

Siraya Tech Fibreheart PETG-CF HF

High Flow Black



PRODUCT INTRODUCTION

- **2X Faster Printing** – Maximize efficiency
- **10% Carbon Fiber Reinforced** – Superior strength & rigidity
- **Minimal Warping & Excellent Adhesion** – Higher print success rate
- **Optimized for High Flow** – Supports Up to 200mm/s high-speed printing
- **Chemical, UV & Moisture Resistance** – Perfect for outdoor & industrial applications
- **Easy to Use** – Beginner-friendly with professional-grade strength, no complex tuning required

APPLICATIONS

- **unctional Parts:** Durable tools, brackets, and fixtures
- **RC & Drone Components:** Lightweight yet impact-resistant parts
- **Prototyping:** High-quality testing material for engineering designs
- **Manufacturing Tools:** Strong and reliable jigs and fixtures

Property Data

Mechanical Properties	Data	Method
Tensile Stress at Break (MPa)	37	ASTM D638
Young's Modulus (MPa)	2600	ASTM D638
Elongation at Break(%)	10	ASTM D638
Charpy impact strength (KJ/m^2)	8	ISO 179
Bending Strength (MPa)	72	ISO 178
Bending Modulus (MPa)	3100	ISO 178
IZOD Impact (Notched 72F) kJ/m	15	D256
Filament Density g/cm ³	1.25	ISO 1183

Temperature Properties	Data	Method
Vicat softening temperature °C	85	ISO 306
Glass Transition Temperature	68	ASTM D3418
Melting Point (C)	15	ASTM D3418
HDT	68	Method B @ 1.80 MPa
HDT	74	Method B @ 0.45 MPa

Work Flow

Product Specifications

Name	Fibreheart PETG-CF HF
Color	High Flow Black
SKU	ST3018
Net Weight (kg)	1
Packing size (cm)	21.5*21*7.5
GF (Glass Fiber) Content	10%
Diameter (mm)	1.75

Preparing for Printing

Drying	70-80°C for 4-6 hours
Compatible Build surfaces	Glass and PEI film (Using a glue stick or a specialized coating can further enhance adhesion)
Enclosure	Not mandatory, but it is recommended
Nozzle Diameter	0.4 mm or larger
Nozzle material	Carbon hardened, hardened steel or higher grade nozzles

***Note:**

- Only dry if filament shows signs of moisture.
- Drying is not required for the first unpacking unless the vacuum packing becomes damp. Excessive drying can degrade the filament.

Work Flow

Printing with Fibreheart PET-CF

Nozzle Temperature	230-250°C
Build Plate Temperature	80°C
Raft Separation Distance	1-5 mm
Cooling Fan Speed	0-30%
Print Speed	100-200 mm/s
Retraction Distance	1-5 mm
Retraction Speed	1800-3600 mm/min

***Note:**

- **Printing speeds:** Start at the lower end of this range and gradually increase the speed to find the optimal setting.

Moisture Management

Storage Tip	Recommendation
Sealed Packaging	Store in a sealed aluminum foil bag to prevent moisture
Use Desiccants	Add desiccants to absorb moisture and keep the material dry.
Avoid Sunlight & Heat	Keep away from direct sunlight and high temperatures to prevent degradation.

Work Flow

Moisture Management

Drying	Recommendation
Temp	70-80°C
Time	4-6 hours

*Note:

- Only dry if filament shows signs of moisture.
- Drying is not required for the first unpacking unless the vacuum packing becomes damp. Excessive drying can degrade the filament.

Troubleshooting Common Issues

Issue	Stringing
Reason	1. Printing temperature is too high 2. Retraction setting is improper
Solution	1. Reduce the printing temperature by 5-10°C. 2. Increase the retraction distance and speed to effectively pull the filament away from the nozzle

Issue	Popping sounds and poor surface quality
Reason	Moisture influence. When the filament is damp, the high temperature during printing will cause the moisture to evaporate, forming bubbles or popping sounds during extrusion.
Solution	1. Dry in oven set at 70-80°C for 4-6 hours 2. Store the filament in a sealed bag with desiccants

Work Flow

Other suggestions

	Tips
Support structures (if use)	Raft separation distance of 0.16-0.18 mm is recommended
Requiring maximum strength	Using 100% infill with $\pm 45^\circ$ infill angles can provide optimal results