# TECHNICAL DATA SHEET

## PETG-CF

5% carbon fiber reinforced PETG 3D Printing material

## BRIEF INTRODUCTION

PETG-CF is a PETG consumable filled with short-cut carbon fiber, which improves the warping resistance of the consumable, improves the surface quality of the hanging surface, and also gives the material a frosted surface texture.

## CHARACTERISTIC

Matte surface | High flow | Good Formability | Low odor

## AVAILABLE

Color: Black; Diameter: 1.75mm/2.85mm; Net Weight: 1kg, 3kg

## MATERIAL PROPERTIES

| **ITEM** | Test Method | Typical value |
|---|---|---|
| Density | ISO 1183 | 1.23 g/cm³ |
| Melting Temperature | ISO 11357 | 78℃ |
| Melt index | 230℃, 2.16kg | 4.5 g/10min |
| Determination of temperature | ISO 75: Method A | 74℃ (1.80MPa) |
| | ISO 75: Method B | 77℃ (0.45MPa) |
| Tensile strength(X-Y) | ISO 527 | 46.11±0.75 MPa |
| Young's modulus(X-Y) | | 2616±25 MPa |
| Elongation at break (X-Y) | | 5.53±0.22 % |
| Bending strength (X-Y) | ISO 178 | 66.8±1.32 MPa |
| Bending modulus (X-Y) | | 2291±42 MPa |
| Charpy impact strength (X-Y) | ISO 179 | 5.11±1.01 KJ/㎡ |
| Tensile strength (Z) | ISO 527 | N/M |
| Young's modulus (Z) | | 1856±41 MPa |
| Elongation at break (Z) | | 1.81±0.3 % |

Specimens printed under the following conditions: Nozzle temp 250℃, Bed temp 75℃, Print speed 40mm/s, Infill 100%, Infill angle ±45°

## GUIDELINE FOR PRINT SETTINGS

| | |
|---|---|
| Nozzle Temperature | 240-260℃ |
| Recommended Nozzle Diameter | 0.4-1.0mm |
| Recommended build surface treatment | PEI or Coating with PVP glue |
| Build plate temperature | 70-80℃ |
| Raft separation distance | 0.2-0.25mm |
| Cooling fan speed | ≤50% |
| Print speed | 30-60 mm/s |
| Retraction distance | 2-5 mm |
| Retraction speed | 1800-3600 mm/min |

**Other Suggestions:**

1. The wear resistance of pure copper nozzle is poor. It is recommended to choose stainless steel or hardened steel nozzle to print, which can effectively improve the printing quality.
2. Put the filament in the drying box during the printing process, which can effectively reduce the phenomenon of wire drawing and rough surface.

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