

General Properties

BN6000 is a high-purity, hot-pressed boron nitride material. This advanced material has excellent thermal shock resistance and very low thermo cycling behavior combined with low thermal expansion. BN6000 has a high chemical resistance to glass and molten metals and maintains its low frictional properties even at high temperatures. BN6000 also has high dielectric strength and excellent electrical resistivity. It exhibits low thermal expansion and high thermal conductivity. It is easily machined and is available in dimensions up to 300mm diameter by 400mm high. Alternatively, Kennametal can offer made-to-order parts to the customer's drawings and requirements.

Physical Properties

Property	Unit	BN6000
Temperature	°C	850, Air 2000, Inert
Density	g/cm ³	>= 1.9
CTE, RT to 1000 °C (para)	10 ⁻⁶ k ⁻¹	5.5
CTE, RT to 1000 °C (perp)	10 ⁻⁶ k ⁻¹	1
Flexural Strength (para)	MPa at 25 °C	14
Flexural Strength (perp)	MPa at 25 °C	30
Dielectric Strength	KV/mm	>70
Thermal Conductivity	W/m ² k	21
Al	%	0.01
Si	%	0.01
Ca	%	0.04
O	%	1

NOTE: This data shows typical values and does not represent a specification.

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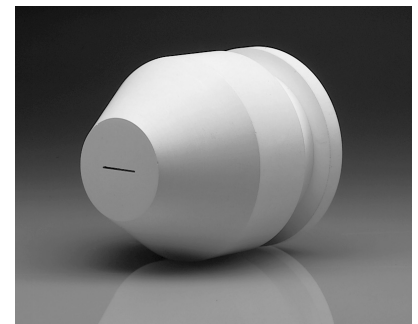
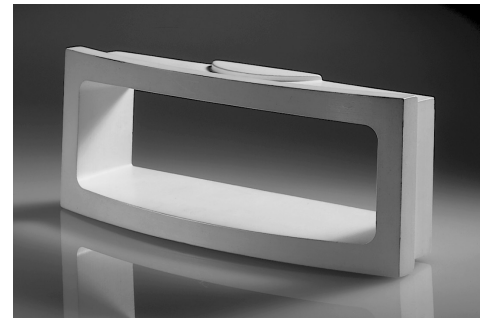
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Applications

- Electrical insulators for high-power transistors and thyristors.
- Electrical insulators for high temperatures and high voltages.
- Electrical insulators and vacuum feedthroughs in high-temperature furnaces.
- Thermocouple protection tubes.
- Crucibles and rollers for molten glass and metals.
- Breakrings for horizontal casting.
- Nozzles for non-ferrous metals.
- Channel and pump components for molten metals.
- Linings in plasma chambers.
- Soldering supports.

