PETG-ESD

Technical Data Sheet

PETG-ESD is an antistatic modified material with excellent permanent antistatic effect, surface resistivity of $10^9\Omega$, easy to print and smooth surface. With balanced strength, stiffness and toughness, it is suitable for areas that req uire electrostatic protection for precision electronic components, integrated circuits and their packages.

Basic Information

Characteristics	• Good Toughness • Chip Packaging • High Speed Printing	• Smooth Print Surface • Anti-Dust and Antistatic
Applications	• Precision Electronic Components • Chip Packaging	• Integrated Circuit Parts • Other parts requiring electrostatic protection
Processing Method	• 3D Printing	• FDM Print

Physical Properties	Testing Method	Data
Density	GB/T 1033	1.22 g/cm3
Melt Flow Index	GB/T 3682	18.1 (230℃/5kg)

Thermal Properties	Testing Method	Data
Heat Distortion Temperature	GB/T 1634	68 ℃ (0.45Mpa)
Glass Transition Temperature		N/A
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	$10^9\Omega$

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Mechanical Properties	Testing Method	Data
Tensile Strength (X-Y)	GB/T 1040	48.11±0.535 Mpa
Tensile Strength (Z)	GB/T 1040	19.34±5.801 MPa
Elongation at Break (X-Y)	GB/T 1040	8.97±1.62 %
Elongation at Break (Z)	GB/T 1040	2.52±0.75 %
Flexural Strength (X-Y)	GB/T 9341	77.7±0.7MPa
Flexural Strength (Z)	GB/T 9341	41.2±3.0 Mpa
Flexural Modulus (X-Y)	GB/T 9341	2162.79±61.09 MPa
Flexural Modulus (Z)	GB/T 9341	1483.12±58.639 Mpa
IZOD Impact Strength (X-Y)	GB/T 1843	4.95 KJ/m²
IZOD Impact Strength (Z)	GB/T 1843	1.93KJ/m²
Young's Modulus (X-Y)		
Young's Modulus (Z)		

Chemical Properties	Data
Acid and Alkali Resistance	N/A
Grease Resistance	N/A
UV Resistance	Not resistant to light and ageing
Water Repellency	N/A

Recommended Printing Parameters	Data
Drying Preparation	65℃ > 8H
Extruder Temperature	
Nozzle Size	0.2,0.4,0.6,0.8mm
Nozzle Temperature	240-260℃
Build Platform Type	PEI
Build Platform Temperature	70℃
Build Platform Preparation	
Fan Speed	40-90%
Printing Speed	< 300mm/s
Storage Humidity	

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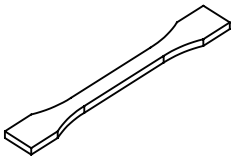
Printing Tips

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.

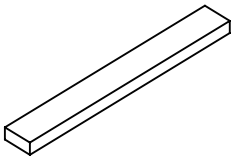
2. Due to its significant shrinkage rate, we highly recommend printing ABS-CF material within a closed chamber printer.

3. To enhance the print quality of ABS-CF material, there are three suggestions: utilize a small fan for accelerated cooling, minimize overhang angles in model structures, or experiment with reducing the printing speed.

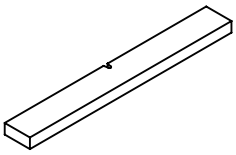
Test Conditions of Mechanical Properties



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	240℃
Build Platform Temperature	70℃
Outer Layer Number	2
Top/Bottom Layer Number	3
Infill Density	100%
Fan Speed	40%
Maximum Volumetric Flow Rate	

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

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