

Technical Data Sheet (TDS)

Hyper-Speed PLA

The Eryone Hyper-Speed PLA filament is an advanced 3D printing material that offers a maximum printing speed of 600mm/s and exceptional fluidity. It allows for rapid cooling and shaping, ensuring high precision and quality in printed parts. Compared to standard PLA, it exhibits superior toughness and has a tensile strength that surpasses ABS. With minimal expansion and contraction, it enhances the stability and performance of models, making it ideal for applications that require fast prototyping and high precision.

Part I: Suggests Printing Parameters

Parameter	Set up
Nozzle temperature	190-220 °C
Bed temperature	50-75°C
Bed material	glass, PEI, spring steel plate
Bottom printing temperature	/
Sealed printing	supports open printing, and the sealing effect is better if it is sealed
Printing speed	≤600mm/s
Drying conditions	50-60°C, 6h

Part II: 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	1.24
Vicat Softening Temperature(° C)	ASTM D1525 (ISO 306 GB/T 1633)	°C	57
Heat distortion temperature(° C)	ASTM D648 0.45MPa	°C	57
Glass transition temperature (° C)	DSC, 10 ° C/min	°C	160
Melt Index(g/10 min)	220 ° C, 10kg 240 ° C, 2.16 kg	g/10min	42±4

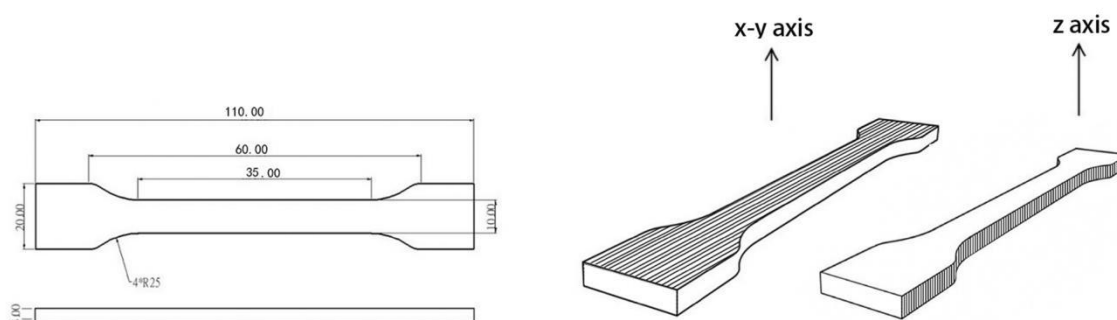
Part III: Mechanical Properties of Printed Samples

Property	Test conditions	Test standards	unit	Typical Value
Tensile strength X-Y	50mm/min	GB/T 1040.4	MPa	35.7
Elastic modulus X-Y	50mm/min	GB/T 1040.1-2006	MPa	1302.7
Elongation at break X-Y	50mm/min	GB/T 1040.4	%	8.7
Tensile strength X-Z	50mm/min	GB/T 1843	MPa	18.1
Elastic modulus X-Z	50mm/min	GB/T 1040.1-2006	MPa	873.2
Elongation at break X-Z	50mm/min	GB/T 1040.4	%	5.1
Bending strength	2mm/min	GB/T 9341	MPa	55.92
Bending modulus	2mm/min	GB/T 9341	MPa	2357.2
Charpy Impact strenght	2.75J	GB/T 1843	kJ/m2	7.02

Note: All splines are printed under the following conditions: printing temperature=210 ° C, printing speed=150mm/s, base plate 60 ° C, filling=100%, nozzle diameter=0.4mm

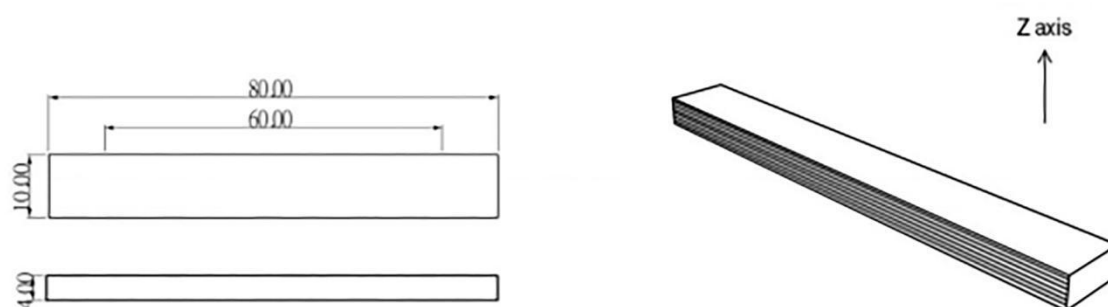
TENSILE TESTING SPECIMEN

ISO 527,GB/T 1040



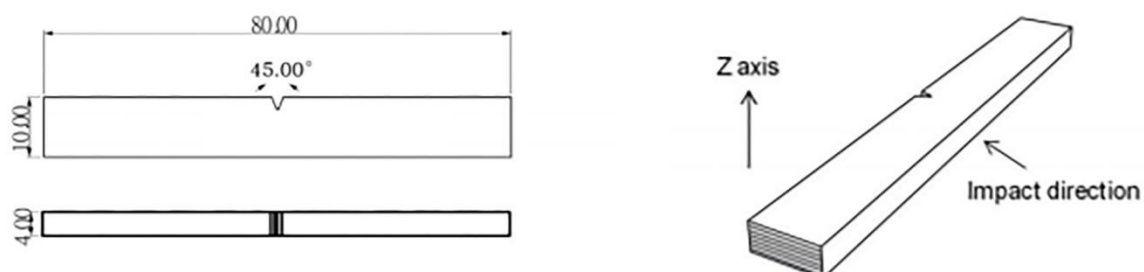
FLEXURAL TESTING SPECIMEN

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.