



TUNNEL-GEL® PRO

High-Yield Bentonite for HDD Applications

Description TUNNEL-GEL® PRO is a high-yield bentonite specifically developed for horizontal directional drilling (HDD) applications. The product is designed for rapid viscosity development, effective clay particle encapsulation, and excellent lubrication properties, significantly enhancing both the drilling and pullback processes, in soil conditions, particularly clay, sand, and mixed urban ground conditions. TUNNEL-GEL® PRO is highly suitable for small to mid-sized bores where borehole cleanliness, low friction, and efficient fluid performance are critical. It performs especially well in projects requiring recycling, provided mixing procedures are followed carefully.

Applications/ Functions TUNNEL-GEL® PRO is best positioned for use in:

- Horizontal directional drilling operations
- Small to mid-sized bores where borehole cleanliness, low friction, and efficient fluid performance are critical
- Soft to moderately consolidated soils, particularly clay, sand, and mixed urban ground conditions. :
- Due to its sensitivity to shear degradation and limited gel strength, it is not recommended for use in coarse gravel or cobble-rich formations where high-end rheology and robust borehole stability are required.

Advantages

- Rapid viscosity development
- Effective clay particle encapsulation
- Strong lubricating properties
- Efficient removal of the loose cuttings
- Low product consumption per m³
- Suitable for use in HDD projects utilizing recycling systems
- Compatible with other Baroid products

Typical Properties

• Appearance	Yellow to grey Powder
• Specific gravity	2.6
• pH (3% Solution)	10.4

Recommended Treatment

- To optimize the yield and performance of TUNNEL-GEL® PRO, pre- treat make-up water with soda ash (sodium carbonate) at a concentration of 0.5 – 1.0 kg/m³ to reduce excess calcium hardness to ≤100 mg/l and adjust pH to a range between 8.5 – 9.5. Check water conductivity to be < 1000 µS/cm
- Using a Venturi hopper, or a colloidal mixer, add TUNNEL-GEL® PRO, slowly and uniformly in a high-shear mixing system for up to 10 min, after which rpm should be reduced to prevent viscosity loss. Mixing one bag at a time over two minutes is recommended to reduce lump formation

Approximate amounts of TUNNEL-GEL® PRO Added to Water Based Fluids		
lbs/bbl	lbs/100gallons	kg/m3
8.4-10.5	20-25	25-30

Packaging TUNNEL-GEL® PRO is packaged in 25 kg (55 lb) bags

Availability TUNNEL-GEL® PRO is a regionally sourced product and may not be available through all Baroid Industrial Drilling Products Retailers. To locate the appropriate Baroid IDP retailer nearest you contact CEBO Holland.

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