

Technical Sales Bulletin

Resin Coated Proppants

Low temperature bonding without a consolidation aid

Yukon Black™ Low Temperature Resin Coated Sand



Currently, there has been an increase in the development of low temperature reservoirs in Canada. During the fracturing treatment, resin coated proppants are used to control proppant flowback and increase production. However, due to the low temperatures, many resin coated proppants require a low temperature consolidation aid to bond. If the proppant does not properly consolidate it can cause proppant flowback, which leads to increased operational costs and decreased production.

Hexion's Yukon Black™ proppant is an innovative curable resin coated fracturing sand available in 16/30 and 20/40 mesh sizes. This proppant is specifically designed for low temperature fracturing treatments without a consolidation aid, which will provide maximized production and the ability to control costs associated with well clean-outs, pump repairs, and down production time.

Technical Applications

Fracture Treatments:

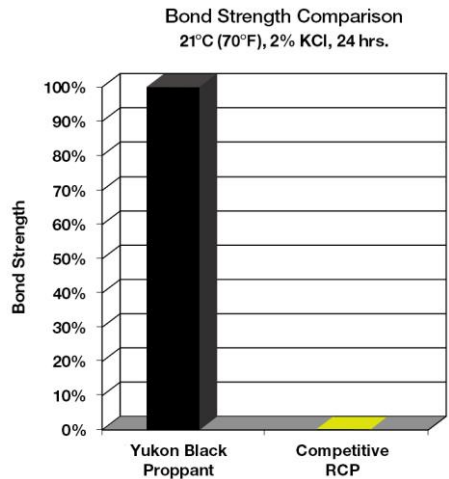
- At closure stress up to 55 MPa (8,000 psi)
- At bottom-hole static temperatures from 24° – 71°C (75° – 160°F)
- Where flowback control is necessary in low temperature reservoirs

Technical Advantages and Benefits

- Low temperature bonding down to 24°C (75°F) bottom-hole static temperature without the use of a low temperature consolidation aid
- Reduces proppant fines generation and migration
- Helps prevent proppant flowback
- Stress Bond™ proppant technology prevents wellbore consolidation
- Frac fluid and breaker friendly

Bond Strength Testing

Testing showed that Hexion's Yukon Black proppant achieved 100% bond strength at only 24°C (75°F), while the competitive resin coated proppant (RCP) remained unconsolidated. No low temperature consolidation aids were used during the testing of either product.

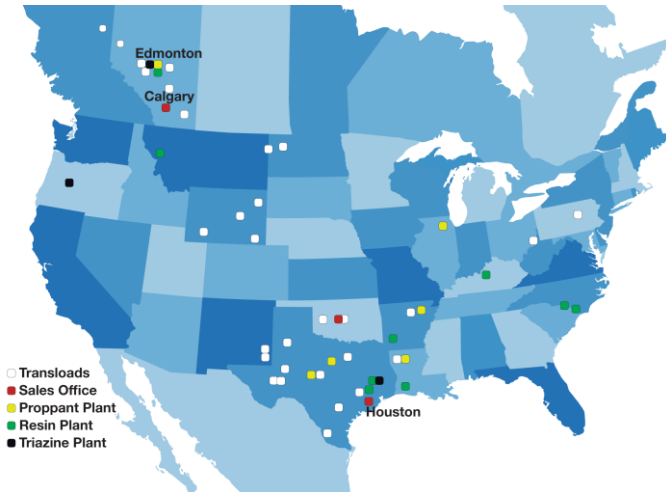


Yukon Black Proppant Pack



Competitive RCP

North America Manufacturing and Distribution Network



Hexion continues to expand capacity and strategically locate transloads near the major shale plays in North America to meet the industry's increasing need for resin coated proppants.

Yukon Black Proppant Long-Term Conductivity

Stim-Lab, Inc. Consortium Long-Term Baseline Procedure
 Proppant Concentration: 9.8 kg/m² (2 lb/ft²), Temperature: 66°C (150°F)

Closure Stress, MPa (psi)	14 (2,000)	28 (4,000)	41 (6,000)	55 (8,000)
Size	Conductivity (md-ft)			
16/30	8,631	5,202	2,397	1,069
20/40	3,297	2,923	2,342	1,133



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