



# CETCO® GRANULAR GROUT

High-Solids Granular Bentonite Grout

## DESCRIPTION

CETCO GRANULAR GROUT mixes into a smooth bentonite grout that has no lumps and pumps easily. CETCO GRANULAR GROUT is dust-free, offers reduced friction going down the tremie pipe, and has a firm set-up with little settling. CETCO GRANULAR GROUT is certified to NSF/ANSI Standard 60, Drinking Water Treatment Chemicals - Health Effects.

## RECOMMENDED USE

CETCO GRANULAR GROUT is designed for grouting waterwells and monitoring wells, decommissioning abandoned wells and boreholes, and sealing closed-loop geothermal heat pump systems. It forms a low-permeability, flexible seal.

## CHARACTERISTICS

- Improved set-up time allows mixing flexibility and reduces settling
- Physically stable; will not flow through highly permeable soil
- Smooth consistency for improved pumping and handling

## MIXING AND APPLICATION

### WATERWELL – 20% SOLIDS

Add one 50 lb (22.7 kg) bag of CETCO GRANULAR GROUT to 24 gallons (91 liters) of freshwater to produce 3.5 ft<sup>3</sup> (0.11 m<sup>3</sup>) of grout. Once mixed to proper consistency, grout should be pumped through a tremie pipe with a positive displacement pump from the bottom of the well up to the surface. Pumping should continue until grout at the surface reaches the initial mud weight of 9.4 lbs/gal (0.63 kg/m<sup>3</sup>).

### GEOTHERMAL – 40% SOLIDS

Place freshwater in a paddle-mixing tank of a commercial grout mixer. Start the paddles and add one 50 lb (22.7 kg) bag of CETCO GRANULAR GROUT to the water. Mix for about 1 minute. Add silica sand at a steady rate (1-2 minutes), and continue mixing for about 2 minutes to obtain a consistent mixture. Pump with a positive displacement pump (piston pump recommended) through a 1 to 1 1/4 inch (2.54 cm to 3.18 cm) inside diameter (I.D.) tremie pipe at a rate of 5-15 gallons (19-57 liters) per minute. Yields 4.52 ft<sup>3</sup> (0.13 m<sup>3</sup>).



50 lbs (22.7 kg) CETCO GRANULAR GROUT + 100 lbs (45 kg) silica sand + 27 gallons (102 liters) freshwater 34 gallons (0.14 m<sup>3</sup>) of 40% solids grout @ 11.03 lbs/gal (0.75 kg/m<sup>3</sup>) with a Thermal Conductivity (TC) of 0.72 Btu/hr/ft/F (1.22 W/mK).

## TYPICAL PROPERTIES

Thermal Conductivity	0.43 Btu/hr/ft/F no sand 0.72 Btu/hr/ft/F, 100 lbs sand 0.73 W/mK, no sand 1.22 W/mK, 45 kg sand
Permeability	<5.2 x 10 <sup>-8</sup> cm/s
Specific Gravity	2.62 g/cm <sup>3</sup>
Max Particle Size	<300 µm

## PACKAGING

50 lb (22.7 kg) bag, 48 per pallet. All pallets are plastic-wrapped.