

Technical Data Sheet

Siraya Tech Fibreheart ASA-GF

Black and White



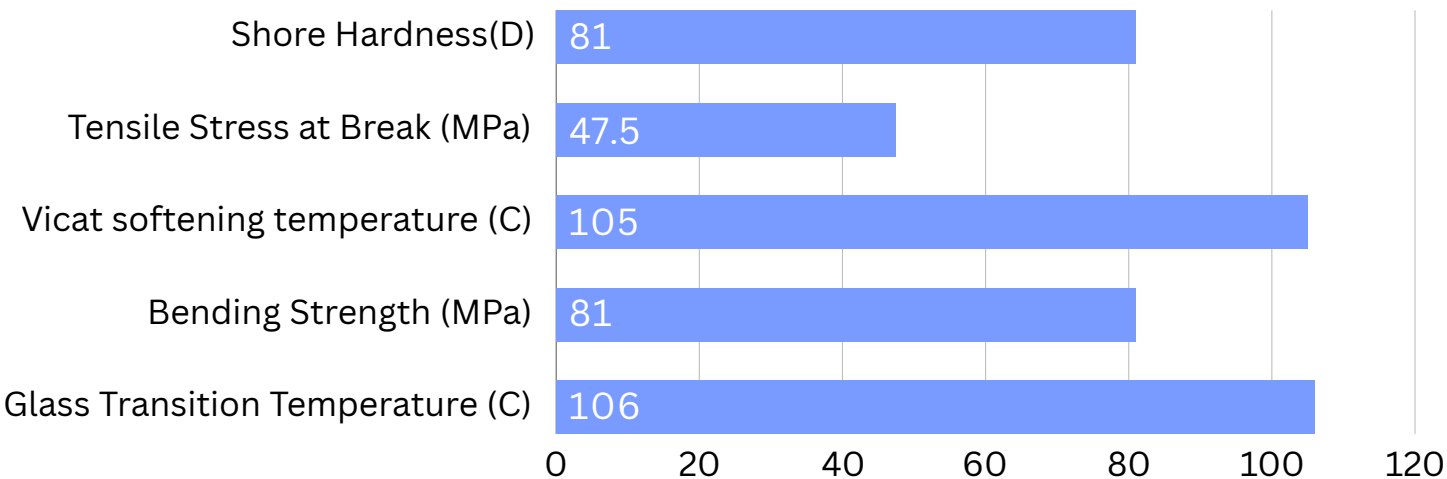
PRODUCT INTRODUCTION

- Superior UV & Weather Resistance: Maintains color and properties in harsh conditions.
- Enhanced Strength & Impact Resistance: 10% chopped glass fiber increases strength, ideal for high-temperature environments.
- Exceptional Thermal Stability: Exceeds ABS-GF with higher glass transition and HDT, suitable for industrial heat applications.
- Improved Dimensional Stability: Reduced warping ensures precision and consistency in printing.

APPLICATIONS

- Indoor and outdoor facilities: umbrella handles, fences, mailboxes, outdoor signs, furniture, etc.
- Automotive parts: instrument panel components, air conditioning vents, interior and exterior trim panels and handlebars, etc.
- Industrial Applications: High-Temp Resistant Industrial Equipment Components
- Precision Tools and Fixtures
- Custom and complex components

Property Data



Mechanical Properties	Measure	Method	Processed
Tensile Stress at Break (MPa)	47.5	ISO 527	Tested on X/Y axis
Young’s Modulus (MPa)	2993	ASTM D638	-
Elongation at Break(%)	3.1	ASTM D638	Tested on X/Y axis
Charpy impact strength (KJ/m^2)	8	-	-
Bending Strength (MPa)	81	-	-
Bending Modulus (MPa)	2810	-	

Other Properties	Measure	Method	Processed
Vicat softening temperature °C	105	ISO 306	-
Glass Transition Temperature	106	-	-
Shore Hardness (D)	81	-	-
HDT °C	94°C / 98°C	Method A/B	
Melting Point (C)	225	-	-
Filament Density g/cm³	1.08	ISO 1183	-

Work Flow

Preparing for Printing

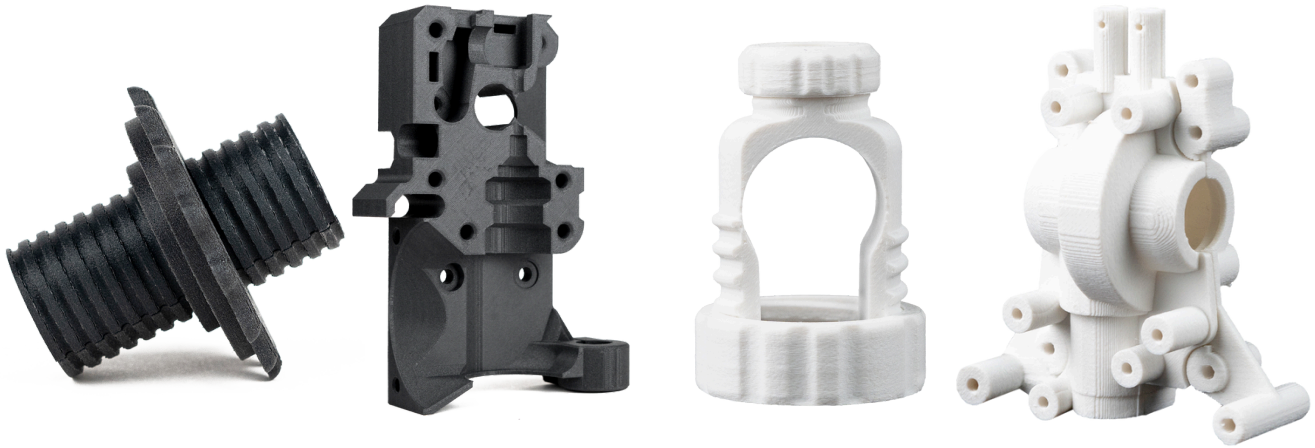
- To achieve optimal print quality, use a $\geq 0.4\text{mm}$ nozzle at $250\text{-}270^{\circ}\text{C}$, with the build plate at $100\text{-}110^{\circ}\text{C}$.
- **Nozzle:** Use a hardened steel nozzle to handle the abrasive nature of carbon fiber reinforcement. If you're unsure, please contact the nozzle manufacturer, as there are many types available on the market.
- Keeping the printer enclosed and heated to $60\text{-}80^{\circ}\text{C}$ can help avoid warping.
- If moisture absorption is suspected, please dried at $70\text{-}80^{\circ}\text{C}$ for 4-6 hours.
- Fibreheat ASA-GF Black is an excellent choice for strong, UV-stable parts for outdoor use and functional applications. It enables production of large models with minimal warping when used with the proper heated enclosure setup.

Printing with Fibreheart ASA-GF

High tensile strength	Up to 45 MPa in XY axis
Recommended nozzle temperature	$250\text{-}270^{\circ}\text{C}$
Recommended build plate	$100\text{-}110^{\circ}\text{C}$ (glass, PEI, or PC film)
Enclosure Temperature	$60\text{-}80^{\circ}\text{C}$ to prevent warping
Retraction	1-5mm distance at 1800-3600mm/min speed
Filament Drying	$70\text{-}80^{\circ}\text{C}$ for 4-6 hours after long-term storage

Work Flow

Moisture Management



ASA filaments, including Fibreheart ASA-GF, are prone to moisture absorption, which can adversely affect print quality. Effective moisture management is therefore crucial.

(1) Storage: Store Fibreheart ASA-GF in the provided moisture-resistant aluminum bags when not in use. Using a dry box with desiccant, maintaining humidity below 15% is ideal for prolonged storage.

(2) Drying Filament: If moisture absorption is suspected, dry the filament at 70-80°C for 4-6 hours in a filament dryer or an oven.

Troubleshooting Common Issues

(1) Stringing: Adjust retraction settings and print speed to tackle stringing. Also, ensure the filament's moisture level is within acceptable limits.

(2) Poor Bed Adhesion: Improve bed adhesion using a glue stick or hairspray, or by slightly increasing the bed temperature. Make sure build plate temperature is set to at least 100C and an enclosure can greatly help with the results.