



BC-6 – Sintered Silicon Carbide with Graphite (SSiC-G)

MATERIAL TECHNICAL DATA SHEET

TRADE NAME: BC-6

MATERIAL DESCRIPTION

Chemical Name & Formula: Silicon Carbide with Graphite – Graphite loaded SiC

MAIN COMPONENTS

SiC: 90% min

Graphite Content: 3-10%

PHYSICAL DATA

Physical Form: Polycrystalline structure

Boiling Temperature: N.A.

Melt Temperature: 2400°C

Vapour Pressure: N.A.

Evaporation Rate: N.A.

Specific gravity: N.A.

Density: $\geq 2,80\text{g/cm}^3$

Water solubility: Insoluble

Colour: Black

Odour: None

MECHANICAL PROPERTIES AT ROOM TEMPERATURE

Water Absorption	%	0
Vickers Hardness	(HV 0,5)	≥ 2000
Flexural Strength	MPa	≥ 200
Compressive Strength	MPa	≥ 1000
Young's Modulus	GPa	≥ 200
Maximum service temperature	°C	1500
Thermal Conductivity @20°C	W/(m·K)	>150
Thermal Expansion Coefficient (RT-1000°C)	$10^{-6}/^{\circ}\text{C}$	$\leq 5,0$
Thermal Shock Resistance (ΔT)	°C	250

PHYSICAL AND CHEMICAL PROPERTIES

Increased self-lubrication, reduced friction coefficient through graphite grain, high hardness, high wear resistance, strong corrosion resistance, high temperature resistance, strong acid and alkali resistance, high thermal conductivity, high oxidation resistance. Electrical conductivity through graphite grain ($\leq 1\text{M}\Omega$ at 3cm distance).

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.

BETTINI s.r.l.

Via Industriale, 11 I - 23804 - Monte Marenzo (LC) - ITALY

Tel. +39 0341 63.15.88 - E-mail: box@bettini.srl

www.bettini.srl