Evonik has further expanded its technological lead in the high-performance polymers sector with VESTAKEEP® polyether ether ketone (PEEK) compounds. VESTAKEEP® compounds are suitable for applications with extremely high mechanical, thermal, and chemical requirements.

VESTAKEEP® compounds are particularly characterized by the following material properties:

- very high heat resistance
- high rigidity
- low water absorption and therefore high dimensional stability
- high hardness
- good strength
- excellent sliding friction behavior
- minimal abrasion
- good electrical characteristics
- excellent chemical resistance
- excellent hydrolytic stability
- good processability
- low tendency to form stress cracks

Monofilts and fibers made of VESTAKEEP® meet

- very high toughness
- excellent abrasion resistance and
- high temperature resistance.

Temperature Resistance

Monofilts made of VESTAKEEP®, as are interwoven in fabric, can be used in special conveyor belts for drying or heat–treating products conveyed continuously on their surfaces. Other popular applications of PEEK include nonwovens manufacture, textile drying, food processing, and powder conveying.

High pressure dewatering

PEEK monofilts interwoven into multiple layers hold up admirably in pressure–dewatering processes for chemical slurries or heatcompacting processes for fiberboard. Other uses include air (hot gas) filtration, or as a covering or high–temperature overlay on a conventional felt surface where burning through friction is to be avoided.

Protect electrical wiring

VESTAKEEP® braiding protects electric cables against abrasive damage, particularly at extreme temperatures and in specific areas such as automotive and nuclear installations. VESTAKEEP® monofilts protect cables and cable bundles against mechanical stresses, even at high temperatures.

Good recovery

VESTAKEEP® bristles are resilient and functional in hot or chemically aggressive environments, maintaining their rigidity better than other materials, particularly in the 100–150°C range.
### Important properties of VESTAKEEP®

<table>
<thead>
<tr>
<th>Properties</th>
<th>Test method</th>
<th>Unit</th>
<th>2000G HP</th>
<th>3300G HP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melt volume–flow rate (MVR) 380 °C/5 kg</td>
<td>ISO 1133</td>
<td>cm³/10 min</td>
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<td>20</td>
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<tr>
<td>Melting range</td>
<td>DSC 2nd heating</td>
<td>°C</td>
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<td>approx. 340</td>
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<tr>
<td>Water absorption saturation 23 °C</td>
<td>ISO 62</td>
<td>%</td>
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<tr>
<td>VICAT softening temperature</td>
<td>ISO 306</td>
<td>°C</td>
<td>335</td>
<td>335</td>
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<tr>
<td>Method A 10 N</td>
<td></td>
<td>%</td>
<td>310</td>
<td>305</td>
</tr>
<tr>
<td>Method B 50 N</td>
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<td>%</td>
<td>100</td>
<td>95</td>
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<tr>
<td>Tensile test</td>
<td>ISO 527</td>
<td>MPa</td>
<td>3700</td>
<td>3500</td>
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<tr>
<td>Stress at yield</td>
<td></td>
<td>%</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Strain at yield</td>
<td></td>
<td>%</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Strain at break</td>
<td></td>
<td>%</td>
<td>N</td>
<td>N</td>
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<tr>
<td>Tensile modulus</td>
<td>ISO 527</td>
<td>MPa</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>CHARPY impact strength 23 °C</td>
<td>ISO 179/1eU</td>
<td>kJ/m²</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>-40 °C</td>
<td></td>
<td>kJ/m²</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>CHARPY notched impact strength 23 °C</td>
<td>ISO 179/1eA</td>
<td>kJ/m²</td>
<td>6 C</td>
<td>6 C</td>
</tr>
<tr>
<td>-40 °C</td>
<td></td>
<td>kJ/m²</td>
<td>7 C</td>
<td>6 C</td>
</tr>
</tbody>
</table>

N = No break  
C = Complete break  
* Pigmentation can affect values.

**For more details please contact**

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