

# PREMIUM GEL®

## API BENTONITE

### DESCRIPTION

Premium Gel is a 200 mesh, 90 bbl yield sodium bentonite for freshwater drilling, slurry walls, and tunnel boring. PREMIUM GEL complies with API 13A Section 9, Specifications for Drilling Fluid Materials.

### RECOMMENDED USE

May be used for all types of freshwater mud rotary drilling where higher solids are desired. PREMIUM GEL can also be used as a seal for earthen structures, slurry trenching, tunnel boring, and foundation drilling.

### CHARACTERISTICS

- Cools and lubricates bit
- Mixes quickly and easily
- Reduces fluid loss into the formation
- Removes cuttings
- Stabilizes borehole

### MIXING AND APPLICATION

Mixing ratios are based on the use of freshwater; water purity will affect bentonite performance. For best results, acidic and hard make-up water should be pretreated with SODA ASH to a pH of 8.5–9.5. Add Premium Gel slowly through jet/hopper mixer.

### PACKAGING

25 kg bag, 40 bags per pallet.  
50 kg bag, 20 bags per pallet.  
1 ton big bags.  
All pallets are always plastic-wrapped.

DRILLING FLUID AND SLURRY TRENCHING – PREMIUM GEL MIXING RATIO IN POUNDS (KG) PER 100 GALLONS (380 LITERS) OF WATER		
CONDITION	LBS (KG) OF PREMIUM GEL	% SOLIDS
Normal Conditions	30 – 50 lbs (13.5 – 22.5 kg)	3.5 – 5.7%
Sand and Gravel	50 – 70 lbs (22.5 – 31.5 kg)	5.7 – 7.7%
Fluid Loss Control	70 – 80 lbs (31.5 – 36 kg)	7.7 – 8.8%

SLURRY PROPERTIES – 6.04% SOLIDS		
PROPERTY	TYPICAL VALUE	SPECIFICATION/PROCEDURE
Viscosity FANN 600 rpm	40 cps	30 cps Min – API 13A Section 9
Viscosity FANN 6 rpm	11 cps	ACC TP-2005
Viscosity FANN 3 rpm	11 cps	ACC TP-2005
Yield – 42 gal bbl of 15 cps slurry/ton	90 to 120 bbl/tn	90 Min – API 13A Section 9
Marsh Funnel, seconds/quart	42 seconds	ACC TP-1014
Apparent Viscosity (AV)	15 to 25 cps	ACC TP-2005
Plastic Viscosity (PV)	9 to 10	ACC TP-2005
Yield Point, lb/100 ft <sup>2</sup>	15 to 25 lb/100 ft <sup>2</sup>	ACC TP-2005
Filtrate, 30 minutes @ 100 psi, mi	13 to 15 ml	15 ml Max – API 13A Section 9
Filter Cake, in	3/32 in	N/A
pH	9.03	ACC TP-1018

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GENERAL PROPERTIES		
PROPERTY	TYPICAL VALUE	SPECIFICATION/PROCEDURE
Property	Typical Value	Specification/Procedure
Moisture %	7.4%	ACC TP-2006
Free Swell	28	ASTM D-5890
Plate Water Absorption	622.80%	ASTM E946-92
Specific Gravity	2.5	Generally Recognized
Bulk Density Non-compacted	53 lbs/ft <sup>3</sup>	ACC TP-1005
Bulk Density Compacted	72 lbs/ft <sup>3</sup>	ACC TP-1005
Grit % (<75 micron)	3.2%	4.0% Max – API 13A Section 9
Particle Sizing	70% Min passing #200 mesh sieve	ACC TP-1015



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