

# DURAMOD

## Flat rheology system modifier

DuraMod\* flat rheology system modifier is a high performance rheological additive for all invertemulsion- and synthetic-based drilling fluids. It provides excellent antisag features and exhibits very good ultra-low-shear performance. DuraMod modifier is ideal for minimizing barite sag in hightemperature environments and extended-reach wells.

This modifier is a specially formulated supplemental viscosifier, capable of developing outstanding ultralow-shear-rate viscosity and suspension properties. It can be used in virtually any base oil or synthetic fluid, as well as RHADIANT\* oil-based ultrahigh-temperature drilling fluid system and the RheGuard\* flat rheology drilling fluid system.

DuraMod modifier is effective where additional suspension is essential to prevent static or dynamic settling. DuraMod modifier will develop the maximum rheological properties after being mixed with sufficient shear.

When used for preventing barite-sag and improving hole cleaning, DuraMod modifier treatments should range between 1.0–3.0 lbm/bbl [2.8–8.5 kg/m<sup>3</sup>], a concentration of 1.0–5.0 lbm/bbl [2.8–14 kg/m<sup>3</sup>]. It can be used at the liquid mud plant for initial mixing, to supplement standard organoclays additions of 1.0–5.0 lbm/bbl concentration.

DuraMod modifier is an ideal additive for premixes used to reduce the mud weight or to decrease the low-gravity solids concentration. For normal maintenance, concentrations of 1.0–3.0 lbm/bbl can be used when maintaining rheology or 3.0–9.0 lbm/bbl [8.5–25kg/m<sup>3</sup>] when increasing the rheology by premix additions. Pilot testing is recommended.

### LIMITATIONS

Requires sufficient shear to separate the rod-like particles to build viscosity. Excessive treatment with DuraMod modifier tends to increase mud rheology at cold temperatures. In deepwater applications, the rheology should be measured at two or three temperatures, including the flowline temperature.

### TOXICITY AND HANDLING

Bioassay information is available on request. Handle as an industrial chemical, wearing protective equipment and observing the precautions as described in the SDS.

### PACKAGING AND STORAGE

DuraMod modifier is packed in 50-lbm [22.7-kg] multiwall paper sacks. Store in a dry, well-ventilated area. Keep container closed. Store away from incompatibles. Follow safe warehousing practices regarding palletizing, banding, shrink-wrapping, or stacking.

## APPLICATIONS

- Minimizing barite sag in high-temperature environments and extended-reach wells
- Preventing static or dynamic settling
- Improving hole cleaning

## ADVANTAGES

- Highly efficient in developing low-shear-rate viscosity
- Displays excellent antisag capabilities
- Enhances hole-cleaning capacity
- Is thermally stable in excess of 500 °F [260 °C]

### TYPICAL PHYSICAL PROPERTIES

Physical appearance	Light gray powder
Specific gravity	2.2-2.4
pH of 2% solution	9.4