version 1.0
08/2024

Technical Data Sheet （TDS）

Hyper Speed Matte PLA

Eryone-Hyper Speed Matte PLAfilament prints produce a delicate matte surface effect, showcasing a soft and high-end texture with almost no visible layer lines. This material can achieve printing speeds of up to 500mm/s, significantly enhancing printing efficiency. It is particularly beginner-friendly, easy to shape, and has good scratch and wear resistance, ensuring a stable printing process. Additionally, its high surface hardness makes the finished products less susceptible to scratches, making it suitable for various application needs.

Part I: Suggests Printing Parameters

Parameter	Set up
Nozzle temperature	190℃-220℃
Bed temperature	55-70℃
Bed material	glass, PEI, spring steel plate
Bottom printing temperature	190℃-220℃
Sealed printing	open printing/closed printing
Printing speed	30-500mm/s
Drying conditions	65℃-75℃，12H

Part II: Physical Properties of Materials

Property	Testing Method	Unit	Typical Value
Density(g/cm³ at 21.5 ° C)	ASTM D792 (ISO 1183, GB/T 1033)	g/cm³	1.25
Vicat Softening Temperature(° C)	ASTM D1525 (ISO 306 GB/T 1633)	℃	54
Heat distortion temperature(° C)	ASTM D648 1.8MPa 0.45MPa	℃	55
Glass transition temperature (° C)	DSC, 10 ° C/min	℃	/
Melt Index(g/10 min)	220 ° C, 10kg 240 ° C, 2.16 kg	g/10min	6.3

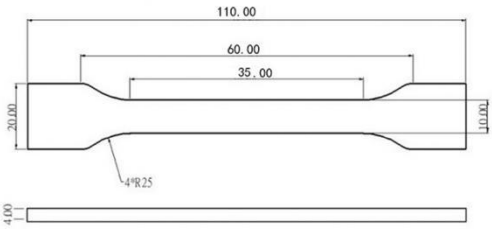
Part III: Mechanical Properties of Printed Samples

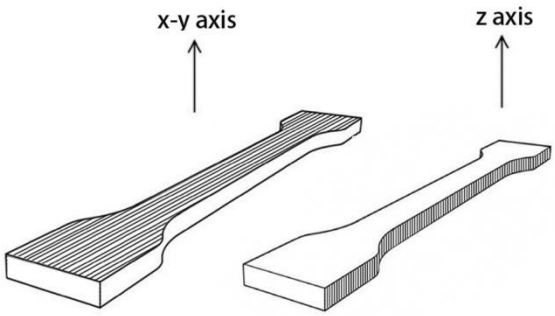
Property	Test conditions	Test standards	unit	Typical Value
Tensile strength X-Y	50mm/min	GB/T 1040.4	MPa	32.7
Elastic modulus X-Y	50mm/min	GB/T 1040.1-2006	MPa	1345.5
Elongation at break X-Y	50mm/min	GB/T 1040.4	%	1.2
Tensile strength X-Z	50mm/min	GB/T 1843	MPa	8.7
Elastic modulus X-Z	50mm/min	GB/T 1040.1-2006	MPa	1283.9
Elongation at break X-Z	50mm/min	GB/T 1040.4	%	1.0
Bending strength	2mm/min	GB/T 9341	MPa	63.8
Bending modulus	2mm/min	GB/T 9341	MPa	3601.2
Charpy Impact strenght	2.75J	GB/T 1843	kJ/m2	9.8

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

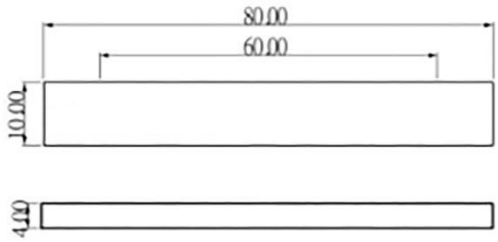
ISO 527,GB/T 1040

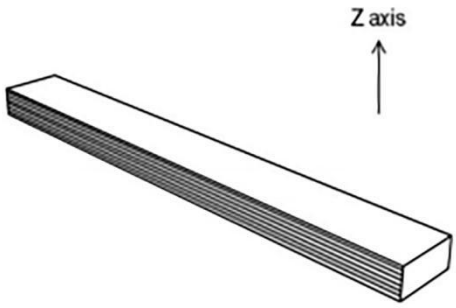




FLEXURAL TESTING SPECIMEN

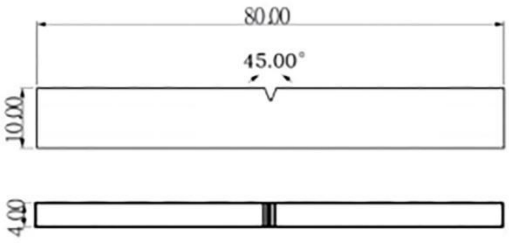
ISO 178,GB/T 9341

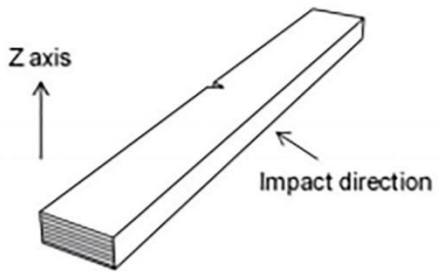




IMPACT TESTING SPECIMEN

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.