

## PET CF Technical Data Sheet

PET-CF is a kind of FDM 3D printing filament, which is produced using LUVOCOM® 3F PET CF modified material as the main raw material. PET-CF is a polyester modified material containing 10% carbon fiber. It has the characteristics of temperature resistance, low shrinkage and easy printing. It can be used on non-heated chamber FDM 3D printers. It has excellent rigidity and tensile strength and can be used for a long time at temperatures of 150°C

To prevent moisture absorption and contamination, the packaging of filament should be kept closed and intact before use. For the same reason, partially used supplies should be resealed before storage. If the consumables absorb moisture and deteriorate, they should be dried before use. It is recommended to dry the consumables in a hot air oven at 90°C~100°C for at least 12 hours to ensure the success rate and quality of the printed model. If PET-CF is used as its own support material, please remove the support structure after the model has cooled. After the model absorbs moisture, the support structure may become glued to the model and will be difficult to remove. After the model is printed, it is recommended to dry it in an oven at a temperature of 120~130°C for 6~8 hours to improve the strength of the model.

### Main features :

High stiffness/Low warping/High temperature resistance

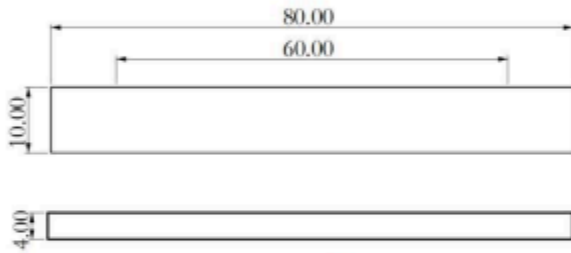
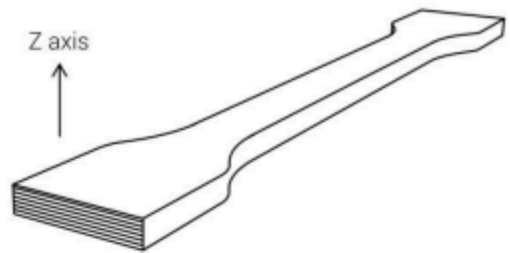
Physical Properties	Test Means		
Density	ISO 1183	g/cm <sup>3</sup>	1.3~1.31
MFR(190°C/2.16Kg)	ISO 1133	g/10min	3~6
Moisture Absorption(23°C/24h)	ISO 62	%	<0.3
Mechanical Properties			
Tensile strength (X-Y)	ISO 527	Mpa	75~85
Elongation at break (X-Y)	ISO 527	%	4~5
Elongation at break (X-Z)			1.5~2.5
Flexural Modulus (X-Y)	ISO 527	Mpa	4500~5000
Flexural Modulus (X-Z)			2000~2500
Flexural Strength (X-Y)	ISO178	Mpa	140~150
Impact Strength (X-Y)	ISO180	KJ/m <sup>2</sup>	25~30
Thermodynamic Properties			
HDT@ 0.455 MPa(66 psi)	ISO75	°C	190
Continuous Use Temperature	IEC 60216	°C	150

**Test Sample Printing Conditions:**

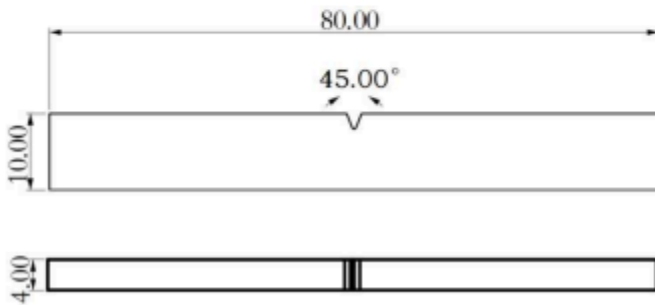
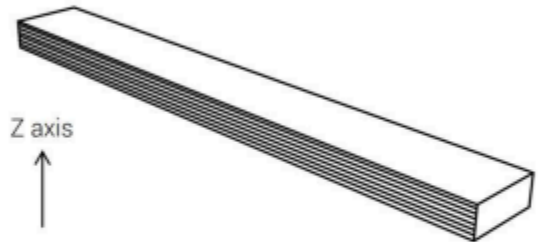
3D Printer	Bambu X1C
Nozzle Diameter	0.6mm
Nozzle Temperature	280 °C
Printing Speed	100mm/s
Layer	1.8mm
Infill	100%
Standard Printed Sample	See blew attachment



Tensile testing specimen; ASTM D638 (ISO 527, GB/T 1040)



Flexural testing specimen; ASTM D790 (ISO 178, GB/T 9341)



Impact testing specimen; ASTM D256 (ISO 179, GB/T 1043)

