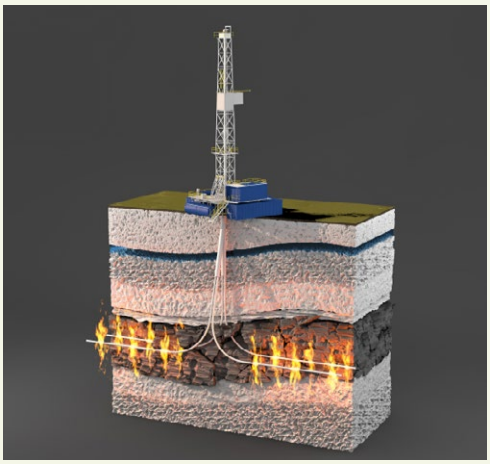
Custom Seal Design Drives Oil and Gas Fracking Engines

A partnership with TriStar gives you a competitive edge.



Fracking, or hydraulic fracturing, is the process of extracting natural gas from shale rock layers deep within the earth. Fracking makes it possible to produce natural gas extraction in shale plays that were once unreachable with conventional technologies.

The oil and gas fracking industry is booming, as utilities struggle to keep pace with ever-increasing worldwide energy demands. In fact, the US set a record for natural gas consumption for the third consecutive year in 2013.

To maintain this pace of 24/7/365 operation, the engines used in fracking equipment must be of the highest caliber. And TriStar's custom seals are helping these powerhouse components exceed industry expectations.

For this unique seal application, our engineers looked to the past to design for the future; channeling a 1960s-era auto transmission schematic for inspiration. The goal of this application was to "seal" the rotating shaft where the clutch mates to the engine. In this instance, the transmission was a dual-clutch mated to a 3000hp diesel engine.

Custom Design Brings New Solutions

By using a proprietary seal material, we increased the seal pressure to improve the engines' overall efficiency. It may seem unlikely, but a simple change in seal material on the power train led to improved fracking equipment uptime and better production rates!

At TriStar, we carry a range of off-the-shelf components, but can also collaborate on a custom design when standard just won't do. Here's a primer to help you review the properties of different seal materials. You'll see that while seals have come a long way through the decades, sometimes an old design when combined with the materials of today can lead to a completely new solution!

Need to design a custom seal for your project?

Download our Seal Application Worksheet or Ask the Sealing Experts for advice on your next application!

We're ready to put our engineering expertise to work for you from prototype to production.

Engineering | Custom Fabrication | Manufacturing

CJ Composite

- Self-Lubricating
- Low weight | High Strength
- Chemical Resistance
- Direct replacement for Bronze

Ultracomp®

- Self-Lubricating
- High Load | Low Speed
- 54,400 PSI Compressive Strength
- Exceptional Resistance to Vibration and Impact

TriSteel™

- Self-Lubricating
- High Load | High Speed
- Metal Backed Bearing System
- 100% Lead Free

Rulon®

- Self-Lubricating
- Low weight | High Strength
- Low Coefficient of Friction
- Chemically Resistant

Enhanced Materials Division

- Plasma Surface Treatment
- Specialized Primers & Coatings
- Material ID & Selection
- Process Engineering | Analysis & Testing

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