OXPEKK® Bioflex™

Polyetherketoneketone

Oxford Performance Materials, Inc.

Message:

OXPEKK ® BioFlex™ smart materials are composed of multiple layers of continuous carbon fibers and thermoplastic OXPEKK® resin. The fibers are orientated within the part, so that sitffness is defined by firber direction. The isotropic nature of metallic and conventional polymeric materials are overcome, thus opening a new era of dynamic stabilization and motion preservation.
To date orthopedic implant design engineers have relied upon complex mechanical assemblies and articulting surfaces in order to preserve motion. OXPEKK® Bioflex™ introduces a new and dynamic tool for the orthopedic OEM's via the combination of smart materials and established design techniques.
OXPEKK® Bioflex™ can be supplied in oriented laminated plates of thickness 1 - 10mm up to 60cm square, semi-finished thermoformed 3D parts waterjet cut and hot-formed from oriented plates and solid unidirectional rods. Common orientations include Cross-Ply (0/90), Unidirectional, Quasi-Isotropic (-45/0/45/90), Torsional-Ply (-45/45). Parts can be readily machined on conventional equipment such as is used for other carbon fiber composites.
OXPEKK® Bioflex™ is available for long-term implants with an executed supply agreement.

General Information			
Filler / Reinforcement	Carbon Fiber		
Uses	Body Implants Laminates Medical/Healthcare Applications		
Forms	Fiber		
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus			ASTM D638
-- [1]	10700	MPa	
-- [2]	146000	MPa	
Tensile Strength			ASTM D638
-- [3]	398	MPa	
-- [4]	57.0	MPa	
-- [5]	2510	MPa	
Compressive Modulus			ASTM D695
-- [6]	10700	MPa	
-- [7]	123000	MPa	
Compressive Strength			ASTM D695
-- [8]	335	MPa	
-- [9]	238	MPa	
-- [10]	1620	MPa	

NOTE	
1.	90° Tensile
2.	0° Tensile
3.	Open Hole
4.	90° Tensile

5.	0° Tensile
6.	90° Compressive
7.	0° Compressive
8.	Open Hole
9.	90° Compressive
10.	0° Compressive

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Recommended distributors for this material

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