

IPCON FILA™ PC GF
Glass Fiber Reinforced Polycarbonate 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 ± 0.05 mm
Net Filament Weight	1 kg ± 0.5%
Filament Length	320 m ± 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	1.30 g/cm ³
Saturated Water Absorption Rate	25 °C, 55% RH, room air	0.22%
Melt Index	290 °C, 2.16 kg	16.4 g/ 10 min
Melting Temperature	DSC, 10 °C/min	223 °C
Vicar Softening Temperature	ISO 306, GB/T 1633	104 °C
Heat Deflection Temperature	ISO 75, 0.45 MPa	109 °C

Mechanical Properties*	Testing Methods	Data*
Tensile Strength XY	ISO 527, GB/T 1040	63 MPa
Tensile Strength Z	ISO 527, GB/T 1040	44 MPa
Young's Modulus XY	ISO 527, GB/T 1040	3275 MPa
Young's Modulus Z	ISO 527, GB/T 1040	2031 MPa
Breaking Elongation Rate XY	ISO 527, GB/T 1040	6.7%
Breaking Elongation Rate Z	ISO 527, GB/T 1040	2.31%
Flexural Strength XY	ISO 178, GB/T 9341	108 MPa
Flexural Strength Z	ISO 178, GB/T 9341	62 MPa
Flexural Modulus XY	ISO 178, GB/T 9341	3367 MPa
Flexural Modulus Z	ISO 178, GB/T 9341	1948 MPa
Impact Strength XY	ISO 179, GB/T 1043	34.2 kJ/m ²
Impact Strength Z	ISO 179, GB/T 1043	12.4 kJ/m ²

*The mechanical properties were tested on specimens printed by IPCON using a Bambu P1S printer (nozzle temperature: 285 °C, bed temperature: 100 °C, printing speed: 100 mm/s, infill density: 100%, infill pattern: concentric) and Pomegranate Red PC GF Filament. 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. Ultra-low warping (no heated chamber needed); excellent surface quality and accuracy; ultra-low water absorption rate, everlasting strength and stiffness; compatible with AMS and CFS, ultra-high print speed (up to 350 mm/s); upgraded weather resistance; various traditional Chinese colors.
2. Insulating and high strength and stiffness prints for water environment applications such as surfboards, water pumps and water pistol, as well as outdoor applications such as outdoor power supply housing.

• Recommended Printing Settings

Drying Settings Before Printing	80 - 100 °C, 8 - 12 h
Printing Temperature and Humidity	≤ 80 °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 PC
Compatible Printer Type	Enclosed-frame (recommended), open-frame,
AMS or CFS	Not Compatible
Compatible Nozzle Material	Hardened steel, diamond, tungsten carbide, etc
Compatible Nozzle Size	0.6 mm (recommended) / 0.4 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	280 - 300 °C
Bed Temperature	100 - 120 °C
Fan Speed	0 - 40%
Max Print Speed	350 mm/s

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