



LET US HELP PUMP
PERFORMANCE INTO
YOUR NEXT WELL.™

 **RAINBOW**®
CERAMICS



Your success depends on how well the proppant you pump performs.

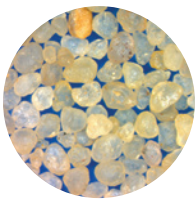


Rainbow Ceramics is one of the world's leading producers of ceramic proppant used in the hydraulic fracturing of oil and gas wells. We engineer, manufacture and supply proppant products that meet or exceed API and ISO quality standards. Our products are field-proven to provide superior performance with regard to conductivity, crush resistance, chemical resistance, thermal stability, sphericity and roundness.

The case for ceramics

Due to its low cost and availability, frac sand has been used as a proppant in hydraulic fracturing for years. However, numerous studies (SPE paper # 169566, 169866, etc.) on long-term production have demonstrated that the strength, uniform size and shape, as well as chemical and thermal stability of ceramic proppant yield much higher long-term production under a broad spectrum of reservoir conditions.

A Williston operator quickly realized the economic benefits of using Rainbow's ceramic proppants to increase well productivity and ROI. Ask your Rainbow Ceramics' representative to discuss the details of the Williams County, North Dakota case study (#1213).



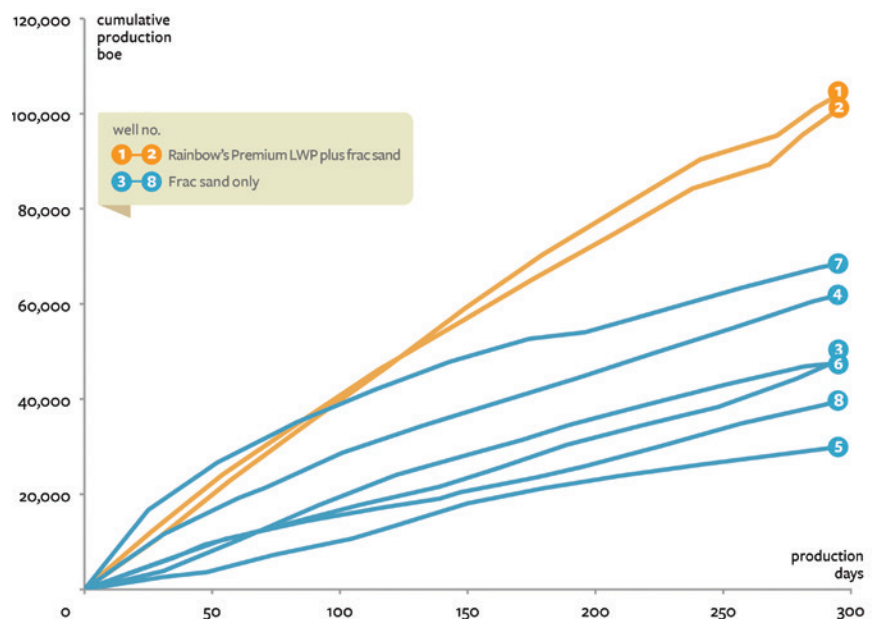
Frac sand

Conductivity is severely reduced due to irregular shape and tight proppant pack, crushed fines, and chemical/thermal instability associated with frac sand grains.



Ceramic proppant

The uniform size, shape and strength of ceramic proppant grains as well as their chemical/thermal stability increases production flow.



Case study #1213.

The average cumulative production of the two Williams County, ND wells fractured using a combination of Rainbow's premium 20/40 lightweight ceramic proppant and frac sand more than doubled the average cumulative production of the six wells fractured using only frac sand.

Our industry-proven proppants exceed API and ISO quality standards. Rainbow provides a full-range of products used by operators and pumping services companies across the major resource plays in North America.



ReaLite®

Ultra-lightweight ceramic proppant

- Rainbow's most cost-effective proppant
- Provides 50% higher strength, improved conductivity, more thermal stability and better placement than premium resin-coated sand
- Lower apparent specific gravity and bulk density than premium resin-coated sand
- Excellent for slick water fracturing
- Reduces wear and tear on pumping equipment
- Available in three standard sizes: 20/40, 30/50 and 40/70
- Product covered by Canadian Patent 2,751,907
- Patent application granted in US and pending in many other countries.

PropLight®

Lightweight ceramic proppant

- A high performance, cost-effective lightweight ceramic proppant
- Provides one of the highest fracturing conductivities available for moderate depth well applications
- Apparent specific gravity and bulk density comparable to premium resin-coated sand
- Exceptional chemical inertness and thermal stability
- Reduces wear and tear on pumping equipment
- Available in three standard sizes: 20/40, 30/50 and 40/70.



PropMaster®

Intermediate-strength sintered bauxite

- Superior conductivity and permeability in moderate-to high-stress downhole environments
- Designed for high performance under closure stresses of up to 14,000 psi
- Solid and reliable performance in intermediate depth wells with low to moderate permeability
- Minimizes friction and reduces wear on wellhead and pumping equipment due to exceptional roundness and sphericity
- Available in four standard sizes: 16/30, 20/40, 30/50 and 40/70.

PropRaider®

High-strength sintered bauxite

- Rainbow's highest strength proppant
- Designed for applications in deepest wells with highest closure stresses and temperatures
- Maximum conductivity, high crush resistance and excellent thermal stability in hot downhole conditions
- Minimizes friction and reduces wear on wellhead and pumping equipment due to exceptional roundness and sphericity
- Available in three standard sizes: 16/30, 20/40 and 30/50.

Rainbow proppants are engineered to optimize conductivity in virtually any well application. With dedicated efforts in research and development, manufacturing, quality and HSE programs, Rainbow ensures world-class products while maintaining a strict culture of safety.



Manufacturing Capabilities

Rainbow operates more than a dozen production lines in five state-of-the-art manufacturing plants in China. We are one of the world's largest producers of ceramic proppants, and manufacture a full range of products – from ultra-lightweight ceramic proppant to high-strength sintered bauxite proppant.

Each of our plants maintains an onsite laboratory that is equipped for the full complement of specification properties to be tested. The labs are also equipped to produce bench-scale product quantities to aid in new product development, process troubleshooting and feedstock testing.

By taking advantage of vast supplies of ore mined from local deposits, Rainbow effectively lowers the production costs and ensures consistent quality products.

Quality and Safety Assurance

Quality and safety are the cornerstones of Rainbow's culture. We strive to exceed our customers' expectations in product quality and consistency with every shipment. All manufacturing plants are ISO 9001 certified with strict quality control standards enforced.

We check every batch of proppant at multiple points in the manufacturing process and throughout the distribution supply chain. Our product testing includes: sieve analysis, crush resistance, apparent density, bulk density and turbidity. Additionally, we enforce strict HSE procedures in our manufacturing plants throughout the entire production process.

We take the worry out of the delivery process.



Global Supply Chain

Rainbow delivers proppants from our manufacturing plants to customers via our global distribution network. Bagged proppant is positioned in stocking locations around the world. We transport proppant by railcar to multiple stocking points across North America.

We stock millions of pounds of proppant to meet our customers' immediate project needs. Proppant is delivered by truck where you need it, when you want it.

Customer Service

Our customer service team works continuously to ensure logistical support for our customers, keeping them updated until the timely delivery of our products. Our dedicated and experienced staff is available 24/7/365. They routinely order, ship, receive and distribute our proppant products to any location in the United States and Canada.

Technical Support

Rainbow's devoted and well-trained technical support team takes complete care of our customers' product-related inquiries and concerns. We are ready to provide technical support for any questions, including but not limited to the manufacturing process, product quality control and product performance.



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