

### General Properties

Boron Nitride shapes are used in critical components in applications where excellent thermal shock resistance, high electrical resistivity, and chemical and corrosion resistance is required.

### Applications

- High-temperature insulators.
- Thermocouple tubes.
- Molten metal crucibles and nozzles.
- High-temperature furnace components.
- Rollers and formers for the glass industry.



### Typical Physical Properties

Property	Units	BN Lite
Binder	–	None
% Purity	–	>99
% B <sub>2</sub> O <sub>3</sub> content	–	<0.5
Density (ASTM–C20)	g/cm <sup>3</sup>	1.6
Flexural Strength (ASTM–F417)	MPa	32,6
CTE, RT–1500 °C (ASTM–C372)	X10 <sup>-6</sup> /C	0.2
Specific Heat (ASTM–E1269)	J/gm° K	0.78 <sup>1</sup>
Thermal Conductivity, RT (ASTM–C408)	W/m° K	25
Thermal Conductivity, 500 °C (ASTM–C408)	W/m° K	25
Thermal Conductivity, 800 °C (ASTM–C408)	W/m° K	22.9
Service Temperature, Oxidizing	°C	850
Service Temperature, Inert	°C	>2000
Dielectric Strength (ASTM–D116)	V/mm	>20,000
Volume Resistivity, RT (ASTM–D1829)	Ohms-cm	10 <sup>15</sup>
Porosity	Vol. %	30

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

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.

### 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

