

Silicone Carbide



Silicone carbide is an ideal sealing material. It has good resistance to corrosion, wear and high temperature, high mechanical strength, good self-lubricity and heat conductivity, low friction factor, and easy combination property. The pressureless sintered silicone carbide can especially suit hard working conditions.

Silicone carbide products include: SiC rings, bushings, bearings etc.

As an excellent high-temperature structural material, the silicone carbide has been widely used in industries of petroleum, chemical, machinery, military, shipping, spaceflight, automobile, etc. It is also widely applied as friction material in the mechanical seals, especially for slush pump.

Specifications:

Material	SP1001 Reaction bonded silicone carbide (RSIC)	SP1002 Pressureless sintered silicone carbide (SSIC)	SP1003 Silicone carbide + carbon (SiC +C)
Purity	SiC >90%	SiC >97%	18~20% carbon
Density	>3.05g/cm ³	3.05~3.15g/cm ³	2.65g/cm ³
Hardness	115~125 (HS)	>92 (HRA)	≥85 (HS)
Grain size	8~20μm	0.5~0.7μm	20~40μm
Elastic modulus	420Gpa	400Gpa	---
Bend strength	350~450Mpa	400~580Mpa	200Mpa
Compressive strength	3000Mpa	3900Mpa	1800Mpa
Fracture toughness	4Mpa	4.5Mpa	---
Thermal conductivity	35~110wm/k	125.6wm/k	125wm/k
Coefficient of thermal expansion	4.3 x 10 ⁻⁶ /°C	4.02 x 10 ⁻⁶ /°C	3 x 10 ⁻⁶ /°C
Heat Resistance (atmosphere)	1300°C	1650°C	800°C
Poisson ratio	0.15	0.14	---