

## Patient Specific Implants made of BIOVERIT®II

Beside our implant materials PEEK and Titanium we offer you also patient specific implants of BIOVERIT®II. This material is used since 1982 for manufactured implants. We formed since 2000 skull implants for patients successfully.

### Advantages of BIOVERIT®II

- bio-compatible (proven Fibroblast growth)
- corrosion resistant and bioinert
- bone-like heat-conducting property
- workable during surgery
- very good postoperative diagnosis (no residue in CT / MRI examinations)
- resterilization is possible; by steam sterilization



### Material

BIOVERIT®II is a white, odourless, solid, not out gassing material, which can be processed with conventional tools with high manufacturing accuracies cutting. It permits the medical user to manufacture most diverse forms. There is no burning after forming necessary and there is not subsequent shrinking.

### Chemical composition

BIOVERIT®II is a machinable bio glass ceramic of the SiO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub>-MgO-Na<sub>2</sub>O-K<sub>2</sub>O-F-system which consists of a crystal phase (approx. 60%) with mainly Phlogopite-crystals, embedded in an aluminosilicate glass matrix (approx. 40%). There are no well-known toxic effects.

### Mechanical Handling

BIOVERIT<sup>®</sup> II connects the simple handling (metalworking tools) with the biomedical characteristics of glass and ceramic. It is well blade-machinable due to the special morphology of the mica glass crystals embedded irregularly into a remainder glass matrix.

The components of the cut strength cause a separating from crystals with attaching remainder glass matrix. At the same time the formation takes place from cracks, which reproduce themselves along the mica crystals. These cracks are stopped or diverted by transverse being situated crystals and thus prevents deep cracks. The material is cut off in microscopically small particles (approx. 20µm).

The processing can take place both with and without cooling agents. For the machining with surgical tools, we recommend a cooling with e.g. distilled water. The driving speed should be slow (e.g. 10.000-20.000 rpm for a tool with a diameter 5mm) to avoid a burn out.

Toward a nationwide evaluation you can use following usual medical tools to machinable BIOVERIT<sup>®</sup> II:

- Rose-head-drill
- Diamond-drill
- Crude Diamant-mill
- Hard-metal-mill
- Hilan-mill
- Cherry
- Micro-mill
- Storz-drillsystem

For minimization the time and effort beside the implant-form we also manufacture the holes for your desired attachment-method.