

BORON CARBIDE POWDER (B₄C)

Background

Boron Carbide is a high performance abrasive material with chemical and physical properties similar to diamonds, such as, chemical resistance and hardness. Boron carbide's extra hardness gives it the nickname "Black Diamond" (It ranks third after diamond and boron nitride) and is one of the leading grinding materials.

Application examples

- Grinding, lapping and polishing tungsten carbide and other hard materials such as different types of ceramics, minerals, glasses, etc..
- Hot pressing and sintering of the hard and abrasion resistant parts with super light weight.
- Ceramic armor
- Refractory
- Solid rocket fuel
- Metallurgical refractory with high corrosion and oxygen resistance.
- Neutron absorbing materials for nuclear technology.
- Additive for sintering silicon carbide parts and diamond tools.
- Steel modification component with high boron content.
- Boronizing

Technical data

Chemical composition :				
Appearance (dry state):	Color Black			
Chemical formula:	B ₄ C Application			
Grade	Abrasive	Ceramic	Refractory	Nuclear
B + C min.	98		94	
B (Boron) min.	74	74	77	
C (Carbon) max.	24	22	17	
B ₂ O ₃	0.50		1.0	
Fe (Iron) max.	0.2		0.5	
Si (Silicon)	-		0.3	
N (Nitrogen)	-		0.5	
Physical data :				
Knoop hardness (0.1)	3000			
Mohs hardness	< 9.5 Note: Diamond's Mohs hardness is 10			
Specific gravity:	2.51			
Melting point:	2723 °F			
Structure:	Monocrystalline			

Availability of particle sizes :

Boron carbide grit sizes correspond to the specifications of the Federation of European Producers of Abrasive Products (FEPA):

F100 (150/106 um)	F220 (75/45 um)	F360 (40/12 um)	F800 (14/2 um)
F120 (125/90 um)	F240 (70/28 um)	F400 (32/8 um)	F1000 (10/1 um)
F150 (106/63 um)	F280 (59/22 um)	F500 (25/5 um)	F1200 (7/1 um)
F180 (90/53 um)	F320 (49/16.5 um)	F600 (19/3 um)	F1500 (<5 um)

Other sizes in FEPA and USA Mesh System are available on request.

Standard packaging in 100 lb (30 gal.) fiber drums Custom packaging is available on request.

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Sale of chemicals products and no ferrous metals.
Production of Anodes for Cathodic Protection

