

ITEM			MATERIAL	Silicon Carbide		
Main Component				SiC	Si+SiC	CVD SiC 99.9995%
Density			g/cm³	3.16	3.10	3.21
MECHANICAL	Vickers Hardness Load 500g		GPa	26.0	26.0	26.0
	Flexural Strength		MPa	480	460	415
	Compressive Strength		MPa	3500	2700	–
	Young’s Modulus		GPa	440	400	466
	Fracture Toughness		Mpa M ^{1/2}	4.0	4.0	4.0
THERMAL	Coefficient of Thermal expansion	40 ~ 400℃	× 10 ⁻⁶ / °C	3.70	3.70	2.20
		40 ~ 800℃		4.40	4.30	4.00
	Thermal Conductivity (20℃)		W/(m·k)	120	120	300
	Specific Heater		J/(kg·K)	0.78X10³	0.78X10³	0.64X10³
	Thermal Shock Resistance (ΔT)		°C	400	400	–
ELECTRICAL	Dielectric Strength		V/m	–	–	–
	Volume Resistivity	20℃	Ω ·cm	<10 ⁵	<10³	<1
		300℃	Ω ·cm	<10 ⁴	<10³	–
		500℃	Ω ·cm	<10³	<10³	–
CHEMICAL	Nitric Acid (60%, 90℃)		Weight Loss mg/cm²/day	0	–	0
	Sulphuric Acid (95%, 95℃)			0	–	0
	Caustic Soda (30%, 80℃)			0	–	0