

### General Properties

BN4000 is an excellent choice for all but the most severe refractory applications. BN4000 is a high-performance material possessing a glassy B<sub>2</sub>O<sub>3</sub> binder that creates a hard and dense, yet fully machinable, product.

### Applications

- High-temperature electrical insulators.
- Crucibles.
- Ion implantation systems.
- Powdered metal spray nozzles.
- Radar components.
- Setter plates.

### Physical Properties

Property	Unit	BN4000
<b>Binder</b>	—	Boric Oxide
<b>Binder Melting Point (°C)</b>	°C	550
<b>Maximum Use Temperature</b>	°C	850 (oxidizing) 1800 (inert)
<b>Specific Heat (at 25 °C)</b>	J/gK	0.86
<b>Dielectric Strength</b>	KV/mm	88
<b>Hardness (Knoop)</b>	kg/mm <sup>2</sup>	20
<b>Resistivity (RT)</b>	Ohm cm	>10 <sup>13</sup>
<b>Dielectric Constant at 1MHz</b>	—	4.6 para 4.2 perp
<b>Thermal Conductivity (at 25 °C)</b>	W/mk	30 para 34 perp
<b>CTE, RT to 1200 °C (para)</b>	10 <sup>-6</sup> K <sup>-1</sup>	6.9
<b>CTE, RT to 1200 °C (perp)</b>	10 <sup>-6</sup> K <sup>-1</sup>	6.2
<b>Flexural Strength (para)</b>	MPa at 25 °C	94
<b>Flexural Strength (perp)</b>	MPa at 25 °C	65
<b>Density</b>	g/cm <sup>2</sup>	2
<b>Open Porosity</b>	%	2.84

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

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#### 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

