ePLA+HS

Technical Data Sheet

Fast printing requires materials that can melt and cool quickly. However, to balance the speed of material melting and cooling, the physical properties of materials printed using fast techniques usually experience some decline. In order to provide 3D printed products with superior mechanical performance under fast printing conditions, we have conducted numerous tests on various rapid formulations. As a result, we have selectively chosen ePLA+HS, also known as ePLA+HS, which is specifically designed to match high-speed printing and offers enhanced toughness."

Material Status	Mass Production
Characteristics	• Stronger resilience • Fast printing • Excellent printability • Lines are not easily brittle and broken
Applications	• COSPLAY
Form	• Filament
Processing method	• 3D Print, FDM Print

	testing method	Typical value	
Physical Properties			
Density	GB/T 1033	1.24	g/cm³
Melt Flow Index	GB/T 3682	5.2	(190°C/2.16kg)
Mechanical Properties			
Tensile Strength	GB/T 1040	59	MPa
Elongation at Break	GB/T 1040	17.5	%
Flexural Strength	GB/T 9341	78	MPa
Flexural Modulus	GB/T 9341	2695	MPa
IZOD Impact Strength	GB/T 1843	4.1	kJ/m²
Thermal Properties			
Heat distortion Temperature	GB/T 1634	54	°C（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	210 - 230°C
Build Platform Temperature	45-60°C
Fan Speed	100%
Printing Speed	50-350mm/s

Based on 0.4 mm nozzle and Simplify 3D v.4.1.2. Printing conditions may vary with different nozzle diameters

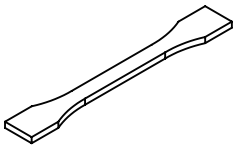
Drying Recommendations

N/A

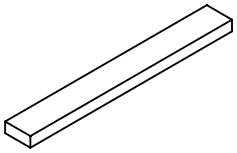
Precautions:

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.

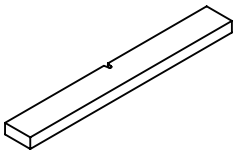
Mechanical Properties



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	215-230°C
Build Platform Temperature	45°C
Outline/Perimeter Shells	4
Top/Bottom Layers	4
Infill Percentage	20%
Fan speed	100%
Printing speed	50mm/s

Based on 0.4 mm nozzle and Simplify 3D v.4.1.2.

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