KETRON® PEEK-1000 stock shapes are produced from virgin polyetheretherketone resin and offer the highest toughness and impact strength of all KETRON PEEK grades. The composition of the raw materials used for the production of the KETRON PEEK-1000 natural stock shapes complies with the directives of the European Union and with the American FDA regulations concerning plastic materials intended to come into contact with foodstuffs. These features, added to its excellent sterilisability by means of steam, dry heat, ethylene oxide and gamma irradiation, make this grade very popular in medical*, pharmaceutical and food processing industries.

Physical properties (indicative values*)

<table>
<thead>
<tr>
<th>PROPERTIES</th>
<th>Test methods ISO/IEC</th>
<th>Units</th>
<th>VALUES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>-</td>
<td>natural grey</td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td>-</td>
<td>g/cm³</td>
<td>1.18</td>
</tr>
<tr>
<td>Water absorption:</td>
<td>-</td>
<td>mg</td>
<td>62</td>
</tr>
<tr>
<td>- after 24h/96h immersion in water of 23°C (1)</td>
<td>-</td>
<td>%</td>
<td>0.06/0.12</td>
</tr>
<tr>
<td>- at saturation in air of 23°C/50% RH</td>
<td>-</td>
<td>%</td>
<td>0.20</td>
</tr>
<tr>
<td>- at saturation in water of 23°C</td>
<td>-</td>
<td>%</td>
<td>0.45</td>
</tr>
<tr>
<td>Maxwell allowable service temperature in air:</td>
<td>-</td>
<td>°C</td>
<td>140</td>
</tr>
<tr>
<td>- for short periods (2)</td>
<td>-</td>
<td>°C</td>
<td>131</td>
</tr>
<tr>
<td>- continuously for min. 20,000h (3)</td>
<td>-</td>
<td>°C</td>
<td>250</td>
</tr>
<tr>
<td>Flammability:</td>
<td>-</td>
<td>%</td>
<td>4569</td>
</tr>
<tr>
<td>- ”Oxygen index”</td>
<td>-</td>
<td>%</td>
<td>33</td>
</tr>
<tr>
<td>Compression test (8):</td>
<td>-</td>
<td>MPa/m (K·m)</td>
<td>527</td>
</tr>
<tr>
<td>- compressive stress at 1% nominal strain (7)</td>
<td>-</td>
<td>MPa</td>
<td>504</td>
</tr>
<tr>
<td>- compressive stress at 2% nominal strain (7)</td>
<td>-</td>
<td>MPa</td>
<td>604</td>
</tr>
<tr>
<td>Charpy impact strength - Notched</td>
<td>-</td>
<td>kJ/m²</td>
<td>179</td>
</tr>
<tr>
<td>Rockwell hardness (10)</td>
<td>-</td>
<td>kg/mm²</td>
<td>2099</td>
</tr>
<tr>
<td>Charpy impact strength - Unnotched</td>
<td>-</td>
<td>kg/mm²</td>
<td>179</td>
</tr>
<tr>
<td>Ball indentation hardness (10)</td>
<td>-</td>
<td>N/mm²</td>
<td>2099</td>
</tr>
<tr>
<td>Rockwell hardness (10)</td>
<td>-</td>
<td>M</td>
<td>105</td>
</tr>
</tbody>
</table>

Electrical Properties at 23°C

<table>
<thead>
<tr>
<th>Property</th>
<th>Units</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric strength</td>
<td>kV/mm</td>
<td>400</td>
</tr>
<tr>
<td>Volume resistivity</td>
<td>kΩ·cm</td>
<td>&gt; 10¹¹</td>
</tr>
<tr>
<td>Relative permittivity ε₂ :</td>
<td></td>
<td>3.2</td>
</tr>
<tr>
<td>- at 100 Hz</td>
<td></td>
<td>3.2</td>
</tr>
<tr>
<td>Dielectric dissipation factor tan δ :</td>
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<td>0.001</td>
</tr>
<tr>
<td>- at 100 Hz</td>
<td></td>
<td>0.002</td>
</tr>
<tr>
<td>Comparative tracking index (CII)</td>
<td></td>
<td>150</td>
</tr>
</tbody>
</table>

Mechanical Properties at 23°C

<table>
<thead>
<tr>
<th>Property</th>
<th>Units</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile strength at yield (6)</td>
<td>MPa</td>
<td>527</td>
</tr>
<tr>
<td>Tensile strength at break (6)</td>
<td>MPa</td>
<td>527</td>
</tr>
<tr>
<td>Tensile modulus of elasticity (7)</td>
<td>MPa</td>
<td>527</td>
</tr>
<tr>
<td>Compression test (8):</td>
<td>MPa</td>
<td>804</td>
</tr>
<tr>
<td>- compressive stress at 1% nominal strain (7)</td>
<td>MPa</td>
<td>604</td>
</tr>
<tr>
<td>- compressive stress at 2% nominal strain (7)</td>
<td>MPa</td>
<td>57</td>
</tr>
<tr>
<td>Charpy impact strength - Notched</td>
<td>kJ/m²</td>
<td>179</td>
</tr>
<tr>
<td>Rockwell hardness (10)</td>
<td>N/mm²</td>
<td>2099</td>
</tr>
</tbody>
</table>

Availability

**Round Rods:** Ø 3-200 mm - **Plates:** Thicknesses 5-100 mm - **Tubes:** O.D. 50-200 mm

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