

3M™ Silicon Carbide – a Versatile Specialist

Formerly known as EKasic®

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 3M™ 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.



3M™ Silicon Carbide Pump Shafts



3M™ Silicon Carbide Gas Sealing Rings used for compressors and stirrers in the oil and gas processing.



3M™ 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.



3M™ Silicon Carbide Mechanical Seal Rings are particularly suitable for heavy-duty applications, i.e. the handling of contaminated fluids, abrasive fluids and/or extremely corrosive fluids.



3M™ 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.



3M Technical Ceramics provides the widest product portfolio of sintered silicon carbide material in the market. The key to performance of our 3M™ Silicon Carbide material is microstructure.

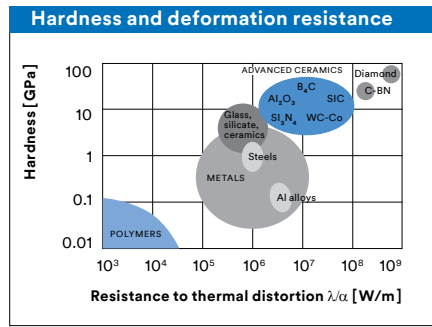
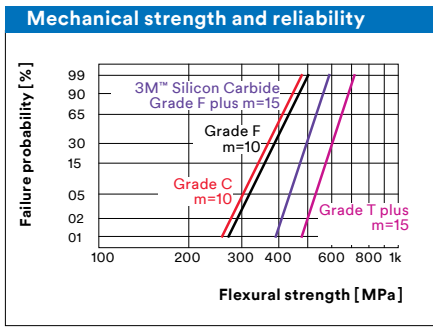
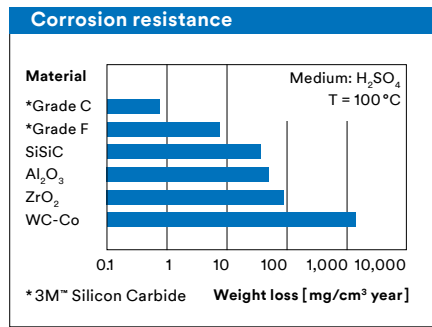
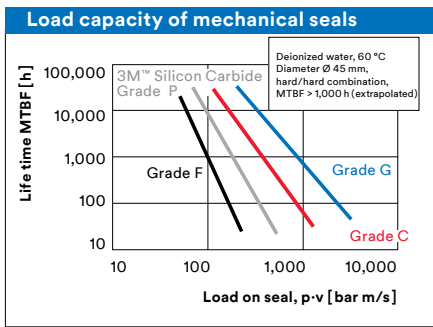
Our materials develop applications for technical systems that meet very tough demands:

- 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

3M™ Silicon Carbide Grade F

Good chemical resistance, low specific density, high hardness and wear resistance, outstanding thermal conductivity properties and thermoshock resistance: 3M™ Silicon Carbide Grade F combines all these specific advantages of sintered silicon carbide particularly for bearings and seals for use in pumps.



The corrosion-resistant grade

3M™ Silicon Carbide Grade C
Resistance to corrosion is a particular problem where aggressive chemicals or hot water are being transferred e.g. by circulating pumps. 3M™ Silicon Carbide Grade C has proved highly effective in corrosive environments.

The high-strength grades

3M™ Silicon Carbide Grade F plus and Grade T plus
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. 3M™ Silicon Carbide Grade F plus and Grade T plus are the ideal materials for complex thermal and mechanical loads.

The tribological grades

3M™ Silicon Carbide Grade P and Grade G

Improved dry run and mixed friction properties prove especially valuable in sliding and friction systems. The porous 3M™ Silicon Carbide Grade P and the graphite-loaded 3M™ Silicon Carbide Grade G.

Product is manufactured and sold by 3M Technical Ceramics, Zweigniederlassung der 3M Deutschland GmbH.

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