

PLA-Basic

Technical Data Sheet

This is an entry-level 3D printing filament designed for enthusiasts and beginners. Based on modified PLA, this affordable filament is easy to print, emits no irritating odors, resists stringing and warping, and delivers excellent print quality. It is a cost-effective choice among 3D printing materials.

Basic Information

Characteristics	• Good toughness • High-speed printing • High forming accuracy	• Smooth surface and neat layer lines • Easy to print • Hard to break
Applications	• Prototyping • Cosplay	• Decoration • Other mechanical parts
Forming Method	• Filament	
Processing Method	• 3D Printing	

Physical Properties

Testing Method

Data

Density	GB/T 1033	1.24g/cm ³
Melt Flow Index	GB/T 3682	6.48(190°C/2.16kg)

Thermal Properties

Testing Method

Data

Heat Distortion Temperature	GB/T 1634	53.65°C(0.45Mpa)
Glass Transition Temperature		N/A
Continuous Service Temperature	IEC 60216	N/A
Maximum(short term)Use Temperature		N/A

Electrical Properties

Testing Method

Data

Insulation Resistance	DINIEC 60167	N/A
Surface Resistance	DINIEC 60093	N/A

Mechanical Properties	Testing Method	Data
Tensile Strength (X-Y)	GB/T 1040	64.27Mpa
Tensile Strength (Z)	GB/T 1040	32.34MPa
Elongation at Break (X-Y)	GB/T 1040	4.61%
Elongation at Break (Z)	GB/T 1040	2.89%
Flexural Strength (X-Y)	GB/T 9341	106.8MPa
Flexural Strength (Z)	GB/T 9341	53.2Mpa
Flexural Modulus (X-Y)	GB/T 9341	3775.06MPa
Flexural Modulus (Z)	GB/T 9341	3285.49Mpa
IZOD Impact Strength (X-Y)	GB/T 1843	3.25KJ/m ²
IZOD Impact Strength (Z)	GB/T 1843	2.31KJ/m ²

Chemical Properties	Data
Acid and Alkali Resistance	NO
Grease Resistance	N/A
UV Resistance	NO
Water Repellency	N/A

Recommended Printing Parameters	Data
Drying Preparation	50°C, 8~12h
Nozzle Size	0.2,0.4,0.6,0.8mm
Nozzle Temperature	210-230°C
Build Platform Type	纹理PEI打印板
Build Platform Temperature	45~60°C
Fan Speed	100%
Printing Speed	< 300mm/s

Printing Tips

When slicing, it is best to turn on the Z seam alignment and starting point alignment functions, turn off the Z-axis lift and exit, avoid passing through the shell when idling, optimize the slicing printing path, and appropriately reduce

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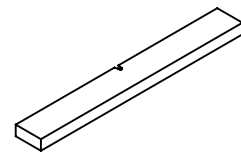
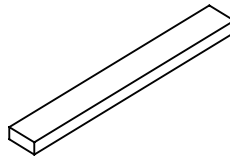
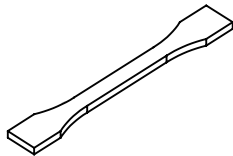
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the printing speed to achieve the best printing effect.

Test Conditions of Mechanical Properties



Tensile testing specimen GB/T 1040 Flexural testing specimen GB/T 9341 Impact testing specimen GB/T 1843

The performance of the filament is evaluated based on standard samples printed by eSUN, while the actual printing performance is influenced by various factors such as printer type, printing parameters, and print environment.

Printing Test Conditions

Extruder Temperature	220°C
Build Platform Temperature	65°C
Outer Layer Number	2
Top/Bottom Layer Number	3
Infill Density	100%
Fan Speed	100%

*Based on Bambu P1S 0.4mm nozzle and Orcaslicer 2.1.0 Beta.

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