



## Boron Carbide (BC)

Boron carbide is one of the hardest Man-Made materials, its hardness with Mohs hardness 9.36 and microscopic hardness 5400-6300kg/mm<sup>2</sup> is only near upon diamond, its density is 2.52g/cm<sup>3</sup> and melting point is 2450°C, The boron carbide possesses properties of endurance hi/low temperature, no reaction with either acids or alkalis, high grinding efficiency, no magnetism. It is a good replacement of diamond.



Boron carbide also possesses the special properties of light quality, neutron absorbing, semi-conductivity, etc., so it is used for armed forces and nuclear industry.

Boron carbide is widely applied as follows: boriding refractory, ion transfusion, film layer as well as grinding, polishing, drilling hard metal alloys, jewels, etc. Meanwhile, it is main material for the wear-resisting parts, precise meter-age element, precise spray nozzle, sealed washer, smelting boron steel, boron alloy, etc.

Boron carbide has showed many better properties of physics and chemistry in the hi-science / technology field.



Physical Characteristics						
Item	Crystal system	Crystal color	Density	Melting point	Mohs hardness	Micro hardness
Boron carbide	Hexagonal	Black	2.52g/cm <sup>3</sup>	2450°C	9.36	5400-6300kg/mm <sup>2</sup>

Chemical Composition						
Grit	Chemical composition (% , by weight)					
	B <sub>4</sub> C	T. B	F. B	T. C	F. C	Fe <sub>2</sub> O <sub>3</sub>
F4-F90	≥95	≥76	≤0.3	18-21	≤1.5	≤0.3
F100-F220	≥96.5	≥76	≤0.3	18-21	≤1.6	≤0.3
F230-F320	≥96	77-81	≤0.4	18-21	≤1.5	≤0.2
F360-F500	≥95	76.5-80	≤0.4	18-21	≤1.8	≤0.2
F600-F800	≥94	76-80	≤0.45	18-21	≤2.0	≤0.25
F1000-F1200	≥93.5	76-79	≤0.5	18-21	≤2.5	≤0.3

Note: Special requirement on chemical composition can be satisfied through discussion.

Optional Particle Sizes	
Product Category	Particle Size
BC	F4-F220, F240-F1200 etc.

Note: Special specification can be customized according to customer's requirements.