

G-SEAL PLUS II

Wellbore stabilizing agent for North America land markets

APPLICATIONS

Loss control in porous and fractured formations

ADVANTAGES

- Effectively bridges and seals in a wide range of formations and a range of loss severities
- Increases fracture propagation pressures of test samples exposed to nonaqueous fluids
- Reduces the possibility of differential sticking by controlling seepage losses
- Decreases torque and drag in all mud systems by decreasing the coefficient of friction (COF)
- Exhibits no significant effect on mud rheology and is compatible with all mud systems
- Streamlines operations through one-sack design that requires no other additive requirements, easily mixing and dispersing into the system
- Features temperature stability to 500 degF [260 degC]

G-SEAL PLUS* II wellbore stabilizing agent is a special formulation of G-SEAL PLUS agent that is designed specifically for the North America drilling market, especially the Rocky Mountain region of the western US. G-SEAL PLUS II agent is used to bridge and seal porous and fractured formations in water-, oil-, and synthetic-base mud systems. Differential-pressure sticking tendencies are reduced by bridging and plugging when drilling depleted zones where high differential pressures exist.

Completely inert in design, the agent does not affect the rheological properties of drilling fluid systems. It helps reduce torque and drag by improving lubricity and lowers filtrate loss as evidenced by spurt loss and total fluid loss evaluated with a particle plugging test. In laboratory fracture-sealing tests, the G-SEAL PLUS II agent outperformed graphite-only materials.

To control seepage losses, a pill containing G-SEAL PLUS II agent can be incorporated into the entire system for a total concentration of 10–20 lbm/bbl [29–58 kg/m³]. Close monitoring of the shale shakers is required.

The recommended treatment for partial losses up to 50 bbl/h [7.95 m³/h] is 20–50 lbm/bbl [57–143 kg/m³] in spotted pills. The G-SEAL PLUS II agent can be used with other lost circulation materials to control partial to severe losses. Ultrahigh-permeability formations such as fractured carbonates and conglomerate zones may require higher concentrations of G-SEAL PLUS II agent with other lost circulation materials of varied particle-size distribution.

The G-SEAL PLUS II agent can also be dry blended with cement to effectively seal off induced fractures and inhibit further propagation while cementing casing.

Torque and drag can be reduced by incorporating G-SEAL PLUS II agent sweeps into the active system up to a total concentration of 20 lbm/bbl [57 kg/m³]. Initial treatments for the active system may be added in 4-lbm/bbl [11.4-kg/m³] increments while monitoring torque and drag.

Typical Physical Properties

Physical appearance	Gray to black powder
Relative density	1.9–2.1
Solubility in water at 68 degF [20 degC]	Insoluble
Median particle size (d_{50}), μm	100–300
Recommended test procedure	Dry sieve analysis

Toxicity and handling

Bioassay information is available upon request. Handle as an industrial chemical, wear protective equipment, and observe the precautions described in the Material Safety Data Sheet (MSDS).

Packaging and storage

G-SEAL PLUS II agent is packaged in 50-lbm [22.7-kg] multiwall paper sacks. Store in a dry, well-ventilated area. Keep container closed and store away from incompatibles. Follow safe warehousing practices regarding palletizing, banding, shrink-wrapping, and stacking.