



**Severe Service**  
Fluid Handling Components



# Advanced Materials and Capabilities for Severe-Service Fluid Handling

CoorsTek offers a wide range of advanced materials designed specifically for extremely corrosive, abrasive, high-pressure, and high temperature environments. Our state-of-the-art manufacturing facilities form and machine high-quality components, both large and small, with exceptional precision for many fluid handling applications.

CoorsTek severe-service experts help you select the best material, assist in design refinement, offer advanced processing services, and ensure quick-turn and on-time delivery.



## Hard Face Seal CO

CoorsTek engineers and manufactures a wide range of heavy-duty, hard-face seal components for a variety of applications — all made with high-quality, long-wearing ceramic materials. By controlling the manufacturing of seals from the raw material composition to the high-precision finish, CoorsTek maximizes product quality for long-lasting performance in demanding environments.

CoorsTek engineers will help optimize seal component designs for manufacturing, finding the right balance of:

- Corrosion resistance
- Hardness
- Compressive strength
- Toughness
- Thermal expansion
- Maximum operating temperature
- P/V capacity

Hard-faced seal components are available in multiple grades of silicon carbide, tungsten carbide, alumina, zirconia, and hybrid materials.



## Valves and Valve Components

CoorsTek provides industrial-grade valves and valve components that excel in even the most punishing conditions. Made to outperform conventional plastic, metal, carbide-coated, and diffusion alloy materials in corrosive, high-temperature, and high-pressure applications including lime slurries, cat cracker slurries, corrosive acid slurries, high pressure steam, aqua regia, sodium hydroxide slurries, and flue gas.

### Valve components include:

- Abrasion resistant valves
- Wing-guided valves
- Stem-guided plate valves
- Valve balls
- Needle valves
- Gate valves
- Ball & seat check valves
- Custom valve components
- Valve erosion rings & sleeves

### Abrasion Resistant and Specialty Valves

Abrasion-resistant valves are recommended for applications where erosive particulates cause premature failure of standard valves and suspended solids dictate the use of an open flow design. CoorsTek abrasion resistant valves are especially effective in saltwater disposal service, tank truck, and work-over applications.

### Pulsation Mitigation

The full line of CoorsTek FlowGuard™ and SurgeTek™ pulsation mitigation equipment is available in a wide variety of standard and custom options to resolve most fluid control and power needs. If you are replacing components in an existing application or designing a new system, there are many viable options to choose from.

### Nozzles

CoorsTek provides ceramic nozzles for a variety of severe duty applications. The erosion, corrosion, and heat resistance of our ceramic materials preserve the orifice size, providing superior life compared to hard metal and carbide nozzles.

### Micro Dispense Nozzles

CoorsTek Gaiser® precision micro dispense nozzles are designed and manufactured with smooth, tapered cores to improve flow characteristics and reduce clogging. Holes as small as 20 µm (0.0008”) and wall thicknesses as thin as 10µm (0.0004”) allow for reduced dot size, closer proximity placement, and precision volume control. Custom designs are available to accommodate a variety of lengths, tip diameters, and specialized designs for restricted and deep access applications.



### Pump Components

CoorsTek offers a vast array of ceramic pump products and components for your fluid control needs including ceramic plungers, coated plungers, and extension rods.

Ceramic plungers work exceptionally well for most saltwater, chemical, and metering applications. CoorsTek specially-formulated grades of ceramic allow a standard 8 RMS surface finish — dramatically extending packing life. Ceramic plungers are available in hollow ceramic or solid ceramic designs.

When ceramic is not optimal, coated plungers and extension rods provide excellent performance:

- **Hard-Co™ Coated Plungers:** With a nickel chrome hard facing alloy on base metal, this general service plunger provides the best overall combination of corrosion and wear resistance
- **Chrome Oxide Plungers:** Recommended for use in the pumping of amine, glycol, and other fluids requiring restricted lubrication
- **Tungsten Carbide Plungers:** The ideal choice for most power oil applications where the main concern is wear and abrasion
- **Extension Rods:** Made with the same process and materials as Hard-Co plungers



### Centrifugal Pump Parts

Using advanced materials and manufacturing processes, CoorsTek provides high-performance replacement parts for a large variety of centrifugal pumps.

### Packing & Valve Expendables

General service 838 plunger packing is composed of nitrile rubber and synthetic fabric and is recommended for service in fresh water, saltwater, propane, butane, gasoline, light or heavy oils, mild chemicals and acids, and most hydraulic fluid applications.

## About CoorsTek

With manufacturing operations in 50 locations across four continents, CoorsTek is the international partner of choice for companies requiring the unique, high-performance properties of engineered technical ceramics. For over 100 years, industry leaders have turned to CoorsTek for solutions to the world's most perplexing engineering and manufacturing challenges. We meet these challenges with unsurpassed expertise in materials engineering, broad research & development capabilities, operational excellence, and a commitment to building reliable, collaborative relationships.

Using over half the world's known elements in our 300+ proprietary ceramic formulations, CoorsTek manufactures complex, high-strength components for virtually every industry in the global marketplace. CoorsTek material offerings include aluminas, carbides, nitrides, quartz, silicates, yttrias, and zirconias. We also offer a broad selection of specialty materials to meet application-specific requirements. Combined with a vast range of manufacturing and finishing capabilities, immense manufacturing capacity, guaranteed quality, and localized service across the globe, CoorsTek delivers outstanding value with every product.

Contact a CoorsTek engineer today or visit [coorstek.com](http://coorstek.com) to learn more.

## LOCATIONS



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