

### 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
Density	g/cm <sup>3</sup>	2.06
CTE, RT to 1500 °C (para)	10 <sup>-6</sup> k <sup>-1</sup>	7.54
CTE, RT to 1500 °C (perp)	10 <sup>-6</sup> k <sup>-1</sup>	2.12
Flexural Strength (para)	MPa at 25 °C	25.5
Flexural Strength (perp)	MPa at 25 °C	47.9
F	%	<0.01
Al	%	0.01
Si	%	0.01
Ca	%	0.04
Ti	%	0.01
O	%	1

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

### 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.

Kennametal manufactures sophisticated materials in the form of castings, powders, coatings, consumables, and machined parts that resist wear, corrosion, and abrasion. Information provided in this document is intended only for general guidance about Kennametal. Selection and purchase of Kennametal products is the sole responsibility of the product user. Individual applications must be fully evaluated by the user, including compliance with applicable laws, regulations, and non-infringement. Kennametal cannot know or anticipate the many variables that affect individual product use and individual performance results may vary. For these reasons, Kennametal does not warrant or guarantee information in this document and assumes no liability regarding the same. Kennametal makes no warranties regarding this information and disclaims all express or implied warranties with respect to this information, including, without limitation, all implied warranties of merchantability and fitness for a particular purpose and warranties of patent non-infringement. Kennametal will not be responsible for special, incidental, exemplary, or consequential damages that may be incurred pursuant to the use of the information provided in this document.

*To learn more, please contact your local Kennametal sales office.*

#### SALES OFFICES

##### Americas

Tel: 800 458 3608  
americas.sintec@kennametal.com

##### United Kingdom (UK)

Tel: +44 (0)1633 63 65 00  
emea.sintec@kennametal.com

##### Europe/Middle East/Africa

Tel: +49 (0)8861 2308 0  
emea.sintec@kennametal.com

##### Asia Pacific

Tel: 852 2572 8991  
ap.sintec@kennametal.com

##### China

Tel: +86 21 3718 0518  
ap.sintec@kennametal.com

