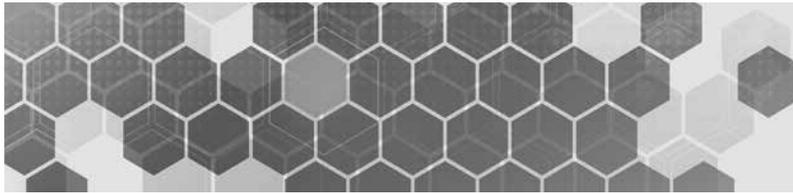


VisLink™-200



The Challenge

For decades, companies have pursued chemical technologies to help maximize production and reduce costs. In the mid 1990s, slickwater fracs were reintroduced as a less expensive, less damaging alternative to conventional crosslinked gel treatments. In the early 2000s, the sequential combination of slickwater and gel (hybrids) was introduced to improve stimulation effectiveness and lower completion costs.

But both technologies have drawbacks - while slickwater treatments provide good fracture development, especially maximizing fracture complexity without causing extensive damage, it suffers from limited proppant carrying capacity, normally less than 2 lb/gal. Furthermore, slickwater's low viscosity provides minimal fracture width—thereby preventing the placement of high volumes of larger-sized proppant.

In contrast, crosslinked gels offer good fracture development, but poor fracture complexity growth. While this technology does create fracture width for both larger-sized proppant and high volumes of proppant needed for high fracture conductivity, these gels can severely damage the proppant pack, limiting initial and ultimate production.

The Solution

Independence Oilfield Chemicals introduces VisLink-200, the next generation VisLink System offering the best of the viscous gel and slick-water worlds—without the downsides. Like no other solution on the market, VisLink-200 combines the upsides of slick-water and gel systems. Indeed, the visible lipping of the viscoelastic gel is easily observed with gel loadings as low as 8-10 ppt. VisLink-200 cross-linked fluids allow operators to use less chemical while accomplishing the advantages obtained from conventional gel and slick water treatments. The VisLink 200 is designed for improved pumping and cold weather conditions while enhancing the viscoelastic-nature of ultra-low gel systems.

Holdings of many pivotal industry patents, Independence Oilfield Chemicals' veteran chemists developed the VisLink-200 process for South Texas operators seeking a more efficient, effective fracturing fluid—one that would provide good proppant transport while minimizing guar loadings to reduce gel damage and costs.

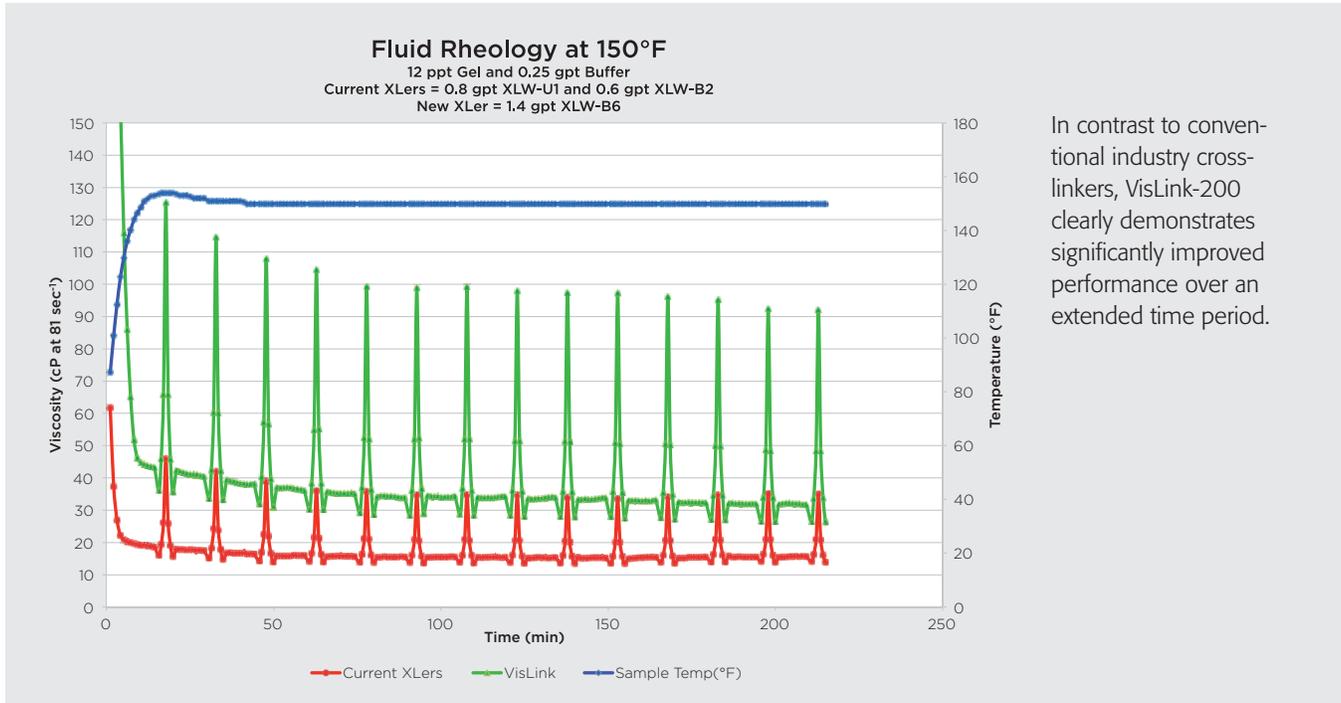
Industry's only solution that combines advantages of slickwater and gel systems



VisLink-200 is designed to cross link ultralow guar-based polymer fluids to carry larger concentrations of proppant while creating fracture networks that maximize reservoir contact in unconventional basins.

Technical Data

Physical State	Liquid
Appearance	Milky White
pH	N/A
Loading	0.75 – 1.5 gpt
Crosslink time	1-3 minutes



In contrast to conventional industry cross-linkers, VisLink-200 clearly demonstrates significantly improved performance over an extended time period.

When properly formulated, VisLink-200 is proven to provide a host of advantages, including: control of friction pressure for high-rate applications, good fracture development complemented by extensive fracture complexity growth, enhanced fracture width development, better proppant transport and carrying capacity than slickwater, and significantly less damage than conventional cross-linked fracturing fluids.

Major VisLink-200 advantages include:

- > Fewer chemicals needed for equal results
- > Controls friction pressure for high-rate applications
- > Enhances fracture width development and growth
- > Excellent proppant transport; better proppant carry capacity than slickwater
- > Less damaging than conventional cross-linked fracturing fluid



Demonstration of the VisLink-200 solution's superior lipping quality equivalency. According to research by industry experts*, effective proppant transport is due more to the visco-elastic nature of the fluid than viscosity.

*SPE 71663. 2001. A Rheological Criterion for Fracturing Fluids to Transport Proppant during a Stimulation Treatment. Goel, N. & Shah, S.—The University of Oklahoma

SPE 15937. 1998. Viscoelasticity of Crosslinked Fracturing Fluids and Proppant Transport. Ruma, AA—BJ-Titan Services, Co.