

Aliaxis is a specialist for products made of non-corroding and wear resistant materials

Founded in 1860, the company has since been working with ceramics and the improvement of their materials and process technologies.

Aliaxis Utilities & Industry has a wide range of ceramic products and solutions together with a wealth of know-how and experience to support the industry. At your disposal is our vast experience of customer specific manufacturing of products made of alumina (Al₂O₃), zirconia (ZrO₂), silicon carbide (SiC) and silicon nitride (Si₃N₄) for the industry, including

choice of materials and product design.

This makes us an excellent partner already in the development and design phase of a new product or application. If you have the idea, we will find the right ceramic solution for your purpose.

Whether high temperature, abrasion or corrosion, or all of these together, we tackle every challenge with a spirit of enthusiasm. A strong partnership between us and our customers get the best results for everyone involved.

Get in touch with us to assure highest quality and function of your products and applications.

Aliaxis Utilities & Industry is a part of the Aliaxis-conglomerate along with FRIATEC.

FRIATEC is one of the oldest and most renowned companies in the Mannheim area in Germany.



MECHANICAL ENGINEERING



Valve discs



Filling units



Welding pins



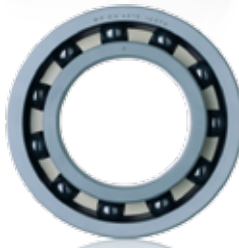
Slide bearing shrunk in



Shrunk in nozzle



High-pressure piston



Full-ceramic ball bearing



Pump wheel



Hybrid ball bearings with ceramic balls

UNIQUE PROPERTIES

Machine components made of FRIALIT-DEGUSSIT High-Performance Ceramics are characterized by a wide variety of outstanding properties:

- High mechanical strength
- Very good resistance to abrasion and erosion
- Excellent corrosion resistance
- Low chemical affinity against other materials

- Low coefficient of expansion
- Outstanding surface finish
- Low friction coefficient
- Media lubrication or complete dry running
- Very good thermal resistance
- Electrical insulation
- Non-magnetic
- FDA approved

Typical applications for machine components made of FRIALIT-DEGUSSIT High-Performance Ceramics are:

- Food and drug industry
- Chemical and process industry
- Offshore and subsea industry
- Pulp and paper industry
- Automotive industry – car body construction

CERAMIC-TO-METAL ASSEMBLIES



High-pressure micro wave feedthrough



High-pressure multi-pin feedthrough



Capacitive sensor for level gauging



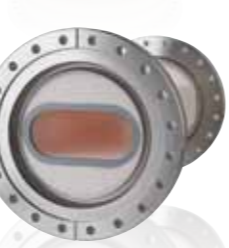
Insulator for high-vacuum



High-voltage/high-pressure feedthrough



High-pressure 3-pin feedthrough



Vacuum tube with brazed flanges for particle accelerators



Oxygen sensor tube brazed on flange



Metalized sensor discs

OUTSTANDING PROPERTIES

Ceramic-to-Metal Assemblies made of FRIALIT-DEGUSSIT High-Performance Ceramics are characterized by a wide variety of outstanding properties:

- They ensure maximum electrical insulation
- Are fully tight under extreme pressure and vacuum conditions

- Are extremely corrosion resistant
- Can withstand high temperatures
- Can operate under high voltage, high power and high pressure
- Can be used in high vacuum and ultra-high vacuum

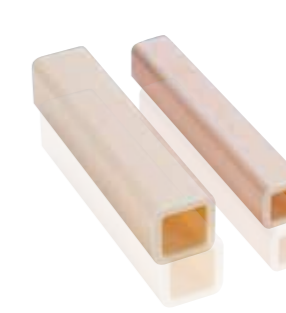
Typical fields of application for ceramic-to-metal assemblies are:

- High-voltage and high-power applications
- Offshore and subsea applications
- Measurement instrumentations and technologies
- High-vacuum technologies
- High-pressure applications
- Cryogenic applications
- Medical technologies
- Radiation therapy
- High-frequency technologies
- Power engineering

HIGH-TEMPERATURE PRODUCTS



Glow-block for heat treatment of lamp filaments



Square tubes for corona treatment



Plates for the semiconductor industry



Ozone generator



Rectangular plates



Tubes, rods and multi bore tubes



Discs with bores



Dielectric elements for fuel cells



Crucibles and boats for industry and research

EXCELLENT THERMAL PROPERTIES

High-Temperature Products made of FRIALIT-DEGUSSIT High-Performance Ceramics are characterized by a wide variety of outstanding properties:

- Excellent thermal resistance up to 1950°C
- Good thermo-shock resistance
- Electrical insulation
- Excellent corrosion resistance
- High strength

Standard products in high purity alumina material DEGUSSIT AL 23 like tubes from Ø 0.5 up to 200 mm, rods, square and round plates, crucibles, boats and combustion trays as well as insulating powders are available from stock.

Typical fields of applications for our high-temperature ceramic products are:

- Thermocouples
- Measurement and control technologies
- Thermal analysis
- Research and development
- Furnace constructions
- Glass industry
- Steel industry
- R & D analysis