eABS-CF

Technical Data Sheet

Adding carbon fiber reinforced materials to ABS and modifying, it strengthens the rigidity and toughness of ABS. eABS-CF has excellent impact resistance and chemical corrosion resistance, and it has good performance in some scenarios with high strength demand such as tooling fixtures.

Material Status	Mass Production		
Characteristics	• High strength • Wear resistance • Impact resistance	• Chemical resistance	
Applications	• Aerospace	• Automotive	• Industrial applications
Form	• Filament		
Processing method	• 3D Print, FDM Print		

	testing method	Typical value	
Physical Properties			
Density	GB/T 1033	1.06	g/cm^3
Melt Flow Index	GB/T 3682	14.2	(220℃/10KG)
Mechanical Properties			
TensileStrength(Z)	GB/T 1040	29.9	MPa
ElongationatBreak(Z)	GB/T 1040	5.7	%
FlexuralStrength(X-Y)	GB/T 9341	76.2	MPa
FlexuralModulus(X-Y)	GB/T 9341	2694	MPa
IZODImpactStrength(X-Y)	GB/T 1843	3.5	kJ/m^2
Thermal Properties			
Heat distortion Temperature	GB/T 1634	94.9℃	(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	240 - 270°C
Build Platform Temperature	100-110°C
Fan Speed	0%
Printing Speed	0-200mm/s

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

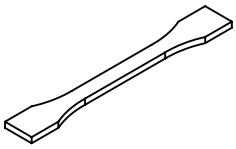
nozzle diameters Drying Recommendations

N/A

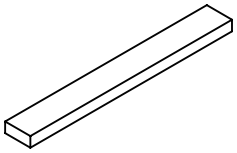
Precautions:

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.

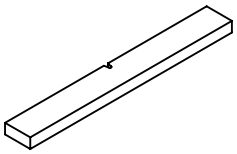
Mechanical Properties



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	270°C
Build Platform Temperature	100°C
Outline/Perimeter Shells	2
Top/Bottom Layers	3
Infill Percentage	100%
Fan speed	0%
Maximum volumetric flow rate	4mm3/s

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

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