

PLA-GF

Technical Data Sheet

PLA-GF is a printing consumable developed on the basis of PLA, in which 15-20% glass fiber is added to greatly enhance the rigidity and impact resistance of ordinary PLA. Bending modulus up to 4400MPa, high rigidity is not easy to distort; High impact resistance and good printability of PLA; Suitable for prototypes of mechanical parts that require rigidity and impact resistance; The wear resistance makes it suitable for printing gears and can be used as temporary functional parts

Material Status	Mass Production	
Characteristics	• High impact resistance • High rigidity	• High wear resistance • Excellent printability
Applications	• Mechanical component • Automobile manufacturing	• electronic engineering
Form	• Filament	
Processing method	• 3D Print, FDM Print	

	testing method	Typical value	
Physical Properties			
Density	GB/T 1033	1.31	g/cm³
Melt Flow Index	GB/T 3682	6.36	(190°C/2.16kg)
Mechanical Properties			
Tensile Strength	GB/T 1040	59.27	MPa
Elongation at Break	GB/T 1040	7.99	%
Flexural Strength	GB/T 9341	85.01	MPa
Flexural Modulus	GB/T 9341	4414.89	MPa
IZOD Impact Strength	GB/T 1843	10.16	kJ/m²
Thermal Properties			
Heat distortion Temperature	GB/T 1634	56	°C
Continuous Service Temperature	IEC 60216	N/A	
Maximum (short term) Use Temperature		N/A	
Electrical Properties			
Insulation Resistance	DIN IEC 60167	N/A	
Surface Resistance	DIN IEC 60093	N/A	

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Recommended printing parameters

Extruder Temperature	190- 230°C
Build Platform Temperature	45-60°C
Fan Speed	100%
Printing Speed	40 - 100mm/s

Based on 0.4 mm nozzle and Simplify 3D v.4.1.2. Printing conditions may vary with different nozzle diameters

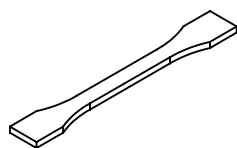
Drying Recommendations

N/A

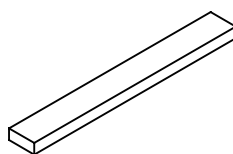
Precautions:

Turn on the Z seam alignment . Turn off the Z-axis lifting with drawing.
Slower the printing speed.

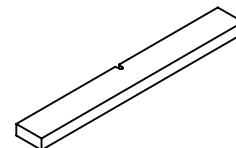
Mechanical Properties



Tensile testing specimen GB/T 1040



Flexural testing specimen GB/T 9341



Impact testing specimen GB/T 1043

The physical properties, mechanical properties, thermal properties, and electrical properties of the line are obtained based on the injection molding spline test.

Print test condition:

Extruder Temperature	190-230°C
Build Platform Temperature	55°C
Outline/Perimeter Shells	4
Top/Bottom Layers	4
Infill Percentage	20%
Fan speed	100%
Printing speed	60mm/s

Based on 0.4 mm nozzle and Simplify 3D v.4.1.2.

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