

Boron carbide properties

B ₄ C	attribute	description
Physical properties	molecular formula	B ₄ C
	appearance	Black powder
	Crystal structure	Hexagonal crystal system
	hardness	Mohs hardness 9.3\Vickers hardness greater than 30 GPa
	density	2.52 g/cm ³
	melting point	2450°C
	Solubility (water)	It cannot be dissolved
	Thermal conductivity	at room temperature 30-40 W/m·K
	Thermal expansion	Approximately $4.5 \times 10^{-6} / K$
	electrical conductivity	Semiconductor material with a negative temperature coefficient characteristic.
	Neutron absorption	The isotope of boron ¹⁰ B is effective at absorbing neutrons
Chemical properties	Chemically inert	It has high corrosion resistance to most acids and alkalis
	Oxidation properties	Antioxidant properties
	Thermal decomposition	Stable at high temperatures and reducing atmospheres

