version 1.0
08/2024

Technical Data Sheet (TDS)

Light Weight PLA

ERYONE PLA Light weight Filament is a foamed PLA material with a density approximately 0.5-0.8 times that of regular PLA, resulting in lower density and lighter weight. The model density can be adjusted within a certain range, decreasing with increasing printing temperature and decreasing flow rate. It features a matte, frosted surface finish and is suitable for model aircraft printing.

Part I: Suggests Printing Parameters

Parameter	Set up
Nozzle temperature	210℃-260℃
Bed temperature	45-60℃
Bed material	glass, PEI, spring steel plate
Bottom printing temperature	210-260℃
Sealed printing	Open printing
Printing speed	30-90mm/s
Drying conditions	55℃, 8H

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	1.21
Vicat Softening Temperature(° C)	ASTM D1525 (ISO 306 GB/T 1633)	℃	54
Heat distortion temperature(° C)	ASTM D648 0.45MPa	℃	48
Melt Index(g/10 min)	220℃ 2.16kg GB/T 3682	g/10min	7.5-7.7

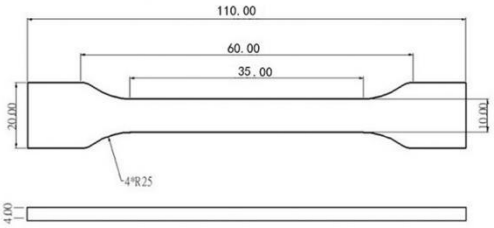
Part III: Mechanical Properties of Printed Samples

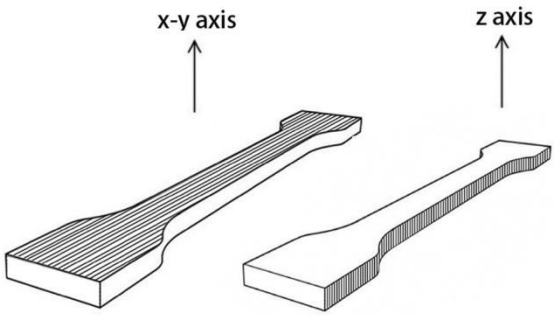
Property	Test conditions	Test standards	unit	Typical Value
Tensile strength X-Y	50mm/min	GB/T 1040.4	MPa	20
Tensile modulus X-Y	50mm/min	GB/T 1040.1-2006	MPa	1350
Elongation at breakX-Y	50mm/min	GB/T 1040.4	MPa	3
Tensile modulus X-Z	50mm/min	GB/T 1040.1-2006	MPa	758.3
Elongation at breakX-Z	50mm/min	GB/T 1040.2	%	1.2
Bending strength	2mm/min	GB/T 9341	MPa	45
Bending modulus	2mm/min	GB/T 9341	MPa	1680
Charpy Impact strenght	2.75J	GB/T 1043.1-2008	kJ/m2	3

Note: All splines are printed under the following conditions: printing temperature=220 ° C, printing speed=60mm/s, base plate 55° C, filling=100%, nozzle diameter=0.4mm

TENSILE TESTING SPECIMEN

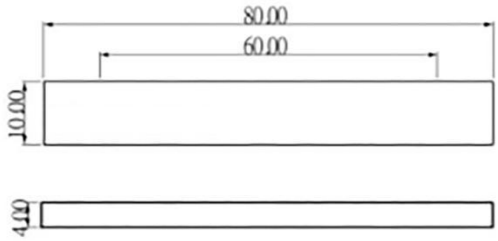
ISO 527,GB/T 1040

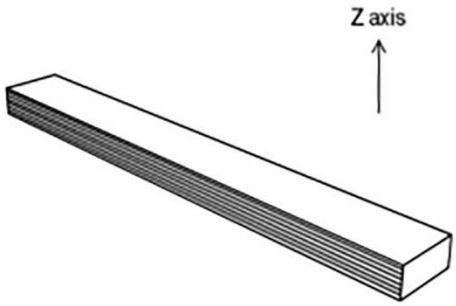




FLEXURAL TESTING SPECIMEN

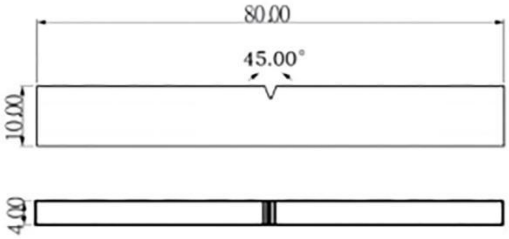
ISO 178,GB/T 9341

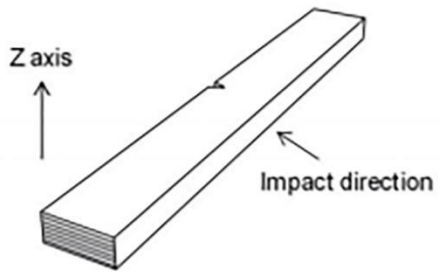




IMPACT TESTING SPECIMEN

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.