

SINTERED SILICON CARBIDE TECHNICAL DATASHEET

PROPERTIES		Unit	SSiC			
SiC Content		%	>99.5			
Color			black			
Specific weight		g/cm ³	>3.10			
Porosity		%	0			
Elasticity modulus		GPa	400			
Flexural strength		MPa	430			
Compressive strength		MPa	3900			
KIC fracture strength		MPam ^{1/2}	4.6			
Abrasion resistance		GPa	22			
Volume resistivity	25 °C 300 °C 700 °C	Ohm cm	10 ² - 10 ⁶			
Electrical resistance	25 °C 500 °C 1000 °C	kV/mm				
Electrical permittivity Dielectric constant		100 MHz				
Specific heat	25-700 °C	J/kg K	750			
Thermal conductivity	25 °C 300 °C 500 °C 800 °C	W/m K	110 115 150 200			
Coefficient thermal expansion	25- 200 °C 25- 700 °C 25-1000 °C	10 ⁻⁶ / °C	3.6 44.2			
Max working temp.		°C	1500			
Res. abrupt temp. variations			excellent			

Characteristics:

good thermal stability - good thermal conductivity - low coefficient of thermal expansion - excellent resistance to thermal jumps - remarkable resistance to bending and fracture and wear good resistance to chemical aggression in both acidic and alkaline environments - electrical conductor - excellent degree of hardness combined with a low coefficient of friction