

Zeniva®



SOLVAY

asking more from chemistry®

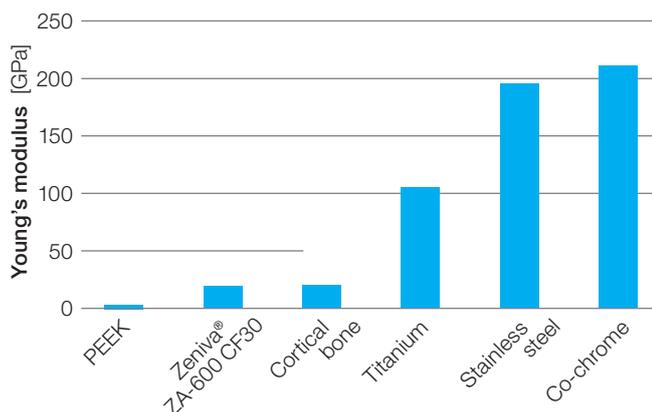
**Carbon Fiber Reinforced
Zeniva® PEEK**

**SPECIALTY
POLYMERS**

Achieve Higher Performance with CFR Zeniva® PEEK

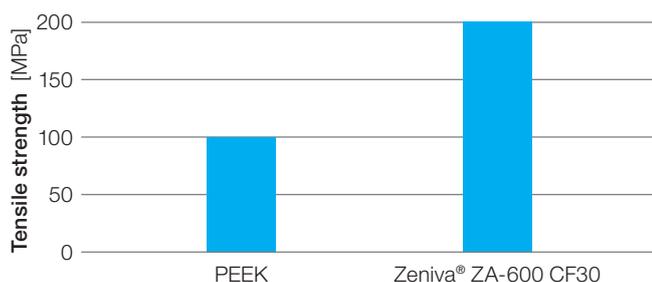
Zeniva® ZA-600 CF30 is a 30% carbon fiber reinforced PEEK polymer offered for use in implantable devices. The modulus (stiffness) of this material is very similar to cortical bone, a notable improvement over traditional implantable metals and unmodified PEEK (Figure 1). This material can help avoid potential issues such as stress shielding, which is commonly experienced with stainless steel and titanium in some implantable devices.

Figure 1: Stiffness comparison*



Because the strength of Zeniva® ZA-600 CF30 is twice that of unmodified PEEK (Figure 2), it is an excellent candidate for structural, load-bearing, implantable devices used in spine, hip and knee replacements. Higher strength also allows engineers to design less intrusive parts of reduced size and scale. Similar to unmodified PEEK, this material exhibits exceptional creep resistance and has the ability to withstand prolonged fatigue strain.

Figure 2: Strength comparison



*J Biomech. 1993 Feb;26(2):111-9; Young's modulus of trabecular and cortical bone material: ultrasonic and microtensile measurements. Rho JY1, Ashman RB, Turner CH.

Visible Advantage Over Metal

The spinal market was one of the first to take advantage of PEEK's inherent radiolucent properties. This attribute gives Zeniva® ZA-600 PEEK CF30 an advantage over metals, as it allows implants and fusions to be visualized by x-ray CT scan, MRI or other imaging methods.

Figure 3: Radiolucency is a key advantage over metal



Cost-effective, Large-scale Production

Thanks to recent advances in injection molding technology, Zeniva® ZA-600 PEEK CF30 offers the orthopedic industry a structural material with the potential to dramatically reduce the manufacturing costs of implantable devices used for sports medicine, trauma, and joint reconstruction. Optimized for injection molding, this material opens the door to cost-effective, large-scale production, giving OEMs the economic advantage they need to find lower cost solutions for developing markets.

Zeniva® ZA-600 CF30 is manufactured in our ISO 13485 and cGMP-compliant, dedicated facility in Georgia, USA, and tested in our ISO 17025 labs. As with all Solviva® Biomaterials, manufacturing processes are carefully validated and enhanced controls provide product traceability. Detailed FDA Master Access Files (MAF) are available along with additional regulatory support you may need to take your innovative devices to the global marketplace.



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