

# TECHNICAL DATA SHEET

BioFil - PCL

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## 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. Think 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 prosthesis.

## Material properties

Density

## Typical value

1.1 g/cm<sup>3</sup>

## Test Method

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/m<sup>2</sup>

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

## Disclaimer

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