PC-HT

Technical Data Sheet

The addition of PET to PC can improve the warping defects of line printing and improve the strength of printing between layers, and the addition of PCTG can reduce the impact of PET on PC temperature resistance and improve printing drawing. PC-HT filaments have the advantages of high interlayer strength, good temperature resistance, and small warping, and can be widely used in electronic appliances, household appliances, instrumentation, engineering accessories, etc.

Basic Information

Characteristics	• High temperature resistance • High interlayer strength	• Small warping • High speed printing
Applications	• Electronic appliances • household appliances	• Instrumentation • Engineering accessories
Processing Method	• 3D Printing	• FDM Print

Physical Properties	Testing Method	Data
Density	GB/T 1033	1.23 g/cm3
Melt Flow Index	GB/T 3682	39.6 g/10min

Thermal Properties	Testing Method	Data
Heat Distortion Temperature	GB/T 1634	113.6 ℃ (0.45Mpa)
Glass Transition Temperature		
Continuous Service Temperature	IEC 60216	N/A
Maximum (short term) Use Temperature		N/A

Electrical Properties	Testing Method	Data
Insulation Resistance	DIN IEC 60167	N/A
Surface Resistance	DIN IEC 60093	N/A

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Mechanical Properties	Testing Method	Data
Tensile Strength (X-Y)	GB/T 1040	67.6 MPa
Tensile Strength (Z)	GB/T 1040	50.6 MPa
Elongation at Break (X-Y)	GB/T 1040	7.3 %
Elongation at Break (Z)	GB/T 1040	4.9 %
Flexural Strength (X-Y)	GB/T 9341	97.2 MPa
Flexural Strength (Z)	GB/T 9341	76.3 MPa
Flexural Modulus (X-Y)	GB/T 9341	2353.5 MPa
Flexural Modulus (Z)	GB/T 9341	2340.6 MPa
IZOD Impact Strength (X-Y)	GB/T 1843	13.6 kJ/m^2
IZOD Impact Strength (Z)	GB/T 1843	2.4 kJ/m^2
Young's Modulus (X-Y)		
Young's Modulus (Z)		

Chemical Properties	Data
Resistant to weak acids and alkalis, not resistant to strong alkalis	
Resistant to neutral oils	
Not resistant to ultraviolet light	
Poor stability of resistance to hydrolysis	

Recommended Printing Parameters	Data
Drying Preparation	95-105℃，5-7 hours
Extruder Temperature	280-310℃（Recommended temperature 290-300℃）
Nozzle Size	
Nozzle Temperature	
Build Platform Type	
Build Platform Temperature	100-110℃
Build Platform Preparation	
Fan Speed	10-20%
Printing Speed	50-300mm/s
Storage Humidity	

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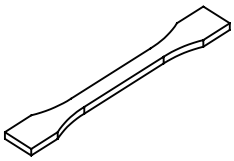
Printing Tips

1. When slicing, it is recommended to enable the Z-seam alignment and starting point alignment functions, disable the Z-axis lift and exit feature, avoid traversing through the shell during idle movements, optimize the slicing printing path, and appropriately reduce the printing speed in order to achieve optimal print quality.

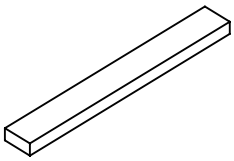
2. Due to its high shrinkage rate, we highly recommend printing PC-HT material within a closed chamber printer.

3. To enhance the print quality of PC-HT material, there are three suggestions: utilize a small fan for accelerated cooling, minimize overhang angles in model structures, or print with a warm cavity for thermal insulation.

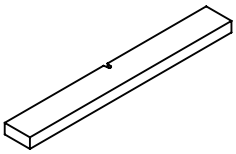
Test Conditions of Mechanical Properties



Tensile testing specimen GB/T 1040



Flexural testing specimen GB/T 9341



Impact testing specimen GB/T 1043

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	290-300℃
Build Platform Temperature	100-110℃
Outer Layer Number	3
Top/Bottom Layer Number	3
Infill Density	100%
Fan Speed	0%
Maximum Volumetric Flow Rate	4mm³/s

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

Notice

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