PEEK-OPTIMA™ LT1 FIL 1.75mm NAT

General Information

Product Description

High performance thermoplastic material, PolyEtherEtherKetone (PEEK), semi crystalline, filament for Additive Manufacture by filament fusion and other melt extrusion 3D printing processes. Colour natural/beige.

Typical Application Areas

Filament Fusion Additive Manufacture of printed parts. Suitable for use in the 3D printing of long-term implantable medical devices. Excellent sterilisation resistance. Product supplied vacuum packed and dry when produced. As PEEK is hygroscopic, drying before use is recommended. This product is based on PEEK-OPTIMA™ LT1.

Material Properties

Physical	Nominal Value	Unit	Test Method
Density	1.30	g/cm³	ISO 1183
Linear Density	3.13	g/m	Internal Method
Filament Diameter [1]	1.75	mm	
Thermal	**Nominal Value**	**Unit**	**Test Method**
Glass Transition Temperature (Onset)	145	°C	ISO 11357-2
Melting Temperature	340	°C	ISO 11357-3
Recrystallization Temperature (Peak)	294	°C	ISO 11357-3
Fill Analysis	**Nominal Value**	**Unit**	**Test Method**
Melt Viscosity 1000 s^-1 (400°C)	440	Pa·s	Internal Method
Melt Stability 1000 s^-1, 1 hr (400°C)	1.0	%	Internal Method
Shear Viscosity 100 s^-1 (400°C)	958	Pa·s	Internal Method
Shear Viscosity 1000 sec^-1 (400°C)	353	Pa·s	Internal Method
Shear Viscosity 10000 sec^-1 (400°C)	96.9	Pa·s	Internal Method

Additional Information

- Nominal Weight: 0.5 kg
- Nominal Length: 161 m

Packaging

- Spool Dimensions: 200 mm diameter
- Spool Dimensions: 68 mm width
- Spool Material: Heat-resistant Polyamide

Typical Processing Information

Extrusion	Nominal Value	Unit
Drying Temperature	100	°C
Drying Time	8.0	hr
Suggested Max Moisture	0.020	%
Melt Temperature	340 to 450	°C

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Extrusion Notes

Drying Temperature / Time: 100 °C / 8 hrs (residual moisture <0.02%)
Chamber / Build-Space Temperature: >150°C
Gate: >150°C

Important Notes
1) Processing conditions quoted in our datasheets are typical of those used in our processing laboratories.
2) Data are generated in accordance with prevailing national, international and internal standards, and should be used for material comparison. Actual property values are highly dependent on part geometry and processing conditions.

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

Notes

[1] 3 axis laser micrometre

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