



SILICON CARBIDE

Sinterall srl Via Calabria 2/4 20072 Pieve Emanuele Milano ITALIA
info@sinterall.it www.sinterall.eu

PROPERTIES		Unit	SSiC	SiSiC	RSiC	
SiC Content		%	>99.5	>90	>99	
Color			black	black	black	
Specific weight		g/cm ³	>3.10	>3.02	>2.6	
Porosity		%	0	0	15	
Elasticity module		GPa	400	330	280	
Flexural strength		MPa	430	250	100	
Compressive strength		MPa	3900	---		
KIC fracture strength		MPam ^{1/2}	4.6	---		
Abrasion resistance		GPa	22	15	14	
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	40	25	
Coefficient thermal expansion	25- 200 °C 25- 700 °C 25-1000 °C	10 ⁻⁶ / °C	3.6 44.2	3.7 4.3	4.0 4.8	
Max working temp.		°C	1500	1380	1650	
Res. abrupt temp. variations			excellent	excellent	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