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

<table>
<thead>
<tr>
<th>Property</th>
<th>Unit</th>
<th>BN6000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>g/cm³</td>
<td>2.06</td>
</tr>
<tr>
<td>CTE, RT to 1500 ºC (para)</td>
<td>10⁻⁶/k⁻¹</td>
<td>7.54</td>
</tr>
<tr>
<td>CTE, RT to 1500 ºC (perp)</td>
<td>10⁻⁶/k⁻¹</td>
<td>2.12</td>
</tr>
<tr>
<td>Flexural Strength (para)</td>
<td>MPa at 25 ºC</td>
<td>25.5</td>
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<tr>
<td>Flexural Strength (perp)</td>
<td>MPa at 25 ºC</td>
<td>47.9</td>
</tr>
<tr>
<td>F</td>
<td>%</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Al</td>
<td>%</td>
<td>0.01</td>
</tr>
<tr>
<td>Si</td>
<td>%</td>
<td>0.01</td>
</tr>
<tr>
<td>Ca</td>
<td>%</td>
<td>0.04</td>
</tr>
<tr>
<td>Ti</td>
<td>%</td>
<td>0.01</td>
</tr>
<tr>
<td>O</td>
<td>%</td>
<td>1</td>
</tr>
</tbody>
</table>

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.
• Breakings for horizontal casting.
• Nozzles for non-ferrous metals.
• Channel and pump components for molten metals.
• Linings in plasma chambers.
• Soldering supports.

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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)1833 63 65 00
emea.sintec@kennametal.com

Europe/Middle East/Africa
Tel: +49 (0)89 61 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

kennametal.com