PET

Technical Data Sheet

PET is a material with heat resistance, high toughness and excellent printing properties. Compared with PLA, heat resistance is about 75℃; Compared with PETG, the tensile strength and bending strength are better, the printing temperature is low, the printing part is less drawn, the dimensional accuracy is high.

Material Status	Mass Production		
Characteristics	• Heat resistance • High toughless • Low Printing Temperature	• High Speed Prining	
Applications	• Aerospace	• Automotive	• Industrial applications
Form	• Filament		
Processing method	• 3D Print, FDM Print		

	testing method	Typical value
Physical Properties		
Density	GB/T 1033	1.28 g/cm³
Melt Flow Index	GB/T 3682	10-30 (220℃/10KG)
Mechanical Properties		
TensileStrength(Z)	GB/T 1040	35-45 MPa
ElongationatBreak(Z)	GB/T 1040	4-6 %
FlexuralStrength(X-Y)	GB/T 9341	90-100 MPa
FlexuralModulus(X-Y)	GB/T 9341	2100-2500 MPa
IZODImpactStrength(X-Y)	GB/T 1843	3-5 kJ/m²
Thermal Properties		
Heat distortion Temperature	GB/T 1634	60-80℃ (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	250 - 280℃
Build Platform Temperature	70-90°C
Fan Speed	40-70%
Printing Speed	< 250mm/s

Based on Bambu P1S 0.4 mm nozzle and Orcaslicer2.1.0 Beta. Printing conditions may vary with different nozzle diameters

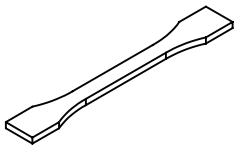
Drying Recommendations

N/A

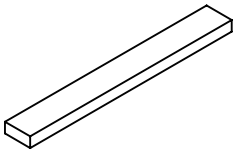
Precautions:

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.

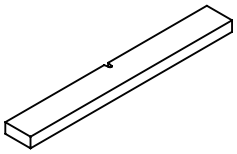
Mechanical Properties



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	260℃
Build Platform Temperature	90℃
Outline/Perimeter Shells	2
Top/Bottom Layers	3
Infill Percentage	105%
Fan speed	40%
Maximum volumetric flow rate	10mm³/s

Based on Bambu P1S 0.4 mm nozzle and Orcaslicer2.1.0 Beta.

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