

PLA

Technical Data Sheet

PLA is an environment-friendly material that is easy to print and has smooth surface. Compared with ABS, PLA has higher rigidity and strength similar to PC, and does not need to close the cavity, low shrinkage rate, no warping, no cracking, and can print large size model; No pungent smell when printing, safe and environmental protection. Approved by FDA, safer to use; It can be used for conceptual model, rapid prototyping, and metal parts casting.

Material Status	Mass Production
Characteristics	<ul style="list-style-type: none"> • High speed printing • Smooth printed surface • Easy to print
Applications	<ul style="list-style-type: none"> • COSPLAY
Form	<ul style="list-style-type: none"> • Filament
Processing method	<ul style="list-style-type: none"> • 3D Print, FDM Print

	testing method	Typical value	
Physical Properties			
Density	GB/T 1033	1.2	g/cm ³
Melt Flow Index	GB/T 3682	3.5	(190°C/2.16kg)
Mechanical Properties			
Tensile Strength	GB/T 1040	72	MPa
Elongation at Break	GB/T 1040	11.8	%
Flexural Strength	GB/T 9341	90	MPa
Flexural Modulus	GB/T 9341	1915	MPa
IZOD Impact Strength	GB/T 1843	5.4	kJ/m ²
Thermal Properties			
Heat distortion Temperature	GB/T 1634	53	°C (0.45Mpa)
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

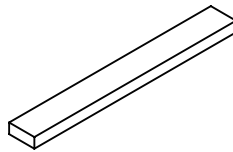
Precautions:

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 the printing speed to achieve the best printing effect.

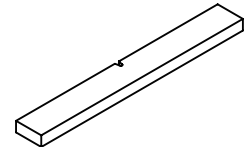
Mechanical Properties



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 filament are obtained based on the injection molding spline test.

Print test condition:

Extruder Temperature	190-230°C
Build Platform Temperature	45°C
Outline/Perimeter Shells	4
Top/Bottom Layers	4
Infill Percentage	20%
Fan speed	100%
Printing speed	40mm/s

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

Notice

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