

# PLA-Clear Rainbow

Technical Data Sheet

PLA-Clear Rainbow, modified on the basis of PLA, which presents a colorful, rainbow-like visual effect. The printed model is like being embedded in a dazzling crystal mine, showing a breathtaking unique charm. Its printing smoothness is good, the surface of the model does not show layer pattern, and at the same time has the excellent characteristics of PLA material easy to print.

## Basic Information

Characteristics	<ul style="list-style-type: none"> <li>Multi-color conversion</li> <li>Strong impact resistance</li> <li>High speed printing</li> </ul>	<ul style="list-style-type: none"> <li>Smooth printed surface</li> <li>Easy to print</li> <li>Hard to break</li> </ul>
Applications	<ul style="list-style-type: none"> <li>Prototyping</li> <li>Cosplay</li> </ul>	<ul style="list-style-type: none"> <li>Decoration</li> <li>Other mechanical parts</li> </ul>
Forming Method	<ul style="list-style-type: none"> <li>Filament</li> </ul>	
Processing Method	<ul style="list-style-type: none"> <li>3D Printing</li> </ul>	

Physical Properties	Testing Method	Data
Density	GB/T 1033	1.25 g/cm3
Melt Flow Index	GB/T 3682	8.5 (190°C/2.19kg)

Thermal Properties	Testing Method	Data
Heat Distortion Temperature	GB/T 1634	55.3 °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	N/A

Mechanical Properties	Testing Method	Data
Tensile Strength (X-Y)	GB/T 1040	76.85MPa
Tensile Strength (Z)	GB/T 1040	45.95 MPa
Elongation at Break (X-Y)	GB/T 1040	4.61 %
Elongation at Break (Z)	GB/T 1040	2.68 %
Flexural Strength (X-Y)	GB/T 9341	130.5 MPa
Flexural Strength (Z)	GB/T 9341	79.9 Mpa
Flexural Modulus (X-Y)	GB/T 9341	4051.39 MPa
Flexural Modulus (Z)	GB/T 9341	3632.44 Mpa
IZOD Impact Strength (X-Y)	GB/T 1843	3.54 KJ/m <sup>2</sup>
IZOD Impact Strength (Z)	GB/T 1843	2.19KJ/m <sup>2</sup>

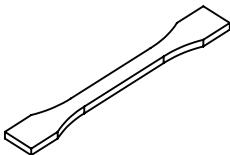
Chemical Properties	Data
Acid and Alkali Resistance	NO
Grease Resistance	N/A
UV Resistance	NO
Water Repellency	N/A

Recommended Printing Parameters	Data
Drying Preparation	60°C > 8H
Nozzle Size	0.4
Nozzle Temperature	210-240°C
Build Platform Type	PEI
Build Platform Temperature	55°C
Fan Speed	100%
Printing Speed	< 300mm/s

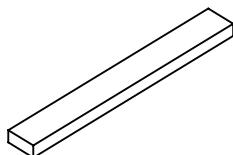
## Printing Tips

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.

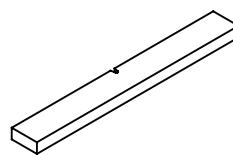
## Test Conditions of Mechanical Properties



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	230°C
Build Platform Temperature	55°C
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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