

Technical Data Sheet (TDS)

ASA

Eryone ASA filament is a thermoplastic material similar in properties to ABS.

Like ABS, ASA also possesses good mechanical and thermal properties. Additionally, ASA has excellent weather resistance, outstanding UV (ultraviolet) resistance, water resistance, thermal stability, and mechanical performance, making it the preferred material for outdoor applications and more everyday uses.

Part I: Suggests Printing Parameters

Parameter	Set up
Nozzle temperature	230-260 °C
Bed temperature	75-90°C
Bed material	glass, PEI, spring steel plate
Bottom printing temperature	/
Sealed printing	Box Sealing Print
Printing speed	30-50mm/s
Drying conditions	80°C-90, 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	106
Heat distortion temperature(° C)	ASTM D648 1.8MPa 0.45MPa	°C	95
Glass transition temperature (° C)	DSC, 10 ° C/min	°C	/
Melt Index(g/10 min)	220 ° C, 10kg 240 ° C, 2.16 kg	g/10min	7

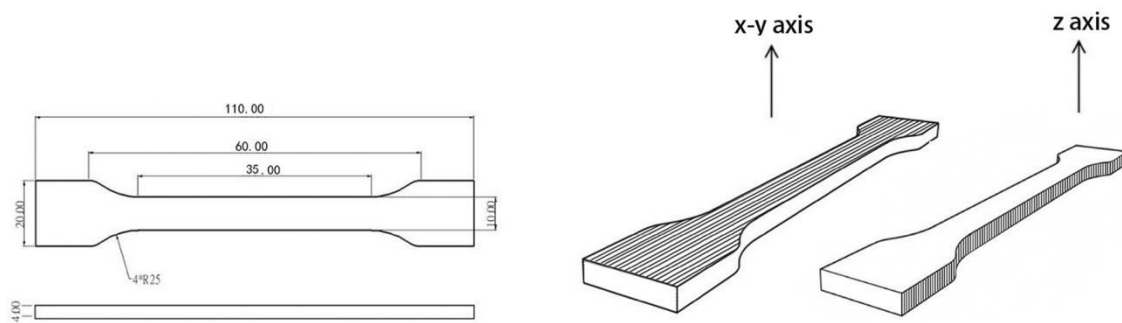
Part III: Mechanical Properties of Printed Samples

Property	Test conditions	Test standards	unit	Typical Value
Tensile strength X-Y	50mm/min	GB/T 1040.4	MPa	30.2
Tensile modulus X-Y	50mm/min	GB/T 1040.1-2006	MPa	942.5
Elongation at breakX-Y	50mm/min	GB/T 1040.4	MPa	2.9
Tensile strength X-Z	50mm/min	GB/T 1843	MPa	15
Tensile modulus X-Z	50mm/min	GB/T 1040.1-2006	MPa	912.7
Elongation at breakX-Z	50mm/min	GB/T 1040.2	%	2.1
Bending strength	2mm/min	GB/T 9341	MPa	45.1
Bending modulus	2mm/min	GB/T 9341	MPa	1702.2
Charpy Impact strenght	2.75J	GB/T 1043.1-2008	kJ/m2	31.5

Note: All splines are printed under the following conditions: printing temperature=260 ° C, printing speed=80mm/s, base plate 100 ° C, filling=100%, nozzle diameter=0.4mm

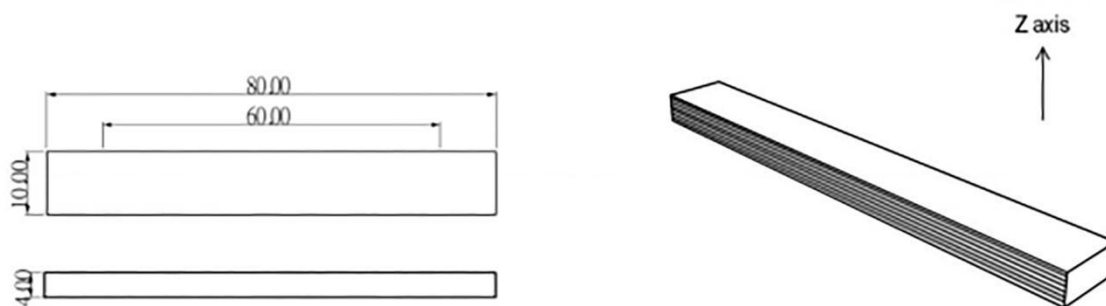
TENSILE TESTING SPECIMEN

ISO 527,GB/T 1040



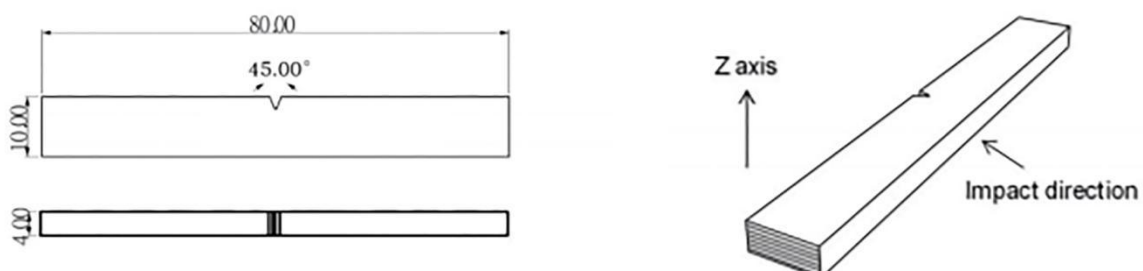
FLEXURAL TESTING SPECIMEN

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.