PEEK-OPTIMA™ Reinforced LT1CA30PL22 (Plate)

General Information

Product Description

High performance biocompatible thermoplastic material, 30% carbon fibre reinforced PolyEtherEtherKetone (PEEK), semi crystalline. Plate for machining, for use in long term human implantation. Colour black.

Typical Application Areas

For use in applications requiring high strength, high stiffness, and high ductility. Suitable for use in long-term implantable medical devices. Excellent sterilisation resistance. As PEEK is hygroscopic, drying before use is recommended. Further information is available upon request.

This grade combines the biocompatibility of PEEK with the high strength and stiffness of carbon fiber. It is specifically designed for applications requiring higher strength or stiffness.

Material Properties

Physical	Nominal Value	Unit	Test Method
Density (23°C)	1.41	g/cm³	ISO 1183
Water Absorption (Equilibrium, 23°C, 50% RH)	0.30	%	ISO 62
Crystallinity DSC	42.0	%	Internal Method
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress			ISO 527-2
Across Flow : Break, 23°C	185	MPa	
Flow : Break, 23°C	111	MPa	
Tensile Strain			ISO 527-2
Across Flow : Break, 23°C	2.2	%	
Flow : Break, 23°C	4.9	%	
Flexural Modulus			ISO 178
Across Flow : 23°C	12100	MPa	
Flow : 23°C	6310	MPa	
Flexural Stress			ISO 178
Across Flow : Break, 23°C	273	MPa	
Flow : Break, 23°C	195	MPa	
Across Flow : 3.5% Strain, 23°C	223	MPa	
Flow : 3.5% Strain, 23°C	191	MPa	
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact Strength			ISO 180
Across Flow : 23°C	5.8	kJ/m²	
Flow : 23°C	5.6	kJ/m²	
Thermal	**Nominal Value**	**Unit**	**Test Method**
Glass Transition Temperature (Onset)	141	°C	ISO 11357-2
Melting Temperature	340	°C	ISO 11357-3
Recrystallization Temperature	288	°C	ISO 11357-3

Additional Information

Detailed data available on our website www.invibio.com or upon request.

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