

TECHNICAL DATA SHEET

PLA CF

BRIEF INTRODUCTION

Discover the fusion of eco-friendliness and superior mechanics with PLA-CF, our premium carbon fiber infused PLA 3D printing filament. Tailored for enthusiasts and specialists who demand both sustainability and performance, PLA-CF offers a new dimension of printing versatility. Unleash the potential of your designs with the enhanced strength and rigidity provided by carbon fiber.

CHARACTERISTIC

Environmentally friendly|good interlayer bond|no buckling deformation|high transparency.

IDENTIFICATION OF THE MATERIAL

Trade name	PLA CF
Chemical name	Polylactic Acid
Application	3D Printing

GUIDELINE FOR PRINT SETTINGS

Nozzle temperature	220±10°C
Bed temperature	30~60°C
Bed modification	Tape or glue below 60°C
Active cooling fan	ON, 100%
Layer height	0.2mm
Shell thickness	≥0.8mm
Print speed	40-80mm/s

Settings are based on a 0.4mm nozzle.

MATERIAL PROPERTIES

Test Method

Melt temperature	~160°C	ISO 11357
Glass transition temperature	~60°C	ISO 11357
Melt flow rate (MFR)¹	4~7 g/10min	ISO 1133
Heat deflection temperature(HDT)²	55°C	ISO 75
Vicat softening temperature(VST)³	57°C	ISO 306
Density	1.28~1.30 g/cm ³	ISO 1183
Odor	Odorless	/
Solubility	Insoluble in water	/

1. Test conditions: 0.45MPa; 120°C/h.
2. Test conditions: 10N; 120°C/h.
3. Test conditions: T= 190°C; m=2.16 kg.

MECHANICAL PROPERTIES|TENSILE TEST

Test Method ISO 527

All test specimens were printed using an FlashForge Guider 2s under the

following conditions:
 Printing temperature: 210°C
 Heated bed temperature: 50°C
 Print speed: 50mm/s
 Shell thickness: 0.8mm
 Infill under 45°



Printed horizontal

X,Y-axis

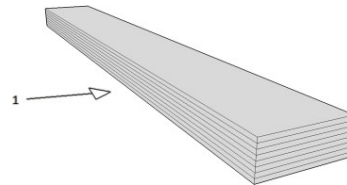
Infill	100%
Tensile strength (Mpa)	65-70
Elongation at break (%)	2-3

MECHANICAL PROPERTIES|IMPACT TEST

Test Method ISO 179

The same conditions as tensile test.

1→Impact direction



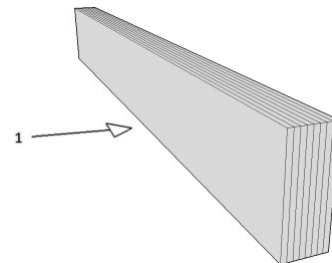
Infill	100%
Impact strength (KJ/m ²)	24~28
Notch impact strength ¹ (KJ/m ²)	5~7

MECHANICAL PROPERTIES|FLEXURAL TEST

Test Method ISO 178

The same conditions as tensile test.

1→Bending direction



Infill	100%
Maximum force (Mpa)	90~95
Flexural modulus (Mpa)	4800~5000

1.notch type: type A



FILAMENT SPECIFICATION		Test Method
Diameter 1.75mm	1.75±0.03mm	EX1125
Diameter 2.85mm	2.85±0.03mm	EX1125
Diameter 3.00mm	3.00±0.03mm	EX1125
Max roundness deviation (1.75)	0.03mm	EX1125
Max roundness deviation (2.85)	0.03mm	EX1125
Max roundness deviation (3.00)	0.03mm	EX1125
Net weight on reel	1kg	EX1125

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