U.S. ELECTROFUSED MINERALS, INC.

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BORON CARBIDE (B_4C)

High Purity Boron Carbide

Electro Abrasives, 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 (B4C) 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 strenghth 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, laping, honing stones, nuclear technology ultrasonic machining, and many others.

Typical Physical Properties

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

Sieve Analysis

Mesh	-325 mesh, -400 mesh
Macro	20, 24, 36, 46, 60, 80, 90, 100, 120, 150, 180, 220 grits
Micro	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