version 1.0
08/2024

Technical Data Sheet (TDS)

Standard PLA

Eryone Standard PLA filament is an excellent choice for beginners in 3D printing, offering outstanding shaping capabilities and ease of use. It is bubble-free, odorless, biodegradable, environmentally friendly, and safe. The filament features a smooth and delicate surface with minimal layer lines, providing exceptional mechanical properties and strong interlayer adhesion to ensure stable print quality. Whether for beginners or professionals, it is easy to work with, minimizing issues like clogging and warping. This filament is compatible with 99% of 3D printers on the market and comes in a wide variety of colors, offering endless creative possibilities.

Part I: Suggests Printing Parameters

Parameter	Set up
Nozzle temperature	190-220 ℃
Bed temperature	50-75℃
Bed material	glass, PEI, spring steel plate
Bottom printing temperature	/
Sealed printing	Supports open/closed printing
Printing speed	30-100mm/s
Drying conditions	50-60℃, 6h

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	1.24
Vicat Softening Temperature(° C)	ASTM D1525 (ISO 306 GB/T 1633)	℃	54
Heat distortion temperature(° C)	ASTM D648 0.45MPa	℃	53
Glass transition temperature (° C)	DSC, 10 ° C/min	℃	62
Melt Index(g/10 min)	220 ° C, 10kg 240 ° C, 2.16 kg	g/10min	14

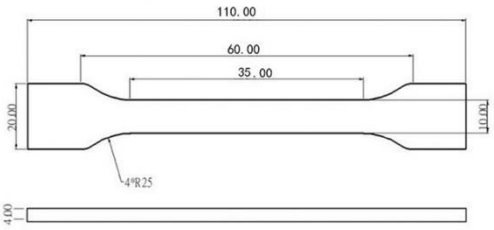
Part III: Mechanical Properties of Printed Samples

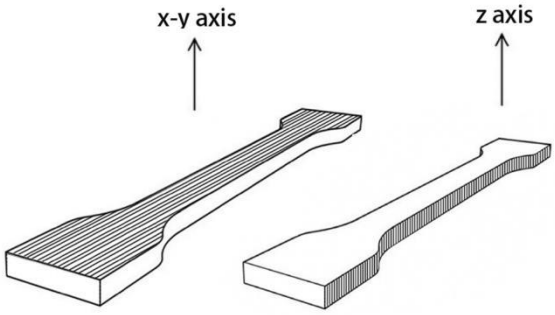
Property	Test conditions	Test standards	unit	Typical Value
Tensile strength X-Y	50mm/min	GB/T 1040.4	MPa	57.3
Elastic modulus X-Y	50mm/min	GB/T 1040.1-2006	MPa	1902.1
Elongation at break X-Y	50mm/min	GB/T 1040.4	%	2.2
Tensile strength X-Z	50mm/min	GB/T 1843	MPa	28.4
Elastic modulus X-Z	50mm/min	GB/T 1040.1-2006	MPa	1823.9
Elongation at break X-Z	50mm/min	GB/T 1040.4	%	1.8
Bending strength	2mm/min	GB/T 9341	MPa	91.1
Bending modulus	2mm/min	GB/T 9341	MPa	3093.4
Charpy Impact strenght	2.75J	GB/T 1843	kJ/m2	3.6

Note: All splines are printed under the following conditions: printing temperature=220 ° C, printing speed=80mm/s, base plate 60 ° C, filling=100%, nozzle diameter=0.4mm

TENSILE TESTING SPECIMEN

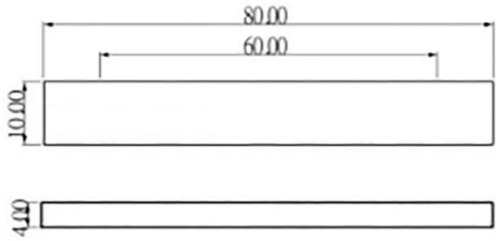
ISO 527,GB/T 1040

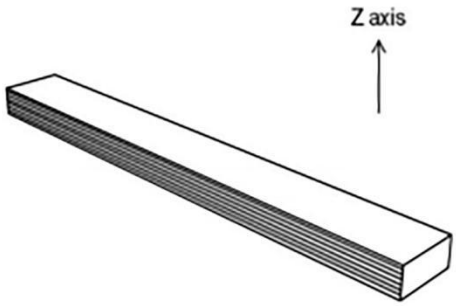




FLEXURAL TESTING SPECIMEN

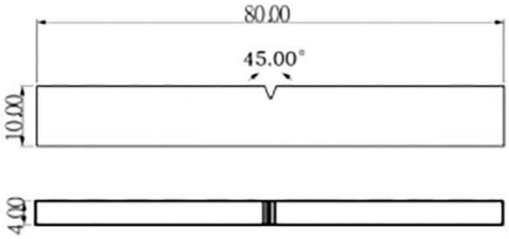
ISO 178,GB/T 9341

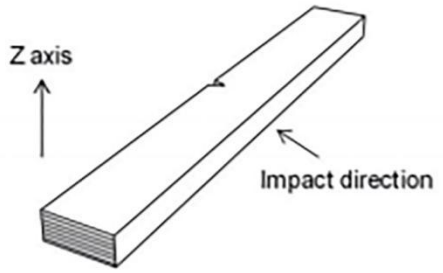




IMPACT TESTING SPECIMEN

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.