

Technical Data Sheet (TDS)

ABS+

Eryone ABS+ filament is an advanced thermoplastic material that offers significant advantages over traditional ABS. It exhibits superior resistance to cracking, warping, and delamination, with enhanced melt flow properties that ensure a smoother printing process. Additionally, Irwin's ABS+ boasts higher impact strength, excellent temperature resistance, and superior creep resistance, along with good oil resistance and high stability. This material is widely used across various industrial fields, including mechanical plastic components, model machinery, electronics, and instrumentation, showcasing its extensive application potential.

Part I: Suggests Printing Parameters

Parameter	Set up
Nozzle temperature	230°C-260°C
Bed temperature	80-110°C
Bed material	glass, PEI, spring steel plate
Bottom printing temperature	230°C-260°C
Sealed printing	enclosed printing
Printing speed	40-100mm/s
Drying conditions	90-100°C, 12H

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	1.05
Vicat Softening Temperature(° C)	ASTM D1525 (ISO 306 GB/T 1633)	°C	90
Heat distortion temperature(° C)	ASTM D648 1.8MPa 0.45MPa	°C	73
Melt Index(g/10 min)	220 ° C, 10kg 240 ° C, 2.16 kg	g/10min	15

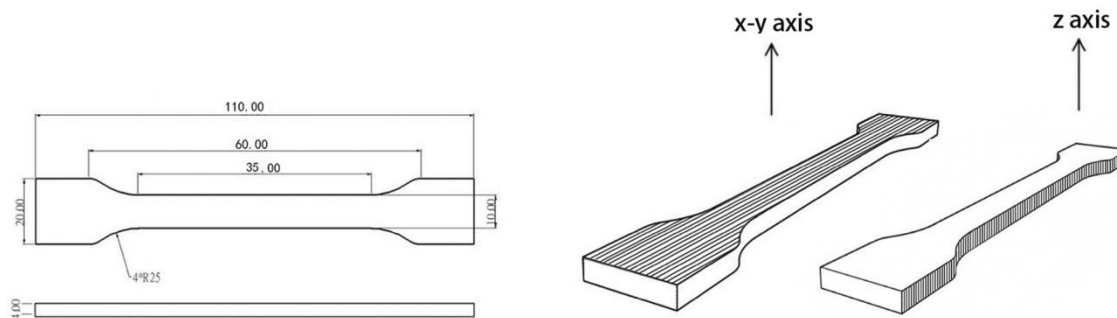
Part III: Mechanical Properties of Printed Samples

Property	Test conditions	Test standards	unit	Typical Value
Tensile strength X-Y	50mm/min	GB/T 1040.4	MPa	40.7
Elastic modulus X-Y	50mm/min	GB/T 1040.1-2006	MPa	1203.9
Elongation at break X-Y	50mm/min	GB/T 1040.4	%	20.3
Tensile strength X-Z	50mm/min	GB/T 1843	MPa	22.7
Elastic modulus X-Z	50mm/min	GB/T 1040.1-2006	MPa	1037.5
Elongation at break X-Z	50mm/min	GB/T 1040.4	%	8.9
Bending strength	2mm/min	GB/T 9341	MPa	50.1
Bending modulus	2mm/min	GB/T 9341	MPa	1371.5
Charpy Impact strenght	2.75J	GB/T 1843	kJ/m2	15.2

Note: All splines are printed under the following conditions: printing temperature=250 ° C, printing speed=80mm/s, base plate 80 ° C, filling=100%, nozzle diameter=0.4mm

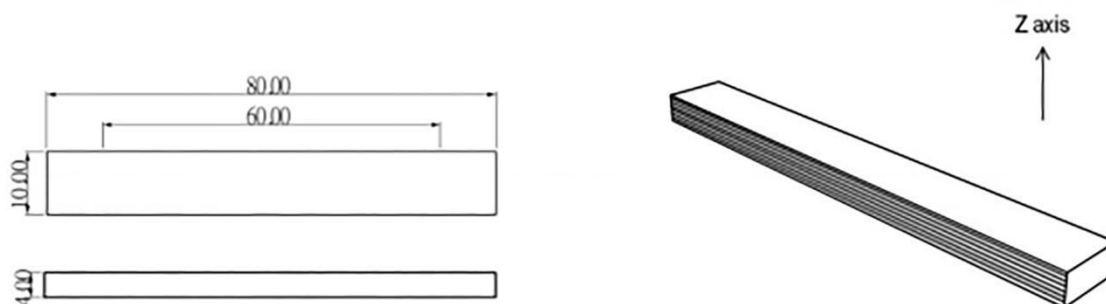
TENSILE TESTING SPECIMEN

ISO 527,GB/T 1040



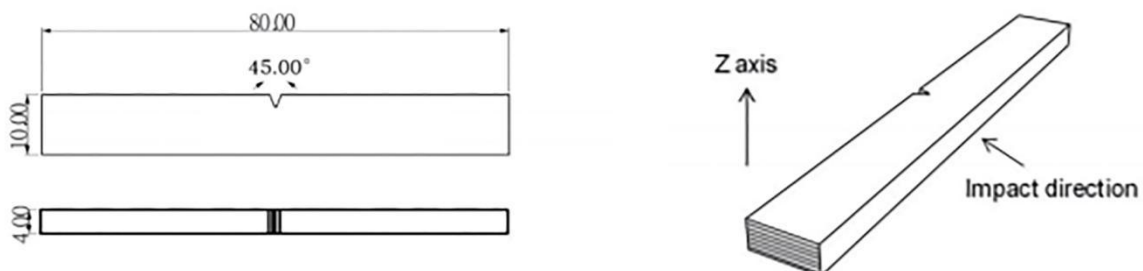
FLEXURAL TESTING SPECIMEN

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.