

Technical Data Sheet (TDS)

PLA+

The Eryone PLA+ filament is a printing material known for its exceptional toughness and excellent surface quality, featuring a smooth finish that minimizes layer lines. Its high quality simplifies the printing process, making it suitable for parts that need to withstand pressure and impact, offering great durability and resistance to breakage. Compared to traditional PLA, Airewan PLA+ shows significant improvements in hardness and toughness while maintaining the ease of shaping characteristic of PLA, ensuring a user-friendly printing experience.

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	30-100mm/s
Drying conditions	50℃-60℃ , 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	1.23
Vicat Softening Temperature(° C)	ASTM D1525 (ISO 306 GB/T 1633)	℃	54
Heat distortion temperature(° C)	ASTM D648 0.45MPa	℃	53
Melt Index(g/10 min)	220 ° C, 10kg 240 ° C, 2.16 kg	g/10min	6.3

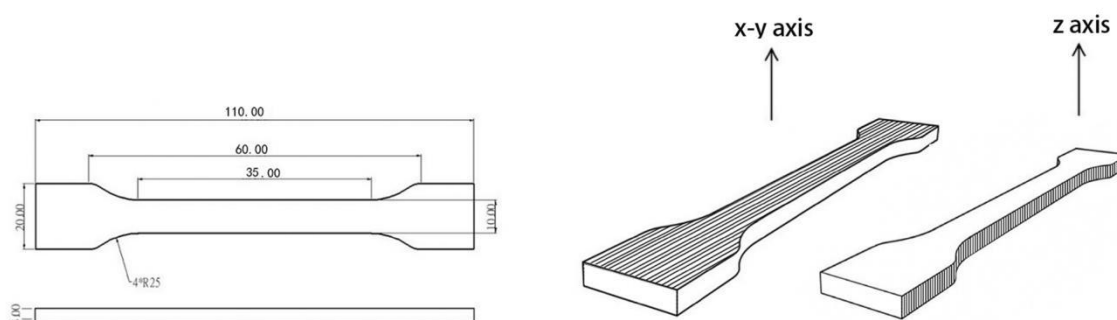
Part III: Mechanical Properties of Printed Samples

Property	Test conditions	Test standards	unit	Typical Value
Tensile strength X-Y	50mm/min	GB/T 1040.4	MPa	57.3
Elastic modulus X-Y	50mm/min	GB/T 1040.1-2006	MPa	1751.0
Elongation at break X-Y	50mm/min	GB/T 1040.4	%	4.2
Tensile strength X-Z	50mm/min	GB/T 1843	MPa	32.2
Elastic modulus X-Z	50mm/min	GB/T 1040.1-2006	MPa	1431.7
Elongation at break X-Z	50mm/min	GB/T 1040.4	%	3.1
Bending strength	2mm/min	GB/T 9341	MPa	90.2
Bending modulus	2mm/min	GB/T 9341	MPa	3212.8
Charpy Impact strenght	2.75J	GB/T 1843	kJ/m2	4.2

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

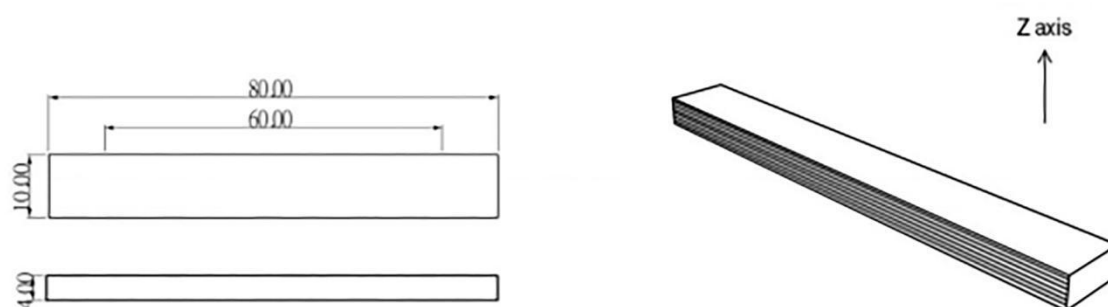
TENSILE TESTING SPECIMEN

ISO 527,GB/T 1040



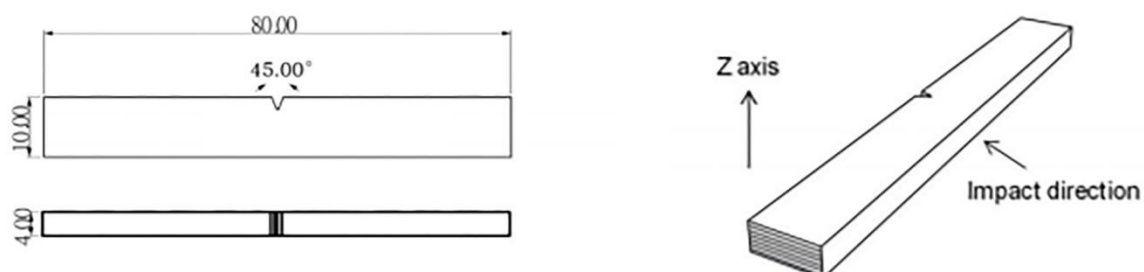
FLEXURAL TESTING SPECIMEN

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.