

PET-CF

COMPOSITES FOR FDM 3D PRINTING



MATERIAL NAME

PET-CF

COLOR

Black

PROCESS

FDM

PRODUCT DESCRIPTION

Carbon Fiber PET is a carbon fiber reinforced FDM composite material based on PET. It emphasizes high rigidity, low moisture absorption, high temperature resistance, dimensional stability and good chemical resistance. It is suitable for structural brackets, tooling fixtures and engineering prototypes that require stable deformation control.

TYPICAL APPLICATIONS

- Functional prototype testing
- End-use plastic parts
- Mounting brackets
- Jigs and fixtures

PRODUCT SAFETY

Thermoplastic printed parts should be handled according to normal workshop safety practices. Avoid high heat, open flames, and inhalation of fumes generated during post-processing or overheating.

PRODUCT DELIVERY & WAREHOUSING

- STORAGE**
Store parts in a dry, cool, and clean environment away from direct sunlight and high heat. Keep the material sealed before processing.
- TRANSPORTATION**
Pack parts securely to prevent warping, scratching, and impact. Protect from moisture and temperature swings during transit.

PROPERTIES OF PRINTED MATERIAL

Properties	Test Method	Value
Density (g/cm3)	ISO 1183	1.29 g/cm3
Water Absorption (%)	ISO 62	0.37%
Tensile strength (MPa)	ISO 527	XY: 74 ± 6 Z: 35 ± 4 MPa
Tensile modulus (MPa)	ISO 527	XY: 4730 ± 260 Z: 2160 ± 170 MPa
Elongation at break	ISO 527	XY: 4.5 ± 1.2 Z: 2.4 ± 0.8%
Flexural strength (MPa)	ISO 178	XY: 131 ± 6 Z: 49 ± 5 MPa
Flexural modulus (MPa)	ISO 178	XY: 5320 ± 270 Z: 2210 ± 180 MPa
Heat deflection temperature @ 0.45 MPa (deg C)	ISO 75	HDT @ 0.45 MPa: 205 deg C
Heat deflection temperature @ 1.8 MPa (deg C)	ISO 75	HDT @ 1.8 MPa: 182 deg C
Impact strength notched	ISO 179	XY: 8.6 ± 0.5 Z: 4.5 ± 0.6 KJ/m²; ISO 179 (Charpy)

Tips: Want to explore a wider range of materials? Check out <https://www.unionfab.com/materials>