

## BORON CARBIDE (B<sub>4</sub>C)

### High Purity Boron Carbide

ElectroAbrasives, LLC. manufactures Boron Carbide powders by water classification at our state-of-the-art headquarters in Buffalo, NY USA. All chemistry and sizing is controlled to meet exact customer requirements. All Boron Carbide manufactured at Electro Abrasives, LLC or exceeds ANSI or FEPA standards for product quality.

Boron Carbide (B<sub>4</sub>C) is one of the hardest man made materials available. Above 1300°C it is even harder than diamond and cubic boron nitride. It has a 4-point flexural strength of 50,000-70,000 psi and a compressive strength of 414,000 psi, depending on density. Boron Carbide also has a low thermal conductivity (29/67 W/mK) and has electrical resistivity ranging from 0.1-10 ohm-cm.

With its strength to weight ratio and low thermal conductivity, Boron Carbide is ideal for a wide variety of applications including blasting nozzles, body armor, ceramic & metal-matrix composites, aerospace applications, refractory anti-oxidant, lapping, honing stones, nuclear technology ultrasonic machining, and many others.

### Typical Physical Properties

<b>Crystal Structure</b>	Rhombohedral
<b>Hardness</b>	Knoop: 2800/ Mohs: 9.6
<b>Melting Point</b>	4262°F (2350°C)
<b>Oxidation Temperature</b>	932°F (500°C)
<b>Specific Gravity</b>	2.52 g/cc
<b>Particle Shape</b>	Blocky, Angular
<b>Color</b>	Black

### Sieve Analysis

<b>Mesh</b>	-325 mesh, -400 mesh
<b>Macro</b>	20, 24, 36, 46, 60, 80, 90, 100, 120, 150, 180, 220 grits
<b>Micro</b>	F240, 280, 320, 360, 400, 500, 600, 800, 1000, 1200 grits, 0.7 micron

\*Other Sizes Available Upon Request

### Typical Chemical Analysis (%)

Total Boron	Total Carbon	Total Iron	Total B+C
77.5	21	0.2	98.5

The information contained in this data sheet has been determined through the application of accepted engineering practice and is believed to be reliable. Since the conditions of application and use of our products are beyond our control, no warranty is expressed or implied regarding accuracy of the information, the results to be obtained from use of the product, or that such use will not infringe on any patent. This information is furnished with the express condition that you will make your own tests to determine the suitability of the product for your particular use.

