TECHNICAL DATA SHEET

BioFil - PCL

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FORMFUTURA® 3D PRINTING MATERIALS

Product specifications

BioFil – PCL is a medical grade PCL filament. It is perfect for orthopedic, orthotic, and biomedical applications. Users can reshape 3D printed parts in warm water at 55°C temperature. This optimizes the fitting process for 3D printed orthoses with a patient's body. Achieving a perfect fit in minutes.

BioFil - PCL has an excellent adhesion to textiles. This opens new possibilities in orthopedics. Thinks about combining 3D printed orthopedic parts with textiles. Bonding textiles with insoles, midsoles, or other brace or shoe parts.

BioFil - PCL is one of the most sustainable filaments on the market. This filament biodegrades completely in soil, water, and via home composting. It doesn't leave any toxic residue or microplastics.

Important key features

- Reshape printed parts in warm water at 55°C.
- Excellent adhesion to textiles.
- Good mechanical properties.
- Compliant with EN13432 compostability standards.
- Biodegradable in soil, marine and water.
- Industrial- and home compostable.

Suitable applications

- 3D printing orthotics.
- Soft braces.
- Corrective braces.
- Insoles and midsoles.
- Parts for prothesis.

Material properties	Typical value	Test Method
Density	1.1 g/cm3	ISO 1183-1
Mechanical properties		
Tensile modulus	350 MPa	ISO 527
Tensile strength	45 MPa	ISO 527
Elongation @Yield	15%	ISO 527
Flexural Modulus	380 MPa	ISO 178
Flexural Strength	18 MPa	ISO 178
Notched Izod Impact Strength	8 kJ/m²	ISO 180-1
Shore D Hardnes	46	ISO 868
Thermal properties		
Heat deflection temperature	57°C	ISO 75 B
Glass transition temperature	-60°C	

Storage and handling

Filament should be stored at room temperature in a dry and dark place with humidity below 15%. Recommended storage temperature is ca. 18-25°C (64.4 -77.0°F). Keep out of moisture, sunlight and direct heat. When stored properly, product has a shelf life of 24 months. To obtain the best parameters of the printed object, it is recommended to dry the material prior to usage and to 3D print it directly from a dry box.

Product export information

HS Code	Description	Origin
39169090	Monofilament for 3D printing	European Union

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