bioassay information are available on request.

