

STARCERAM[®] Si

Chemical Formula	SiSiC
Chemical Name	Reaction-Bonded Silicon Carbide
Characteristic	Non-Shrinking Reaction-Bonded Silicon Carbide
Description of Product	Parts made of Reaction-Bonded Silicon Carbide
Colour	Black, anthracite

Chemical Characteristics

SiC	> 85	wt%
→ free Si	balance	

Mechanical and physical Properties

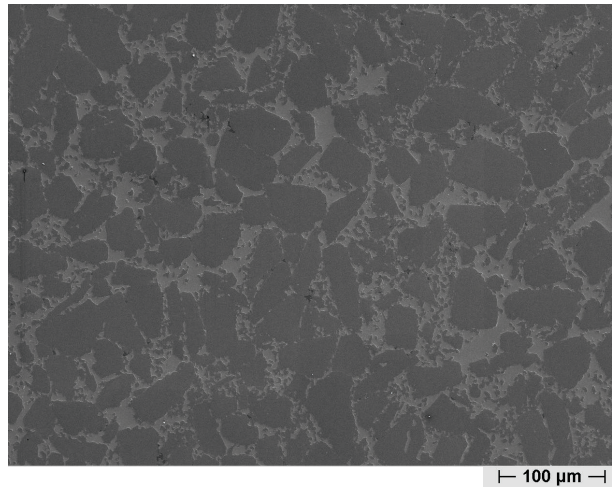
Density	3.05	g/cm ³
Closed porosity	< 2	vol%
Flexural strength $\sigma_{b4,m}$	300	MPa
Weibull modulus	> 10	
Young's modulus	380	GPa
Fracture toughness	3.6	MPa√m
Thermal conductivity	200	W/mK
Thermal expansion (RT-1000°C)	4.0	x10 ⁻⁶ /K
Hardness (DPH)	20	GPa
Thermal shock coefficient R1	190	K
Max. working temperature	1350	°C

Product Description and Applications

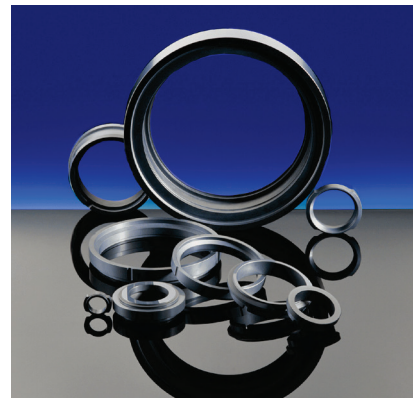
Products of our material STARCERAM® Si show a very high and permanent strength, at a temperature resistance up to 1350°C. Further important characteristics for the application are an extremely high corrosion stability against acid and basic media, high thermal conductivity, high abrasion resistance and diamond like hardness.

In opposition to our STARCERAM® S is STARCERAM® Si at the production almost non-shrinking. Thereby it is possible to produce even more complex and larger parts.

SEM Photomicrograph¹⁾
scale see photograph
STARCERAM® Si



Example of products
STARCERAM® Si



1) Secondary Electron Image (SEI).

Packaging	STARCERAM® Si products are individually packed, depending on size. Packaging according to transport regulations.
Storage and Handling	Handle with care! Ceramic products may break if not treated properly. Storage and handling are subject to the rules and regulations in the country of use.
Hazards identification in Advertising (REGULATION (EC) No 1272/2008 Article 48)	None.
Documentation	An inspection document in accordance with EN 10204 is supplied when requested.

H.C. Starck Ceramics GmbH
Lorenz-Hutschenreuther-Str. 81
95100 Selb/Germany
Phone +49 9287 807-0, Fax +49 9287 807-477