

ClearFRAC HiPerm

Polymer-free fracturing fluid for high-permeability reservoirs

APPLICATIONS

- Fracturing treatments at temperatures to 121 degC [250 degF]
- Sand-control solutions
- Microscreen systems
- Screenless completions
- CoilFRAC* stimulation through coiled tubing operations
- Fracture-height containment

BENEFITS

- Improves production through high retained conductivity
- Helps stimulate producing intervals close to water zones
- Offers minimal damage to screens
- Guards against proppant-pack damage that can impair production

FEATURES

- Fluid loss control
- Easy wellsite handling and metering
- Effective proppant transport, even at low viscosity
- Reduced drag, resulting in low friction pressure
- Polymer-free fracturing fluid
- Lower hydraulic horsepower requirements or higher pump rate potential at maximum surface pressure
- Low friction pressure, enabling deeper CoilFRAC operations



The ClearFRAC HiPerm system is easy to handle and meter.*

ClearFRAC HiPerm polymer-free fracturing fluid has been specially developed to maximize production and increase recovery in reservoirs with permeabilities higher than 10 mD and temperatures to 121 degC [250 degF]. This innovative viscoelastic surfactant (VES) system significantly enhances fracturing efficiency because it has a low friction pressure and excellent proppant-carrying capacity. It leaves the proppant pack undamaged, generates greater effective conductivity compared with polymer fluids, and simplifies wellsite logistics because it is easy to mix and pump.

High retained conductivity

The polymer-free ClearFRAC HiPerm system can achieve tip screenout (TSO) and enable fracture width inflation to optimize fracture geometry. Retained conductivity is high, resulting in high flow rates, reduced drawdown, and less fines migration and emulsion formation during flowback.

Efficient proppant transport

The viscoelastic rheological behavior of the ClearFRAC HiPerm system enables it to suspend and transport proppant efficiently, even at lower than normal viscosities. Viscosity can then be altered for better control of fracture geometry without compromising proppant transport.

Stimulation of producing intervals close to water zones

The system's VES leakoff control minimizes the risk of a premature screenout, enabling access to high-permeability producing intervals in proximity to water zones.

Low friction pressure facilitates stimulation through coiled tubing

The low friction pressure of the ClearFRAC HiPerm system, relative to polymer systems, improves CoilFRAC stimulation through coiled tubing by allowing higher pump rates at maximum treating pressure, or lower treating pressures at a given pump rate.

Immediate viscosity reduction following treatment

Viscosity of the ClearFRAC HiPerm system is reduced immediately when release (closure) disrupts the micelle structure. The reduction is triggered by dilution with formation brines, contact with the prepad and hydrocarbons, or addition of a chemical breaker. The breaker, which is designed to be run in the proppant-laden stages of the treatment, is easy to meter through the dry additive feeders of a POD* programmable optimum density blender.

Unimpaired production

The ClearFRAC HiPerm system has no polymers to damage the proppant pack or obstruct microscreens. As a result, production is unimpaired.

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Gulf of Mexico case study

In order to optimize production through completion hardware of a deepwater well in the Gulf of Mexico, an operator used a ClearFRAC HiPerm VES system to frac pack a 122-m [400-ft] interval with a permeability of 100 to 300 mD. Fluid efficiency was 30%, according to DataFRAC* fracture data analysis, and TSO was achieved, resulting in a broad fracture width. Production after frac packing exceeded expectation by nearly 20%, reaching 20,000 bbl/d of oil.



This DeepSTIM offshore stimulation vessel is performing a fracturing treatment in the Gulf of Mexico.*

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Schlumberger