THIXATROL® DW

Polymeric Deep Water Flat Rheology Viscosifier for Oil Based Drilling Fluids

THIXATROL DW was designed to build a rheological profile in synthetic based invert emulsion drilling fluids while having a minimal viscosity increase when subjected to reduced temperatures. This property is highly desirable in deep water drilling. THIXATROL DW is a specially designed organic polymer that was engineered to build viscosity efficiently in an OBM that maintains a consistent rheological profile for deep-water applications from 40°F through 250°F (riser to bottom hole). THIXATROL DW exhibits an excellent balance of dispersibility for initial viscosity build, efficiency for cost effectiveness and tolerance to adverse conditions for reduced depletion rates. The ability to control ECD is significantly improved as compared to drilling fluids incorporating conventional rheological additives.

PERFORMANCE CHARACTERISTICS

- “Flattened” rheology with decreasing temperature for reduced low temperature gellation and improved ECD control
- Stable to bottom hole temperatures in excess of 250°F
- Shear thinning rheological profile for improved ROP
- Compatible with conventional invert emulsion drilling fluid additives
- Optimized for use in synthetic oils (i.e. isomerized alpha olefins)
- Tolerant to salt, high lime, cement and drill solid intrusion
- Efficient hole cleaning and suspension properties for sag control

APPLICATIONS

The required concentration of THIXATROL DW is dependent on the oil/water ratio and density of the system as well as type and concentration of surfactants used as emulsifiers and wetting agents. A fluid with a higher oil/water ratio (i.e. 90:10) will require more THIXATROL DW than a fluid with a lower oil/water ratio (i.e. 70:30). A higher density fluid will generally require less THIXATROL DW as compared to a lower density fluid. Generally, concentrations will be in the range of 0.5 to 5.0 pounds per barrel. The ratio of organophilic clay to THIXATROL DW will typically range from 2:0.5 to 2:1.5. Viscosity can be built in:

- Oil Based Drilling Fluids
- Completion Fluids
- Packer Fluids
- Invert Emulsion Drilling Fluids
- Workover Fluids

THIXATROL DW can be added at the mud plant when building new mud, or can be added directly to the mud pits when building volume during the drilling process. THIXATROL DW should not be used in combination with any other polymeric rheological additives without first pilot testing. THIXATROL DW can be used with or without organophilic clay. The addition of some organophilic clay is recommended to achieve the most efficient rheological system, especially at elevated temperatures. Adequate agitation is necessary when incorporating THIXATROL DW into the oil based fluid. The amount of shear necessary will depend on the temperature of the synthetic oil, the rate of rheological additive addition, the oil/water ratio,
and the amount of solids and/or weight material in the system.

CHEMICAL AND PHYSICAL DATA
Composition……oil soluble polymer
Color……amber
Form……liquid
Specific gravity…0.95
Activity……100%
Storage – lined metal, glass or lined plastic

THIXATROL® DW PERFORMANCE IN OIL BASED DRILLING FLUIDS

THIXATROL DW with BENTONE® 155

THIXATROL DW vs BENTONE 155
(120°F) Shear Rate vs Fann Reading

THIXATROL DW vs BENTONE 155
(40°F) Shear Rate vs Fann Reading

THIXATROL DW vs BENTONE® 38
6 RPM vs Temperature

THIXATROL DW vs BENTONE® 38
600 RPM vs Temperature

NOTE: The information herein is currently believed to be accurate. We do not guarantee its accuracy. Purchasers shall not rely on statements herein when purchasing any products. Purchasers should make their own investigations to determine if such products are suitable for a particular use. The products discussed are sold without warranty, express or implied, including a warranty of merchantability and fitness for use. Purchases will be subject to a separate agreement which will not incorporate this document.
THIXATROL® DW PERFORMANCE IN OIL BASED DRILLING FLUIDS

THIXATROL® DW vs. BENTONE® 155
Low Temperature Viscosity Impact on ECD & Yield Point

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Mud Formulation

- C16 – C18 IAO
- 30% CaCl2 Brine
- Primary Emulsifier 4 #/bbl
- Wetting Agent 2 #/bbl
- Lime 4 #/bbl
- Barite 12 #/gal

ECD Calculation

- Mud Wt 12 #/gal
- HSR Visc 600
- LSR Visc 300
- Flow Rate 287 gpm
- OD hole 8.74 in
- OD pipe 4.5 in
- Length 10,650 ft

Health and Safety Data

Before using this product please consult our Material Safety Data Sheet for information on safe handling.