

PLA CF

Everfil™ | Filamen^{3D}

TECHNICAL SPECIFICATION

DESCRIPTION

Everfil™ PLA CF (Carbon Fiber Reinforced Polylactic Acid) is a type of 3D printing filament that combines PLA (a biodegradable plastic) with carbon fiber for enhanced strength and stiffness. This composite material offers improved mechanical properties compared to regular PLA, making it ideal for producing lightweight, durable parts with higher resistance to wear and tear. Filament PLA CF is commonly used in industries such as automotive, aerospace, and engineering for applications requiring enhanced performance and strength without adding significant weight.

TYPICAL APPLICATIONS

- Aerospace Components: Lightweight, high-strength parts like brackets, housings, and supports used in aircraft and drones.
- Automotive Parts: Production of custom, durable components such as interior trim, panels, and functional prototypes for vehicles.
- Engineering Prototypes: Strong, functional prototypes that can withstand mechanical stress and offer high precision.
- Tooling and Jigs: Manufacturing of custom tooling, fixtures, and assembly jigs used in production processes.
- Robotics: Lightweight and robust parts for robotic arms, chassis, and structural components.

TECHNICAL PARAMETRIS

PRODUCT PARAMETERS

Diameter (mm)	1,75	2,85
Diameter tolerance (mm)	+/-0,02	+/-0,03
Ovality tolerance (mm)	+/-0,015	+/-0,02

PHYSICAL PARAMETERS

PARAMETER	NOMINAL VALUE	UNIT	TEST METHOD
PHYSICAL:			
Density /Injection Moduling	1,26	g/cm ²	ISO -1183
MECHANICAL PROPERTIES			
Tensile elongation			
At yield (5 mm/min), 23°C, injection moulding	1.3	%	ISO 527
At break (5 mm/min), 23°C, injection moulding	2.4	%	ISO 527
Tensile Strenght			
At yield (5 mm/min), 23°C, injection moulding	55	MPa	ISO 527
At break (5 mm/min), 23°C, injection moulding	50	MPa	ISO 527
Elastic modulus			
Tensile (1 mm/min), 23°C, injection moulding	8500	MPa	ISO 527
Filament Extrusion Parameters			

Material drying (at least 4h @ ...)	60	°C
Suggested temperature range of filament production	200-210	°C

RECOMMENDED PRINTING PARAMETERS

Extruder temperature	200-220	°C
Bed temperature	50-70	°C
Cooling	0-50	%
Heating chamber	Not required	

The above data is illustrative, as it depends on the type of 3D printing equipment owned, the geometry of the specific print, and environmental conditions.

PACKAGING

The filament is produced on a spool weighing 1.0 kg, 2.5 kg and 5.0 kg. The spool is vacuum-packed in a bag made of high moisture barrier foil and secured with a cardboard box. An additional advantage is the possibility of multiple openings of the 1.0 kg spool bag.

Weight netto/brutto

1,0 kg spool	1,00 / 1,42
2,5 kg spool	2,50 / 3,30
5,0 kg spool	5,00 / 5,90

Dimension of the spool (mm)	Ø external/ height/ hole
1,0 kg spool	200/68/52
2,5 kg spool	300/100/52
5,0 kg spool	350/100/52

STORAGE

The filament must be stored in a sealed package in a cold and dry place.

MANUFACTURER

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