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PCL Filament

Polycaprolactone (PCL) *is a high quality biodegradable plastic derived from petrochemical feedstock, it is compostable under home composting conditions.*

Key properties

- Clean white
- Melt temperature ±60°C
- Glass transition temperature of -60°C
- Particularly suitable for use in FDM and FFF 3D printers
- Accoring EC no. 1935/2004, EC no. 2023/2006 and EC no. 10/2011

Measurements & Tolerances

Diameter	Tolerance	Roundness
1,75 mm Filament	+/- 0,05 mm	99%
2,85 mm Filament	+/- 0,05 mm	99%

Moisture content	< 0,02%	

Technical information

PCL is a polyester that is semi-crystalline leading to a clean white final appearance, the product can be colored easily. PCL has a density of around 1.2 g/cm^3 and has exceptional mechanical properties. It melts around 60°C making it a safe thermoplastic to print and has a glass transition temperature of -60°C making the product extremely flexible and tough.

The unique properties from Polyfluor PCL Filament make it particularly suitable for use in FDM and FFF 3D printers. The material has an Supper adhesion between layers which results in great improvement of the impact resistance, strength, durability and the printing process. Due to the low melting point of PCL, it can be re-shaped after 3D printing with water or air of 55°C.

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Physical properties

Description	Value	Test method
Density	1,145 g/cm³	D 1505

Mechanical properties

Description	Value	Test method
Yield stress	17,2 Mpa	D 412-87
Flexural Modulus	411 Mpa	D 790
E Modulus	470 Mpa	D 412-8
Hardness Shore A	95	D 2240
Shore D	51	D 2240

Printer settings

Description	Value
Printer nose temperature	115 - 145°C
Heated platform temperature	30 - 45°C

PCL Filament is in compliance with European regulations EC No. 1935/2004 and EC No. 10/2011 concerning plastic materials and articles coming into contact with food. The colorants used to color the Filament also meet these European regulations.

To get the best results while printing we advise you to keep the 3D printer in a room where there is hardly any draft and/or temperature fluctuations. Keep the 3D printer out of the sun. This cannot be a room where people sleep.

When the 3D printer is not being used it is important to keep the PCL Filament in a bag and stored in a cool, dry and dark place until it is used again.

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Safety information

REGULATION (EC) No. 1272/2008. According to EC regulations this product is not classified as hazardous. Classification according to EU-directive 67/548/EEC or 1999/45/EC. According to EC criteria this product is not classified as hazardous.

Composition and information on the components

This product is a mixture

CAS-No./EC-No./Index	REACH Number	Quantity	Component	Classification Regulation (EC) No. 1272/2008
CAS-No. 24980-41-4 **EC-No.** Polymer	----------	99,0%	2-oxepanone homopolymer	Not classified

Legally Obliged Information

1 Specific safety, health and environmental regulations and legislation for the substance or mixture.
2 Chemical safety assessment: Does not apply.
RoHS (Restriction of Hazardous Substances) and REACH (Registration, Evaluation, Authorization and Restriction of Chemicals). Our PCL Filament meet the European RoHS and REACH guidelines.

Recommended restrictions

Do not use in medical applications involving permanent implantation in the human body.

Environmental information

Plastic waste can damage the environment. 3D misprints must be separated with plastic waste together with the Filament reel. We are developing a return system for 3D misprints and the Filament reel.
Together we can protect the environment!