Engineered and manufactured by icotec in Switzerland

High-strength, nonmetallic biomaterial for load-bearing implant applications

BlackArmor® Composite Material Technology

- Over 15 years material experience from more than 20,000 clinical applications in spine and fracture care
- High-performance composite material through utilization of endless carbon fibers in a PEEK matrix
- Unique, interwoven 3D fiber architecture throughout the implant, for unmatched strength in complex designs such as pedicle screws, VBR systems and anatomical bone plates
- Nonmetallic nature of biomaterial minimizes risk of patient metal allergy; no metal ion release
- Radiolucent in all diagnostic imaging modes (X-ray, CT, MRI) and will therefore not create imaging artifacts

Technical Information

BlackArmor® Material from the leader in medical Carbon/PEEK composites
Carbon fibers are the backbone of modern high-tech composites.

Aircrafts are getting lighter, yet stay strong and safe.

Formula 1 drivers are well protected by the strength of carbon fibers.

Carbon-fiber-reinforced PEEK implants possess the strength of metals without compromising imaging.

Injection Molding CFM (Composite Flow Molding), a manufacturing process originally developed by icotec in 2000.

Carbon/PEEK biomaterial with unique, interwoven 3D fiber architecture throughout the implant, for unmatched strength in complex shaped implant designs.

15 years of successful clinical use in spinal and fracture care applications.

icotec Technology

Musculoskeletal Applications

icotec’s BlackArmor® composite material has been implanted in more than 20,000 cases in spine and fracture care.

Secure stabilization of the musculoskeletal system in load-bearing applications and an alternative to metal.

BlackArmor®, a radiolucent and nonmetallic biomaterial, will not create metal-like artifacts and ensures clear visualization and assessment of the anatomic structures surrounding the implant in all clinical imaging techniques (X-ray, CT, MRI).

BlackArmor® biomaterial facilitates radiation therapy by enabling accurate delineation of anatomic structures during planning, correct dose calculation and unimpeded radiation application into the target tissue.