

Silicon Carbide Grades – Typical Properties

Composition		Oxide Bonded (OSiC)	Silicon Infiltrated	Fine Nitride Bonded (NSiC)	Coarse Nitride Bonded (NSiC)	Recrystallised (RSiC)	Sintered (SSiC)
SiC	%	>85	>90	75	70	>99	>99
Si (metal)	%	-	10	-	-	-	-
Si ₃ N ₄	%	-	-	25	20	-	-
SiO ₂	%	10	-	-	-	-	-
Property							
Max Service Temperature	°C (°F)	1400 (2550)	1380 (2500)	1450 (2650)	1450 (2650)	1650 (3000)	1600 (2900)
Bulk Density	g/cm ³	2.7	3.1	2.8	2.7	2.7	3.1
Open Porosity	%	8	<0.5	13	15	15	<0.5
Modulus of Rupture (room Temp)	MPa	30	250	160	35	90	400
Thermal Conductivity	W/mK	15	45	15	15	25	70
Thermal Expansion (20-1000°C)	x10 ⁻⁶ /K	4.5	4.5	4.7	4.7	4.8	4.0
Thermal Shock Resistance		★★★★	★★★★	★★	★★★★	★★★★	★★

This information is given in good faith but does not constitute a specification or guarantee.