Technical data sheet

High-performance polymer (PEEK)

Evonik VestaKEEP

Manufacturer

Evonik Resource Efficiency GmbH
Paul-Baumann-Str. 1
45764 Marl
Germany

Evonik Resource Efficiency GmbH is certified according to:
- ISO 13485
- ISO 9001

Description

High-performance polymer (PEEK)

Evonik VestaKEEP PEEK are milling blanks for use in CAD/CAM technology. The shade is based on A2. This composite consists of polyether ether ketone (PEEK). It offers outstanding bio-compatibility and has a bone-like flexibility, which makes the use for implant-supported prosthesis particularly suitable (off-peak effect).

The main advantages of PEEK are:
- high abrasion resistance
- white substructure
- low plaque affinity

Indication (permanent dentures)

- Fully anatomical crowns and bridges, as well as crown caps and veneer bridges for composite veneers (max 2 pontics and min. 13 mm² connector cross-section)
- Telescopic primary crowns

Contraindication

If allergies to the constituents are known, or if allergic reactions are possible, a restoration with PEEK must not be used.

Options

The milling blanks used in the CAD/CAM technology are based on the shade A2 and available 18, 20 and 24 mm high.
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Substructure design
Posterior teeth: 2 bridge units and max. 1 pontic.

The following values must not be less than the values specified below:
- Minimum wall thickness (without veneer) cervical: 0.7 mm
- Minimum wall thickness (without veneer) occlusal: 0.7 mm
- Connector cross sections in the anterior tooth area: > 12 mm²
- Connector cross sections in the posterior tooth area: > 16 mm²

Veneering
PEEK is ideal for a veneer in the shade of the teeth.

Attachment
An adhesive attachment should be considered for PEEK. The manufacturer's instructions regarding bonding and application must be observed.

Composition
No information provided by the manufacturer

Physical properties (guidelines)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density $\rho$</td>
<td>1.52 g/cm³</td>
</tr>
<tr>
<td>Flexural strength $\beta_B$</td>
<td>178 [MPa]</td>
</tr>
<tr>
<td></td>
<td>or [N/mm²]</td>
</tr>
<tr>
<td>Elasticity modulus</td>
<td>4,800 [MPa]</td>
</tr>
<tr>
<td></td>
<td>or [N/mm²]</td>
</tr>
<tr>
<td>Water absorption/saturation - Test method acc.</td>
<td>0.4%</td>
</tr>
<tr>
<td>to ISO 62</td>
<td></td>
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</tbody>
</table>