



CERAMIC CATALOGUE

wide range of ceramic
products

 **DTEC**
ENGINECH LLP

ABOUT COMPANY

DTEC is a rapidly expanding company specializing in manufacturing and supply, focusing on planning, design, development, and production.

DTEC fosters a work culture centered on customer focus by implementing effective business practices and striving for continuous improvement. Quality is not just a feature of its products; it is the fundamental principle that drives the entire system.

DTEC boasts a cutting-edge manufacturing facility equipped with excellent inspection and testing capabilities, supported by a highly skilled technical team dedicated to ensuring quality and service.

CERAMIC MUD PUMP LINER



Ceramic mud pump liners endure tough drilling conditions. They manage circulation rates of up to 200 gallons per minute of water and slurry, withstanding pressures of 7,500 psi. In mining, transitioning from chrome iron to ceramic materials increased the liner's service life from 100 days to more than a year.

Ceramic mud pump liners are essential in oil wells for the efficient movement of mud into the wellbore. They can withstand forces ranging from 300 to 400 kilopounds and have an elasticity rating between 12,500 and 60,000 psi. Anoop Ceramics manufactures these liners using Alumina and Zirconia.

Ceramic mud pump liners offer greater cost efficiency, enhanced performance, and increased safety compared to traditional chrome iron sleeves. Their unique hardness and superior wear resistance far exceed that of rubber pistons, which function at high speeds and under extreme pressure, minimizing wear by more than 75%.

CERAMIC BREAKERS AND CUTTERS



Ceramic cutters are commonly utilized for cutting yarns, textiles, and fabrics. They serve effectively in tools like splicers, diagonal cutters for looms, and winding machines. Beyond textiles, they are incorporated in blades, knives, and shears across the medical, food, and automotive industries.

Ceramic's sharp edges, high flexural strength, and hardness make it an ideal material for cutting threads, enhancing industry profitability. Its use guarantees consistent cutter quality, ensures smooth operation, and offers resistance to corrosion and wear.

We selected Alumina and zirconia for our breakers and cutters. Zirconia-toughened Alumina is especially suitable for our cutting tool inserts. This combination delivers diamond-like sharpness, capable of cutting through both the softest fabrics and the toughest wires.

The mix's mechanical strength, toughness, and high-temperature stability allow cutters to be utilized across various industries. We tailor the shape, size, and blades of our cutters and cutting tools to meet the specific needs and applications of our customers.

CERAMIC CRUCIBLES, TRAYS AND BOATS



A ceramic crucible serves as a container for handling materials that require extremely high temperatures. Ceramic trays find applications in diverse areas, including laboratory tasks and interior design. Sintering trays are particularly valuable for stabilizing molded components in a furnace, preventing deformation during firing. Ceramic combustion boats facilitate material melting at elevated temperatures. The smooth, crystalline, and inorganic nature of ceramics makes them ideal for crafting crucibles, trays, and boats, which can be made from various base metals like zirconia and alumina, each reacting uniquely to heat and pressure.

The history of crucibles dates back to the Medieval period, where they served as vessels for smelting copper, leaded bronze, and their alloys. These trays feature a smooth surface, ensuring they are free from external contaminants, thus safeguarding other furnace components. Ceramic boats often have a handle and a small hole, known as an "eye," for easier handling during melting. Industries that frequently use ceramic crucibles, trays, and boats include metallurgy, analysis, and quality control.

Crucibles, trays, and boats are made solely from Alumina, selected for its exceptional resistance to high temperatures, harsh environments, and chemical attacks from various acids and alkaline solutions, along with hydrogen and reducing gases. Our trays and boats have a long lifespan and do not need protective coatings, as we utilize porous cordierite refractory material, chosen for its superior thermal resistance. This material ensures our ceramic trays are resistant to nearly all furnace atmospheres.

CERAMIC BUSHES AND FIXTURES



Ceramic bushes and fixtures are essential components in sectors like industrial electric furnaces, automotive, and electronics. They serve mainly for thermal and electrical insulation of screw joints. Ceramic, being a natural insulator, is favored over porcelain for its effective electrical blocking capabilities and durability, making it ideal for various pumps and machinery.

We adhere to established industry standards and utilize high-quality base materials. Our products, crafted from Alumina, offer excellent resistance to extreme temperatures and tough working environments typical in heating applications. Depending on the temperature requirements, we produce our products in either Alumina or zirconia.

Ceramic bushes and fixtures are produced according to established industry standards, utilizing high-quality base materials. Our offerings are crafted from Alumina, providing exceptional resistance to high temperatures and challenging conditions typical in heating applications. We manufacture our products in either Alumina or zirconia, depending on the required temperature.

CERAMIC HYDROCYCLONES



Hydrocyclones are primarily utilized to separate solids from liquids in hydrocarbon streams, making them essential in oil production. They help prevent sand accumulation in pipelines, providing protection for heat exchangers and pumps.

The upper section of the hydrocyclone propels the liquid-solid mixture, while the spinning motion distinguishes the heavier sand particles from the lighter liquid. The solid particles descend the tube, pushing the fluid upward into a different chamber. Alumina is recognized as the industry standard for hydrocyclones due to its durability and resistance to extreme abrasion from rotation.

Hydrocyclones are utilized in water treatment for fracking by separating solids and liquids from produced water. This cyclone method effectively eliminates contaminants during the pre-treatment phase, resulting in cleaner water for the community.

Hydrocyclones play a crucial role in separating sand in the challenging conditions of the oil and gas sector. Our ceramic parts are robust with an extended lifespan, minimizing maintenance and replacement costs. They provide excellent thermal stability, shock resistance, and high efficiency at low differential pressures. We have cyclones available in sizes from 0.5 to 6 inches, operating at a pressure drop of 10 psi and handling water volumes between 3 and 12,000 cubic meters.

CERAMIC WASHERS FOR PUMP APPLICATION



Washers are compatible with taps, pumps, and various water-based machines. Our appliances are polished on one side for a secure fit to the faucet. The discs allow for a quarter turn to easily activate taps, requiring minimal effort. Made from Alumina, they reduce friction and last longer than rubber. Our drives are robust, handling any water flow.

In recent years, the quick fix for leaking faucets involved installing a rubber washer in the tap cartridge. While this worked temporarily, the valve would eventually begin to leak again. The alternative was to use ceramic discs and washers, which eliminated dripping and required just a 90-degree turn to operate.

Ceramic washers are known for their durability and ability to withstand various elements, making them last longer than alternatives. Typically, taps feature two magnetic ceramic discs. The first disc remains stationary while the second disc moves with the valve. Proper alignment of both discs allows water to flow smoothly; misalignment halts the flow instantly.

CERAMIC THREADED COMPONENTS

BATTERY PARTS-ZIRCONIA



The global rise in industrialization and the growing demand for various machinery have led to an increased need for durable wear-resistant components. Ceramic battery parts serve multiple functions, including use in automatic conveyor belts, guides, and pads. They are available in different shapes and sizes, such as nozzles, dies, punches, plates, and rollers.

All our battery components are crafted from Yttria-Stabilized Zirconia, the optimal material for structural ceramics. This material enhances the durability of electronic and mechanical industrial parts. Our battery components, available in various shapes and sizes, exhibit exceptional mechanical strength, stability, and resistance to high temperatures, wear, and chemicals.

In the fiber and yarn sectors, ceramic threaded components play a crucial role in the assembly process, integrating non-ceramic elements with ceramic parts. This assembly typically involves threaded non-ceramic elements like helical screws and inserts, which connect with ceramic threads, either internal or external, and align with other ceramic components like rollers and wire guides. They also bond with metal parts and are essential in industrial applications, including 3-D printing, due to their non-conductive electrical properties, making them suitable for high-voltage applications.

CERAMIC NOZZLES

Ceramic is a multifunctional material commonly used to produce various types of nozzles. These include those for sandblasting, siphoning, and abrasive blasting, among others. Nozzles are vital due to their wear resistance, brittleness, refractory nature, and thermal and electrical insulation properties. Industries like aerospace, military, defense, and medical utilize ceramic nozzles.



They are utilized in tasks like cleaning, resurfacing, and surface

We design nozzles based on optimal industrial practices for plasma etch processing and other sectors. They are suitable for a range of applications and meet various client needs. Our pricing is highly competitive within the industry.

CERAMIC ROLLER ASSEMBLIES



Ceramic rollers are cylindrical assemblies utilized for diverse applications. In textiles, they function within thread guidance systems. In the

We have developed a range of rollers in various shapes and sizes. Our custom roller guides for tubes are designed for diverse transport applications. We utilize Alumina and zirconia, with a preference for magnesia-stabilized zirconia for constructing rollers, ensuring temperature resistance and low thermal conductivity.

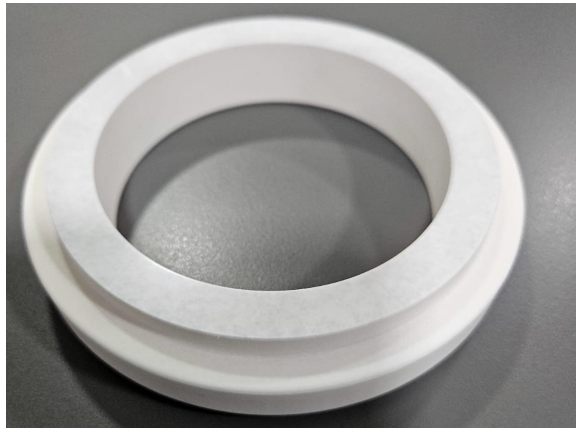
CERAMIC TUBES AND RODS



Ceramic tubes, rods, and shafts are utilized across various applications, including turbine casting supports, surgical devices, and insulators. They are common in aerospace, defense, healthcare, and electronics. Anoop Ceramics offers high-temperature resistant products with excellent electrical

We focus on dimensions, metal composition, and the specific requirements of our customers. Our ceramic tubes, rods

Ceramic Seals Face



Ceramic seals are compact discs utilized in various technologies, including automotive engineering. They serve in fuel and water pumps, playing a crucial role in pumping systems. Their smooth surfaces enhance sharpness, providing resistance to chemicals like acids and alkalis. Additionally, seals act as barriers in pumps and taps, keeping contaminants like dirt and sand away from drinking water while maintaining the integrity of the sealing technology.



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