

BC-5 – Reaction Bonded Silicon Carbide (Si-SiC)

0 ≥2000 ≥350 ≥2000 ≥350 1000 <170

≤5,0

250

MATERIAL TECHNICAL DATA SHEET

TRADE NAME:	BC-5	
MATERIAL DESCRIPTION Chemical Name & Formula:	Silicon infiltrated Silicon Carbide – Si	i-SiC
MAIN COMPONENTS		
SiC:	88% min	
Si:	12% max	
PHYSICAL DATA		
Physical Form:	Polycrystalline structure	
Boiling Temperature:	N.A.	
Melt Temperature:	N.A.	
Vapour Pressure:	N.A.	
Evaporation Rate:	N.A.	
Specific gravity:	N.A.	
Density:	≥3,05g/cm ³	
Water solubility:	Insoluble	
Colour:	Black	
Odour:	None	
MECHANICAL PROPERTIES AT ROOM TEMPERATURE		
Water Absorption	%	0
Vickers Hardness	(HV 0,5)	≥200
Flexural Strength	MPa	≥350
Compressive Strength	MPa	≥200
Young's Modulus	GPa	≥350
Maximum service temperature	°C	1000
Thermal Conductivity @20°C	W/(m·K)	<170

Thermal Shock Resistance (ΔT) °C PHYSICAL AND CHEMICAL PROPERTIES

Thermal Expansion Coefficient (RT-1000°C)

High mechanical strength, strong wear resistance, good self-lubrication, low friction coefficient, high thermal conductivity, high temperature resistance. Electrical conductivity due to free silicon contained.

10⁻⁶/°C

Please, note that all values quoted are based on test pieces and may vary according to component design. These values are not guaranteed in any way and should only be treated as indicative values. They should be used for guidance only and for no other purpose.



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