

## PEEK-OPTIMA™ HA Enhanced LT120HA FIL 1.75mm

### General Information

#### Product Description

High performance thermoplastic material, PolyEtherEtherKetone (PEEK) as semi crystalline filament with hydroxyapatite content 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™ LT120HA.

### Material Properties

| Physical   | Nominal Value | Unit              | Test Method     |
|--|---------------|-------------------|-----------------|
| Density  | 1.47          | g/cm <sup>3</sup> | ISO 1183        |
| Linear Density                                     | 3.53          | g/m               | Internal Method |
| Filament Diameter <sup>1</sup>                     | 1.75          | mm                |                 |
| Thermal  | Nominal Value | Unit              | Test Method     |
| Glass Transition Temperature (Onset)               | 148           | °C                | ISO 11357-2     |
| Melting Temperature                                | 338           | °C                | ISO 11357-3     |
| Recrystallization Temperature (Peak)               | 286           | °C                | ISO 11357-3     |
| Fill Analysis                                      | Nominal Value | Unit              | Test Method     |
| Melt Viscosity 1000 s <sup>-1</sup> (400°C)        | 566           | Pa·s              | Internal Method |
| Melt Stability 1000 s <sup>-1</sup> , 1 hr (400°C) | 2.0           | %                 | Internal Method |
| Shear Viscosity 100 s <sup>-1</sup> (400°C)        | 1167          | Pa·s              | Internal Method |
| Shear Viscosity 1000 sec <sup>-1</sup> (400°C)     | 440           | Pa·s              | Internal Method |
| Shear Viscosity 10000 sec <sup>-1</sup> (400°C)    | 136           | Pa·s              | Internal Method |

#### Additional Information

- Nominal Weight: 0.5 kg
- Nominal Length: 142 m

#### Packaging

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

### 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 h (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](http://www.invibio.com) or upon request.

## Notes

<sup>1</sup> 3 axis laser micrometre

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This information is provided "as is". It is not intended to amount to advice. Use of the product is at the customer's/user's risk. It is the customer's/user's responsibility to thoroughly test the product in each specific application to determine its performance, efficacy and safety for each end-use product, device or other application and compliance with applicable laws, regulations and standards. Mention of a product is no guarantee of availability. Victrex reserves the right to modify products, data sheets, specifications and packaging. **Victrex makes no warranties, express or implied (including, without limitation, any warranty of fitness for a particular purpose or of intellectual property non-infringement) and will not be liable for any loss or damage of any nature (however arising) in connection with customer's/user's use or reliance on this information, except for any liability which cannot be excluded or limited by law.** This document may be modified or retracted at any time without notice to the customer/user.

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