

Patient-specific implants made of PEEK

Alongside our implant materials BIOVERIT®II and titanium we also offer you patient-specific implants made of **PEEK** (PEEK-OPTIMA®/PEEK-VESTAKEEP®), a non-resorbable, high performance thermoplastic for long-term implantation. This material is applied since 2008 in manufactured facial and skull implants by 3di GmbH.

Advantages of PEEK

- » bone-like temperature conductivity
- » excellent proven biocompatibility
- » intraoperative machinability
- » no artefacts when using conventional imaging techniques such as x-ray, CT, MRI (radiolucent)
- » brilliant combination between strength, stiffness and viscosity, comparable to cortical bone
- » sterilisable and resterilisable by means of steam sterilisation

Material

PEEK is a light grey beige, semi crystalline material, which can be machined using conventional tools with high production accuracy. It allows the medical specialist to create the most diverse forms.

Chemical composition

PEEK (Polyetheretherketone) displays a linear, aromatic polymer structure and belongs to the (Poly-)aryletherketone family.

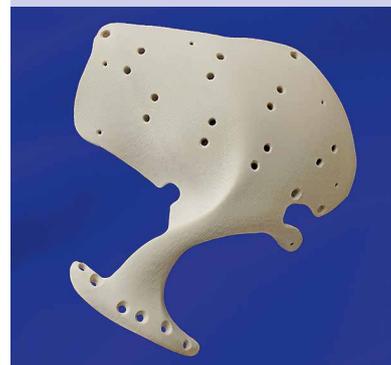


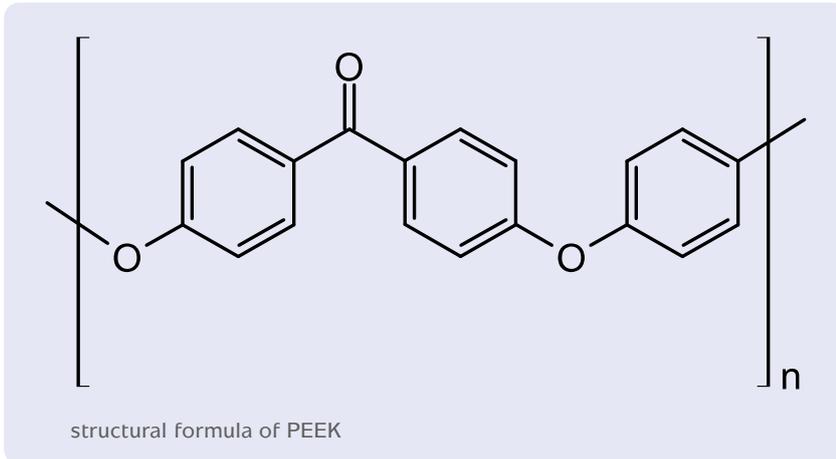
PEEK =
Polyetheretherketone

Structure
linear, aromatic
polymer

Morphology
semi-crystalline

Polymer group
(Poly-)aryletherketone





Mechanical handling

PEEK is blade-machinable like BIOVERIT®II. The plain implant-edges can be modified with a scalpel. The curvatures are more difficult to shape and should be modified by hard metal-cutting tools.

Please drill or mill with large cutting geometries, otherwise the material might display smearing.

The driving speed should be comparably slow (e. g. 10.000–20.000 rpm for a tool with a diameter of 5 mm), also to avoid smearing.

The processing can take place both with and without cooling agents but we recommend cooling with e. g. distilled water.

For your convenience, we insert holes for your preferred fixation system during the implant's production.

