ASA+

Technical Data Sheet

ASA+ characteristics similar to ABS, but it offers better resistance to ultraviolet light and harsh weather conditions, with enhanced toughness, rigidity, and high impact resistance. Its excellent weatherability and mechanical properties enable it to better withstand the effects of environmental aging, making it commonly used for outdoor applications.

Material Status	Mass Production
Characteristics	• Heat Resistance • High toughness and high brightness • Excellent printing performance • Good Weatherability
Applications	• Outdoor products • Aeromodels • Electronic appliances • Engineering accessories
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	16	(220℃/10KG)
Mechanical Properties			
Tensile Strength	GB/T 1040	35.7	MPa
Elongation at Break	GB/T 1040	18.0	%
Flexural Strength	GB/T 9341	66.5	MPa
Flexural Modulus	GB/T 9341	2363.9	MPa
IZOD Impact Strength	GB/T 1843	14.9	kJ/m^2
Thermal Properties			
Heat distortion Temperature	GB/T 1634	95.5℃	(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	250-280℃
Build Platform Temperature	100-110℃
Fan Speed	10-50%
Printing Speed	0-250mm/s

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

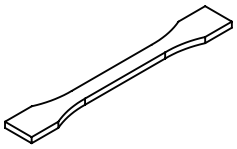
Drying Recommendations

N/A

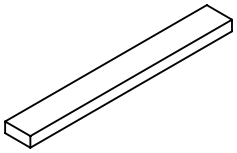
Precautions:

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.

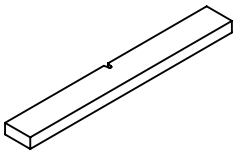
Mechanical Properties



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	275℃
Build Platform Temperature	90℃
Outline/Perimeter Shells	2
Top/Bottom Layers	3
Infill Percentage	100%
Fan speed	50%
Maximum volumetric flow rate	10mm³/s

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

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