POLYNOVA
3D PRINTING MATERIALS

PETG

G102

Technical Data Sheet

Good acid and alkali resistance and good toughness, resistant to drops and impacts.

Available Color

Material Status	Mass Production	
Characteristics	• Good acid and alkali resistance • Multiple color • Excellent printability	
Applications	• Ornaments and Toys	• Handcrafts
Form	• Filament	
Processing method	• 3D Print, FDM Print	

	Testing	Method	Typical value
Physical Properties			
Density	ISO 1183,GB/T 1033	1.25	g/cm3
Melt Flow Index	ISO 1133	7.37	210°C/2.16kg
Mechanical Properties			
Tensile Strength (X-Y)	ISO 527,GB/T 1040	50.08	MPa
Tensile Strength (Z)		46.21	MPa
Elongation at Break (X-Y)	ISO 527,GB/T 1040	6.81	%
Elongation at Break (Z)		7.13	%
Young'Modulus (X-Y)	ISO 527,GB/T 1040	2208.99	MPa
Young'Modulus (Z)		1996.58	MPa
Bending Strength (X-Y)	ISO 178,GB/T 9341	65.52	MPa
Bending Strength (Z)		66.84	MPa
Bending Modulus (X-Y)	ISO 178,GB/T 9341	1653.77	MPa
Bending Modulus (Z)		1740.7	MPa
Impact strength (X-Y)	ISO 179,GB/T 1043	17	KJ/m2
Impact strength (Z)		N/A	
Thermal Properties			
Heat distortion Temperature	ISO 75 0.45MPa°C	78.4	°C
Glass Transition	DSC,10°C/min	81	°C
Melting Point	DSC,10°C/min	N/A	

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Recommended printing parameters	
Print Temperature	230- 240°C
Build Platform	70-80°C
Cool Fan	0-20%
Printing Speed	50-200mm/s

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

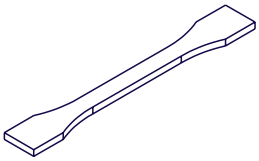
Drying Recommendations

The samples for the general test need to be dried at 65°C for at least 4 hours before printing.

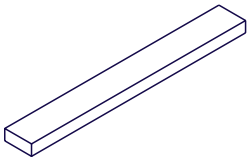
Precautions:

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

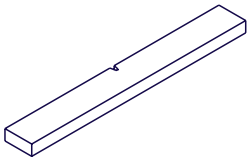
Mechanical Properties



Tensile testing specimen GB/T 1040
Testing specimen GB/T 1043



Bending testing specimen GB/T 9341



Impact

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:	
Print Temperature	235°C
Build Platform Temperature	75°C
Outline/Perimeter Shells	4
Top/Bottom Layers	4
Infill Percentage	20%
Cool Fan	20%
Printing speed	50mm/s

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

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