PLA-ST

Technical Data Sheet

High impact resistance, high elongation at break, high bonding strength and high printing accuracy.The toughness is better than PETG, and it has good printability , suitable for printing mechanical parts with toughness and precision requirements.

Material Status	Mass Production
Characteristics	• High impact resistance • ePLA-ST Better Toughness than PETG • Excellent printability
Applications	• Mechanical engineering • Electrical and electronic • The automobile industry
Form	• Filament
Processing method	• 3D Print, FDM Print

	testing method	Typical value	
Physical Properties			
Density	GB/T 1033	1.25	g/cm³
Melt Flow Index	GB/T 3682	3.2	190℃/2.16kg
Mechanical Properties			
Tensile Strength	GB/T 1040	34.3	MPa
Elongation at Break	GB/T 1040	90	%
Flexural Strength	GB/T 9341	43	MPa
Flexural Modulus	GB/T 9341	1477	MPa
IZOD Impact Strength	GB/T 1843	63	kJ/m²
Thermal Properties			
Heat distortion Temperature	GB/T 1634	52	℃
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	200- 230℃
Build Platform Temperature	45-60℃
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

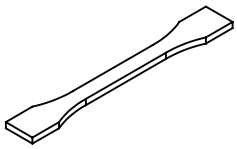
Drying Recommendations

N/A

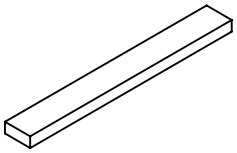
Precautions:

Remote printing needs to reduce the printing speed (≤40mm/s) to prevent potential feeding issue

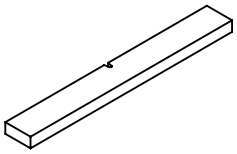
Mechanical Properties



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℃
Build Platform Temperature	45℃
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.

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