EKasic® SILICON CARBIDE – A VERSATILE SPECIALIST

Practically experienced scientists develop ceramic-based solutions to your requirements. A broad range of silicon carbide materials, tailored to specific fields of application, continually opens up new opportunities.

Parts made of EKasic® Silicon Carbide have an excellent track record over decades in many industrial sectors.

Our scientists translate the demands of technical systems into focused customer solutions and ensure that our innovations are economically feasible and logistically manageable.

EKasic® Silicon Carbide pump shafts; plungers for high-pressure pumps

EKasic® Silicon Carbide sliding bearings used e.g. in quality chemical and industrial pumps as well as in stirrers and mixers for the chemical, pharmaceutical and food industry

Mechanical seal rings of EKasic® Silicon Carbide are particularly suitable for heavy-duty applications, i.e. the handling of contaminated fluids, abrasive fluids and/or extremely corrosive fluids

EKasic® Silicon Carbide separator wheels are used in the production of powders, granules and bulk materials for the chemical, pharmaceutical, food, minerals, metals and recycling industries.

EKasic® Silicon Carbide laserstructured sliding bearings (left: radial bearing, right: thrust bearings) used e.g. in highly-loaded chemical pumps, in magnetic couplings for hermetically sealed pumps and in stirrers for chemical and pharmaceutical processes

EKasic® Silicon Carbide gas sealing rings used for compressors and stirrers in the oil and gas processing

EKasic® SILICON CARBIDE – PRODUCT AND MATERIAL PROPERTIES

ESK provides the widest product portfolio of sintered Silicon Carbide material in the market. The key to performance of our EKasic® Silicon Carbide material is microstructure.

Our materials develop applications for technical systems that meet very tough demands:

- Tribological performance under high load (pressure, sliding speed, temperature)
- High resistance to wear
- Resistance to corrosion in aggressive media
- Thermal shock resistance
- Low distortion under thermal loads

The all-rounder

EKasic® F

Good chemical resistance, low specific density, high hardness and wear resistance, outstanding thermal conductivity properties and resistance to fluctuations in temperature: EKasic® F combines all these specific advantages of sintered silicon carbide particularly for bearings and seals for use in pumps.

The high-strength grades

EKasic® F plus and EKasic® T

Two high-density materials achieve the optimum strength for silicon carbide. These non-porous, fine-grained grades guarantee very high mechanical strength and edge stability. EKasic® F plus and EKasic® T are the ideal materials for complex thermal and mechanical loads.

The corrosion-resistant grade

EKasic® C

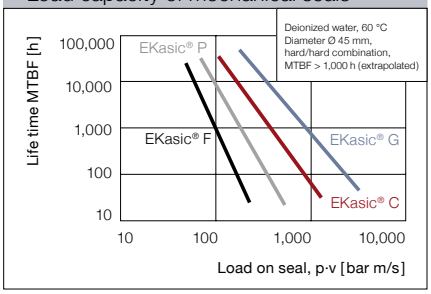
Resistance to corrosion is a particular problem where aggressive chemicals or hot water are being transferred e.g. by circulating pumps. EKasic® C has proved highly effective in corrosive environments.

The tribological grades

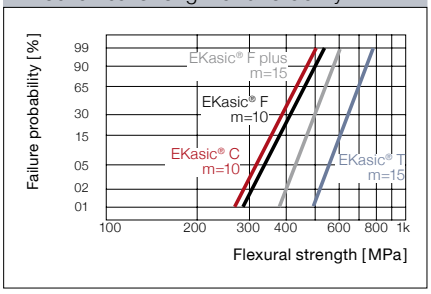
EKasic® P and EKasic® G

Improved dry run and mixed friction properties prove especially valuable in sliding and friction systems. The porous EKasic® P and the graphite-loaded EKasic® G.

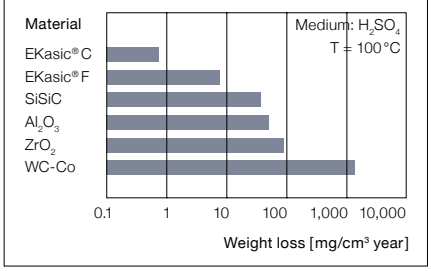
Load capacity of mechanical seals



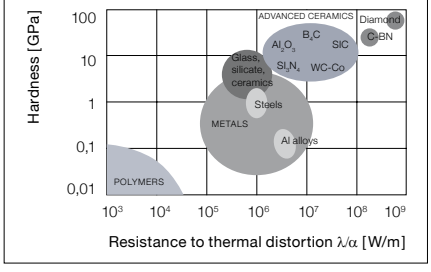
Mechanical strength and reliability



Corrosion resistance



Hardness and deformation resistance



EKasic®/Silicon Carbide/e - 0407

The management system has been certified according to DIN EN ISO 9001, DIN EN ISO 14001. EKasic® is a registered trademark of ESK Ceramics GmbH & Co. KG

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