OIL & GAS SOLUTIONS

Improve performance & profitability with engineered ceramics
Increase profitability & competitive advantage with CoorsTek engineered ceramics – outlast and outperform steel 10:1 in challenging downhole applications.

**Extend Your Equipment Life | Bearing Components**

Deep downhole, electric submersible pumps (ESPs) endure severe abrasion and chemicals – tough conditions that break down traditional materials and stop equipment.

**Challenge:** A major oilfield equipment provider was experiencing short meantime before repair in its ESP tools. Hardened alloy bearings wore quickly with high break rates, costing valuable output and time.

**Solution:** After exploring root cause, CoorsTek quickly engineered replacements from tough Dura-Z™ ceramics – delivering superior durability, exceptional corrosion and impact resistance, and better coefficient of thermal expansion match. CoorsTek then developed UltraSiC™ silicon carbide bearings and bushings for extreme conditions.

**Results:** After retrofitting, ESPs saw:
- 100x less wear
- 85% fewer breaks
- 70% reduced impeller stack deflection
- Virtual elimination of radial and down thrust wear and breaks due to thermal expansion.

**DRILLING**

**Gap Sub Washers**

*How far, how fast?*
Slash maintenance and extend meantime before failure in drillstrings and rotary steerable systems with durable CoorsTek ceramic components.

**Completion**

**Frac Plug Buttons**

*Extract more in less time.*
Frac smarter and more efficiently - hold higher pressure and mill out faster, every time with CoorsTek ceramic buttons.
Reduce risk.
Preventing leaks is crucial in midstream, where there's no such thing as downtime. “Pigs” leverage CoorsTek ceramic components to keep inspecting and cleaning pipelines, mile after mile.

PROTECT
PEOPLE & ENVIRONMENT.

Protect the Environment & Your Bottom Line | Mechanical Seal Components

Rotating equipment like pumps and compressors are mission critical, but traditional “wet” contacting seals risk reliability, operational cost, and pollutant leakage.

Challenge: Meet tighter emissions regulations and reduce net costs with rigid, precise, and durable hard face seals to support “dry” gas seal technology - consistently maintaining micron-scale face separation across operating conditions while extending MTBR.

Solution: Working with leading mechanical seal OEMs, CoorsTek engineered UltraSiC™ silicon carbide and silicon nitride ceramic seal faces for reliable, emission-free performance across sizes and applications – for high temperatures, pressures, and speeds.

Results: CoorsTek seal faces delivered:
- Stable, noncontacting µm-scale gaps at higher speeds
- 10x lower frictional energy losses
- Superior dry run performance
- 2x seal life and MTBR
- Total cost of ownership savings in energy, maintenance, and low fugitive emissions

REDUCE
NON-PRODUCTIVE TIME.

PRODUCTION
Rod Pump Balls
It's all about output.
When you need 24x7x365 performance - outlast metals with dependable CoorsTek Cerbec® balls for bearings and check valves.

PROCESSING
Hard Seal Faces
Clean, safe, and affordable.
Prevent fugitive emissions and chemical leakage with reliable CoorsTek UltraSiC™ seal faces.
PARTNER WITH COORSTEK.

We engineer advanced ceramics to solve your biggest challenges. When you choose CoorsTek, you get a complete package to ensure superior performance for your custom engineered components:

1. **Design Consultation**
   Our materials experts work with your team to understand your application and create an optimal, best value solution. And if engineered ceramics aren’t the best fit, we tell you.

2. **Performance Testing**
   Our engineered ceramics are designed for high performance, so we evaluate lab and field test data to make sure they’re measurably better – delivering the results you require.

3. **Manufacturing Expertise**
   Our solutions could incorporate virtually every ceramic manufacturing technology known from powder to part – but we use what fits you best. We design for manufacturability, build with excellence, and deliver with speed.

GOT A CHALLENGE?

Put us to the test, and see how CoorsTek engineered ceramics can help you deliver better solutions and results. Contact us for a free design consultation for your application at coorstek.com/contact. For more information on our Oil and Gas offering, please visit us at coorstek.com/oilandgas.

You may also be interested in:

- Zirconias
- Serving Oil & Gas
- About CoorsTek

CoorsTek engineered ceramics are hard at work behind the scenes in all kinds of oil & gas applications – consistently extending performance and profitability.