

## SPECIFICATIONS

- ▶ Chemical formula: SiC
- ▶ Chemical name: Silicon carbide
- ▶ Appearance: Dense sintered silicon carbide
- ▶ Main characteristics: High temperature strength, high chemical resistance, excellent thermal conductivity, fracture toughness
- ▶ Main applications: Mechanical seal, high temperature resistance parts
- ▶ Colour: Black

## MECHANICAL & PHYSICAL CHARACTERISTICS (TYP.)

Density		[g/cm <sup>3</sup> ]	JIS R 1634	3.2
Water absorption		[%]	JIS C 2141	0
Vickers hardness HV9.807N		[GPa]	JIS R 1610	22.0
Flexural strength 3 P.B.		[MPa]	JIS R 1601	540
Compressive strength		[MPa]	JIS R 1608	-
Young's modulus of elasticity		[GPa]	JIS R 1602	430
Poisson's ratio		[-]	JIS R 1602	0.16
Fracture toughness (SEPB)		[MPa*m <sup>0.5</sup> ]	JIS R 1607	4 ~ 5
Coefficient of linear thermal expansion	40 - 400 °C	[*10 <sup>-6</sup> /K]	JIS R 1618	3.7
	40 - 800 °C			4.4
Thermal conductivity		[W/(m*K)]	JIS R 1611	60
Specific heat capacity		[J/(g*K)]	JIS R 1611	0.67
Thermal shock temperature difference		[°C]	JIS R 1648	400
Dielectric strength		[kV/mm]	JIS C 2141	-
Volume resistivity	20 °C	[Ω*cm]	JIS C 2141	10 <sup>5</sup>
	300 °C			10 <sup>4</sup>
	500 °C			10 <sup>3</sup>
Dielectric constant		-	JIS C 2141	-
Dielectric loss angle		[*10 <sup>-4</sup> ]	JIS C 2141	-
Loss factor		[*10 <sup>-4</sup> ]	JIS C 2141	-

The values are typical material properties and may vary according to products configuration and manufacturing process. For more details, please feel free to contact us.