

BOROBOND

GENERAL CHARACTERISTICS

BoroBond applies to the entire line of chemically bonded phosphate ceramic products manufactured by Boron Products, LLC. BoroBond is available in a variety of formulations. We offer this material for use as a neutron poison, shielding material, encapsulant and waste treatment technology. A derivative of BoroBond, BoroBond4, has been used for criticality control. This formulation contains 4 wt% boron carbide. BoroBond is a castable slurry based on acid-phosphate reactions. It is very liquid during the formation stage, hardening to a high-strength ceramic. Customization can be provided by application-focused incorporation of additives. Material can be provided in powder or cast forms.

Cast Borobond4 Typical Physical Characteristics

Appearance	Gray to white ceramic
Density	119-125 lb./ft ³
Compressive Strength	3000-7000 psi
Water Content	25-27%
Boron Content	Up to 12%

Performance Data

Condition	Response
Low Temperature	
Exposure -22°F	No degradation
Cyclic -22°F to room temperature	No degradation after 10 cycles
High Temperature	
Exposure 60°C, 133 days (vented mold)	No significant water loss
Exposure 120°C, 127 days (vented mold)	75% water loss

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