

ABS-ESD

Technical Data Sheet

ABS-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, The heat distortion temperature at 0.45 MPa is higher than 90°C.it is suitable for areas that require electrostatic protection for precision electronic components, integrated circuits and their packages.

Basic Information

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

Physical Properties	Testing Method	Data
Density	GB/T 1033	0.97 g/cm ³
Melt Flow Index	GB/T 3682	3.3 (220°C/2.16kg)

Thermal Properties	Testing Method	Data
Heat Distortion Temperature	GB/T 1634	96 °C (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	$10^9\Omega$

Mechanical Properties	Testing Method	Data
Tensile Strength (X-Y)	GB/T 1040	38 ±2 Mpa
Tensile Strength (Z)	GB/T 1040	22±5 MPa
Elongation at Break (X-Y)	GB/T 1040	4.8±2.5%
Elongation at Break (Z)	GB/T 1040	3.1±1.5%
Flexural Strength (X-Y)	GB/T 9341	63±2.1MPa
Flexural Strength (Z)	GB/T 9341	35.9±3.0 Mpa
Flexural Modulus (X-Y)	GB/T 9341	2263±100MPa
Flexural Modulus (Z)	GB/T 9341	1677±64 Mpa
IZOD Impact Strength (X-Y)	GB/T 1843	19.29 KJ/m ²
IZOD Impact Strength (Z)	GB/T 1843	2.1KJ/m ²

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	85°C > 8H
Nozzle Size	0.2,0.4,0.6,0.8mm
Nozzle Temperature	250-280°C
Build Platform Type	PEI
Build Platform Temperature	90°C
Fan Speed	10-40%
Printing Speed	<300mm/s

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.

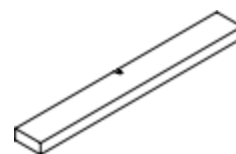
Test Conditions of Mechanical Properties



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	270°C
Build Platform Temperature	90°C
Outer Layer Number	2
Top/ Bottom Layer Number	3
Infill Density	100%
Fan Speed	10-40%

Maximum Volumetric Flow Rate

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

Notice

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