PLA-Matte

Technical Data Sheet

PLA-Matte is a cost-effective PLA material that is environmentally friendly and easy to print. age, no warping, no cracking and it can print large-size models; compared to other materials, the support is easier to peel from the surface of the model and the contact surface is smooth and flat; there will be no irritating odor during printing, which is safe and environmentally friendly; which was accordant with environmental protection concepts ; matte surface effect, fine surface without layer lines; the filaments are not easy to break, long-term printing is smooth without clogging, and can be used for early concept models and rapid prototyping.

Basic Information

Characteristics	• Green environmental protection • Cost-effective • High speed printing	• Support easy to peel off • Excellent printability • Matte surface effect
Applications	• Decoratioon • Cosplay	
Forming Method	• Filament	
Processing Method	• 3D Printing，FDM Print	

Physical Properties	Testing Method	Data
Density	GB/T 1033	1.329 g/cm3
Melt Flow Index	GB/T 3682	5.8 （190℃/2.16kg）

Thermal Properties	Testing Method	Data
Heat Distortion Temperature	GB/T 1634	51 ℃ (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	N/A

15AB, Microsoft Ketong Building, No. 55, Gaoxin South Nine Road, Yuehai Street, Nanshan District, Shenzhen, China
Tel: (086)-0755-86581960 Fax: (086)-0755-26031982 Email: bright@brightcn.net
www.esun3d.com

Mechanical Properties	Testing Method	Data
Tensile Strength (X-Y)	GB/T 1040	25.976 Mpa
Tensile Strength (Z)	GB/T 1040	14.31 MPa
Elongation at Break (X-Y)	GB/T 1040	7.23 %
Elongation at Break (Z)	GB/T 1040	2.26 %
Flexural Strength (X-Y)	GB/T 9341	42.6 MPa
Flexural Strength (Z)	GB/T 9341	21.1 Mpa
Flexural Modulus (X-Y)	GB/T 9341	2249.05 MPa
Flexural Modulus (Z)	GB/T 9341	1782.62 Mpa
IZOD Impact Strength (X-Y)	GB/T 1843	4.7 KJ/m^2
IZOD Impact Strength (Z)	GB/T 1843	2.15KJ/m^2

Chemical Properties	Data
Acid and Alkali Resistance	NO
Grease Resistance	N/A
UV Resistance	NO
Water Repellency	N/A

Recommended Printing Parameters	Data
Drying Preparation	50℃ > 8H
Nozzle Size	0.2,0.4,0.6,0.8mm
Nozzle Temperature	190-230℃
Build Platform Type	PEI
Build Platform Temperature	45-60℃
Fan Speed	100%
Printing Speed	< 200mm/s

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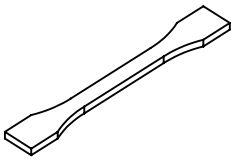
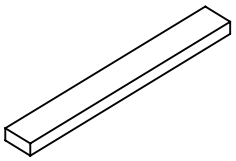
Printing Tips

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.

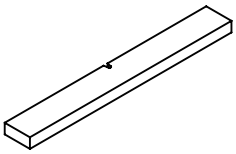
Test Conditions of Mechanical Properties



Tensile testing specimen GB/T 1040



Flexural testing specimen GB/T 9341



Impact testing specimen GB/T 1843

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	220℃
Build Platform Temperature	60℃
Outer Layer Number	2
Top/Bottom Layer Number	3
Infill Density	100%
Fan Speed	100%

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

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