



# THERM-EX GROUT™ & PowerTEC



## Product Information

### Description

**THERM-EX GROUT™ & PowerTEC** is an engineered system for use as backfill material in earth-coupled heat pump systems. Its elevated thermal conductivity and low permeability allow for excellent heat exchange while protecting groundwater supplies. **THERM-EX GROUT™ & PowerTEC** should be pumped using a positive displacement pump capable of generating pressures in excess of 300 psi. Developed using high swelling Wyoming Bentonite, this new generation of grouting material offers efficient installation of closed-loop geothermal heat pump systems.

### Material Specifications

Thermal Conductivity	.88 Btu/hr-ft-°F	1.00 Btu/hr-ft-°F	1.2 Btu/hr-ft-°F	1.4 Btu/hr-ft-°F	1.6 Btu/hr-ft-°F
Permeability	<1 X 10 <sup>-7</sup> cm/s	<1 X 10 <sup>-7</sup> cm/s	<1 X 10 <sup>-7</sup> cm/s	<1 X 10 <sup>-7</sup> cm/s	<1 X 10 <sup>-7</sup> cm/s
Solid Content	32.66%	32.41%	34.54%	34.13%	36.30%
Slurry Weight	10.4 lbs/gal	10.4 lbs/gal	10.5 lbs/gal	10.5 lbs/gal	10.6 lbs/gal
Slurry Volume/Batch	17.8 gallons	19.6 gallons	18.2 gallons	19.9 gallons	18.5 gallons

### Application

Thermal Conductivity	.88 Btu/hr-ft-°F	1.00 Btu/hr-ft-°F	1.2 Btu/hr-ft-°F	1.4 Btu/hr-ft-°F	1.6 Btu/hr-ft-°F
Water	15 gallons	16.5 gallons	15.00 gallons	16.5 gallons	15.00 gallons
<b>PowerTEC</b>	10.7 lbs	16 lbs	16 lbs	21.3 lbs	21.3 lbs
<b>THERM-EX GROUT™</b>	1 – 50 lb bag	1 – 50 lb bag	1 – 50 lb bag	1 – 50 lb bag	1 – 50 lb bag

Add the **PowerTEC** to the water while agitating and then add the **THERM-EX GROUT™**. Agitate the mixture until uniformly dispersed (2 – 3 minutes) 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 extracting the tremie line as you come up the hole reduces pump pressure, aids the grout in setting quicker, and reduces the opportunity for formation damage.

Note: As correct water addition rate is critical to resulting thermal conductivity we highly recommend the use of a water meter.

### Packaging

**THERM-EX GROUT™** is packaged in 50 pound bags.

**PowerTEC** is packaged in 16 pound bags and 32 pound bags.