

IPCON FILA™ PLA CF

High Speed Carbon Fiber Reinforced PLA Filament



This is the filament's Technical Data Sheet (TDS). If you want the Material Safety Data Sheet (MSDS), please contact the customer service to download.

• Product Information

Item	Data
Filament Diameter	1.75 ± 0.03 mm
Net Filament Weight	1 kg ± 0.5%
Filament Length	320 ± 2%
Spool Material	Cardboard (max heat resistance: 150 °C)
Spool Size	Outer Cardboard's diameter: 200 mm; Inner roller's diameter: 90 mm

• Filament's Properties

Physical Properties	Testing Methods	Data
Density	ISO 1183-3	1.25 g/cm ³
Saturated Water Absorption Rate	25 °C, 55% RH, room air	0.42%
Melt Index	210 °C, 2.16 kg	8.0 g/10 min
Melting Temperature	DSC, 10 °C/min	165 °C
Vicar Softening Temperature	ISO 306, GB/T 1633	67.2 °C
Heat Deflection Temperature	ISO 75, 0.45 MPa	55.4 °C

Mechanical Properties*	Testing Methods	Data*	
		Dark Cyan	Grayish White
Tensile Strength XY	ISO 527, GB/T 1040	39 MPa	38 MPa
Tensile Strength Z	ISO 527, GB/T 1040	28 MPa	26 MPa
Young's Modulus XY	ISO 527, GB/T 1040	2874 MPa	2763 MPa
Young's Modulus Z	ISO 527, GB/T 1040	2278 MPa	2206 MPa
Breaking Elongation Rate XY	ISO 527, GB/T 1040	10.6%	9.5%
Breaking Elongation Rate Z	ISO 527, GB/T 1040	4.2%	4.0%
Flexural Strength XY	ISO 178, GB/T 9341	89 MPa	83 MPa
Flexural Strength Z	ISO 178, GB/T 9341	68 MPa	60 MPa
Flexural Modulus XY	ISO 178, GB/T 9341	4429 MPa	4071 MPa
Flexural Modulus Z	ISO 178, GB/T 9341	2663 MPa	3149 MPa
Impact Strength XY	ISO 179, GB/T 1043	21.9 kJ/m ²	23.2 kJ/m ²
Impact Strength Z	ISO 179, GB/T 1043	9.0 kJ/m ²	6.7 kJ/m ²

*The mechanical properties were tested on specimens printed by IPCON using a Bambu P1S printer (nozzle temperature: 230 °C, bed temperature: 35 °C, printing speed: 150 mm/s, infill density: 100%, infill pattern: concentric). The data is for user reference and comparison only. When using it, users are responsible for the safety, legal compliance and product performance.

• Main Features and Application Scenarios

1. Carbon fiber reinforced, high stiffness and strength, super high layer strength, unique and rich traditional Chinese colors, advanced matte texture, ultra-high speed printing with many types of printer (compatible with AMS and CFS, max speed is 300 mm/s).
2. Can be used to print toys, household articles, cultural and creative gifts, etc.

• Recommended Printing Settings

Drying Settings Before Printing	55 - 70 °C, 8 - 12 h
Printing Temperature and Humidity	≤ 35 °C, ≤ 20% RH (Sealed with desiccant)
Storage Temperature and Humidity	≤ 35 °C, ≤ 20% RH (Sealed with desiccant)
Compatible Support Material	Itself or support filament for PLA
Compatible Printer Type	Open-frame, enclosed-frame
Compatible Nozzle Material	Hardened steel, diamond, tungsten carbide, etc
Compatible Nozzle Size	0.4 mm (recommended) / 0.6 mm / 0.8 mm
Compatible Plate Type	Smooth / Textured PEI Plate or other plate
Plate Surface Preparation	Apply liquid glue or PVP solid glue stick if the first layer bonding is not firm enough
Nozzle Temperature	210 - 240 °C
Bed Temperature	30 - 50 °C
Fan Speed	60 - 100%
Max Print Speed	300 mm/s

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