

S810 – Rod-shaped proppant

High conductivity proppant technology

APPLICATIONS

- Hydraulic fracturing application in oil and gas reservoir for stress less than 10,000 psi
- Tail-in for oil and gas wells with proppant flowback issue

BENEFITS

- Significant enhancement of proppant pack conductivity for better well performance
- Integrated flowback protection
- Provides stable proppant pack during life of the well
- Improved proppant pack cleanup for longer effective fracture length
- No significant operational modification
- No special shut-in time or flowback considerations

FEATURES

- Non-standard packing of inert rod-shaped propping agent provides high conductivity performance
- Compatible with all common natural and ceramic proppants (including resin-coated proppant)
- Chemically inert and compatible with any fracturing fluid



Normalized well performance compared to reservoir quality.

Enhanced well performance

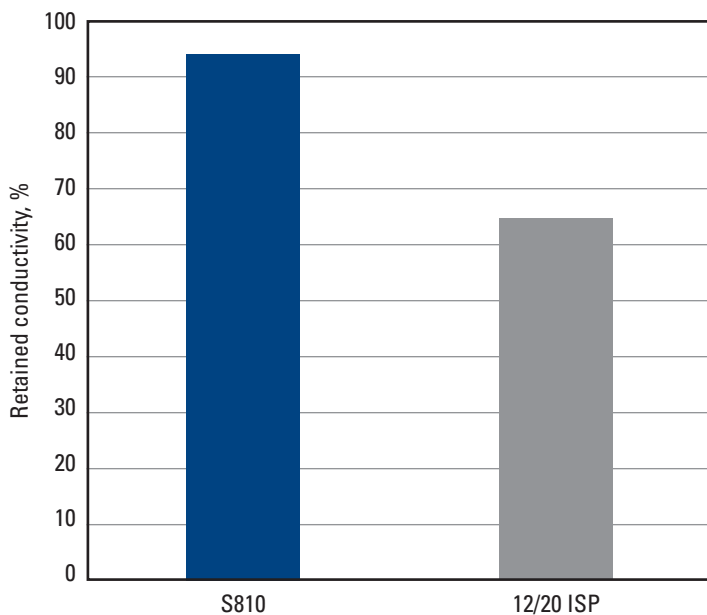
For more than 30 years, spherical proppant has been used in the industry as a propping agent in hydraulic fracturing to provide conductivity contrast against formations and enhance well performance.

S810 (rod-shaped proppant)—a new, revolutionary proppant technology—utilizes high-strength, ceramic, rod-like material. The material has an average length of 2.75 mm and average diameter of 1.45 mm. It is applied as proppant material and provides significant performance benefits when compared with common commercially available spherical proppants. The product increases fracture conductivity and leads to better well performance.

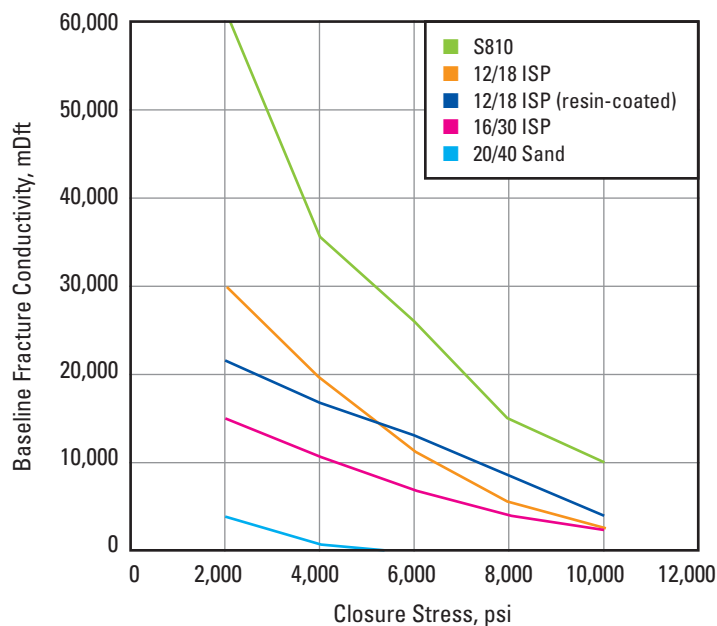
The S810 offers superior proppant conductivity compared to common spherical proppant, which eventually improves hydrocarbon delivery from formation to wellbore. With less pressure drop inside fracture length, the S810 provides better cleanup after hydraulic treatment by a retained conductivity increase, compared with the use of conventional spherical proppant.

The particle shape provides creation of a consolidated pack. This pack is highly resistant to the driving forces that cause proppant flowback. Unlike resin-coated proppant (RCP), the S810 relies on mechanical interference of the particles and not on chemical bonding, so it is chemically inert. In addition, unlike any RCP, the S810 does not decrease the near wellbore conductivity. The S810 does not require special shut-in time or flowback considerations.

S810 – Rod-shaped proppant



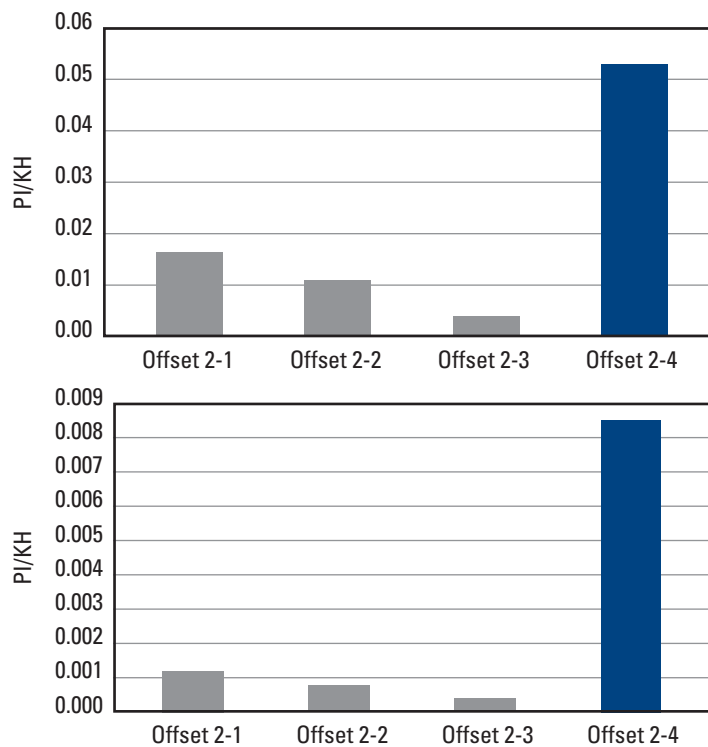
Conductivity comparison between rod-shaped proppant (S810) and 12/20 ISP ceramic proppant, using fluid with 30 lb/1,000 gal US guar polymer loading (no breaker added) and borate crosslinker at 4,000 psi closure stress.



Comparison of long-term conductivity between S810 and common spherical proppant at 2 lb/ft², 250 degF.

Case study

S810 has been successfully pumped in Egypt at temperatures up to 190 degF using a borate crosslinked fluid system. In all jobs, S810 was tailed-in in a range of 30–70%. Two SPE papers, SPE15360 and SPE140448, are generated from the field test. Based on production evaluation, it is proven that S810 wells produce at higher efficiency. The production data is normalized against reservoir quality to have a fair comparison.



Normalized well performance compared to reservoir quality.

www.slb.com/stimulation

Schlumberger