

Technical Data Sheet (TDS)

Silk Rainbow PLA

Eryone Silk Rainbow PLA filament is a vibrant, lustrous, three-color gradient material. It possesses a unique periodicity, with each surface displaying a different color that rotates and cycles continuously. This property creates unexpected visual effects when printing enigmatic ancient masks, figures, vases, and ceramics, enhancing the artwork's depth and artistic appeal. Whether it's intricate details or overall color transitions, it imbues the work with vibrant vitality.

Part I: Suggests Printing Parameters

Parameter	Set up
Nozzle temperature	190°C-220°C
Bed temperature	55-70°C
Bed material	glass, PEI, spring steel plate
Bottom printing temperature	190°C-220°C
Sealed printing	Open Printing/closed printing
Printing speed	30-100mm/s
Drying conditions	50°C-60°C , 6h

Part two: Physical Properties of Materials

Property	Testing Method	Unit	Typical Value
Density(g/cm ³ at 21.5 ° C)	ASTM D792 (ISO 1183, GB/T 1033)	g/cm ³	1.23
Vicat Softening Temperature(° C)	ASTM D1525 (ISO 306 GB/T 1633)	°C	54
Heat distortion temperature(° C)	ASTM D648 0.45MPa	°C	53
Melt Index(g/10 min)	220 ° C, 10kg 240 ° C, 2.16 kg	g/10min	6.3

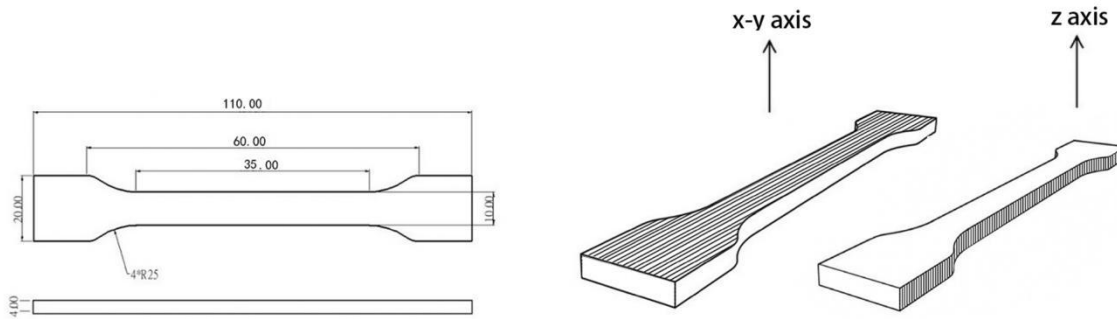
Part III: Mechanical Properties of Printed Samples

Property	Test conditions	Test standards	unit	Typical Value
Tensile strength X-Y	50mm/min	GB/T 1040.4	MPa	45.1
Elastic modulus X-Y	50mm/min	GB/T 1040.1-2006	MPa	1507.9
Elongation at break X-Y	50mm/min	GB/T 1040.4	%	1.4
Tensile strength X-Z	50mm/min	GB/T 1843	MPa	13.1
Elastic modulus X-Z	50mm/min	GB/T 1040.1-2006	MPa	1387.1
Elongation at break X-Z	50mm/min	GB/T 1040.4	%	1.2
Bending strength	2mm/min	GB/T 9341	MPa	91.4
Bending modulus	2mm/min	GB/T 9341	MPa	2570.3
Charpy Impact strenght	2.75J	GB/T 1843	kJ/m2	3.8

Note: All splines are printed under the following conditions: printing temperature=210° C, printing speed=80mm/s, base plate 60 ° C, filling=100%, nozzle diameter=0.4mm

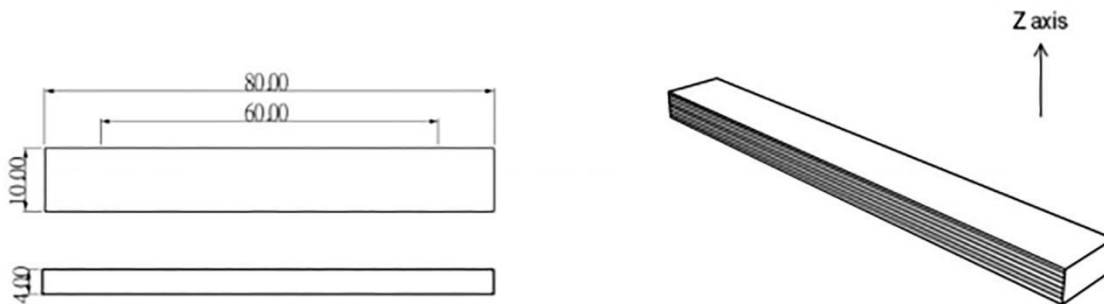
TENSILE TESTING SPECIMEN

ISO 527,GB/T 1040



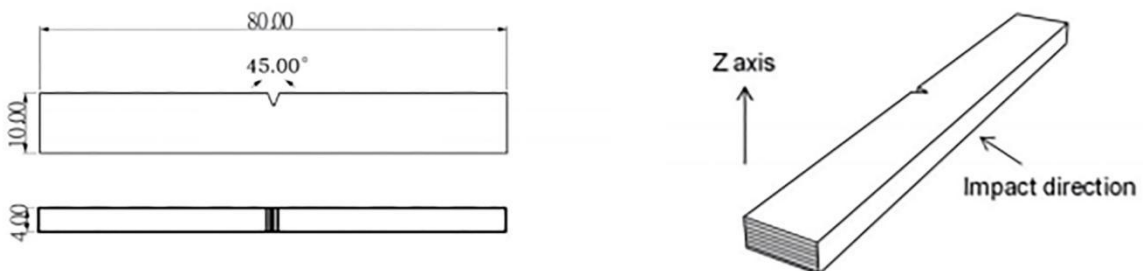
FLEXURAL TESTING SPECIMEN

ISO 178,GB/T 9341



IMPACT TESTING SPECIMEN

ISO 179,GB/T 1043



Disclaimers

The values given in this data table are for reference and comparison only. They should not be used for design specifications or quality control. The actual value may vary depending on the printing conditions. The final performance of printed components depends not only on the material, but also on the component design, environmental conditions, printing conditions, and so on. Product specifications are subject to change without prior notice.