version 1.0
08/2024

Technical Data Sheet (TDS)

ABS-CF

Eryone ABS-CF is an ABS carbon fiber composite filament that achieves a precise balance in mechanical properties, printing performance, and surface quality. It has the characteristics of high strength, high rigidity, and anti warping. The printed products are strong and sturdy, with a matte finish. The excellent mechanical properties and surface effects are suitable for 3D printing of fixtures, manufacturing fixtures, shells, and structural components that combine strength and rigidity.The carbon fiber content is approximately 10%.

Part I: Suggests Printing Parameters

Parameter	Set up
Nozzle temperature	240-280 ℃
Bed temperature	90-110℃
Bed material	glass, PEI, spring steel plate
Bottom printing temperature	/
Sealed printing	Closed printing
Printing speed	30-100mm/s
Drying conditions	90-100℃, 12h

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	1.1
Vicat Softening Temperature(° C)	ASTM D1525 (ISO 306 GB/T 1633)	℃	/
Heat distortion temperature(° C)	ASTM D648 1.8MPa 0.45MPa	℃	95
Glass transition temperature (° C)	DSC, 10 ° C/min	℃	/
Melt Index(g/10 min)	220 ° C, 10kg. GB/T3682	g/10min	20

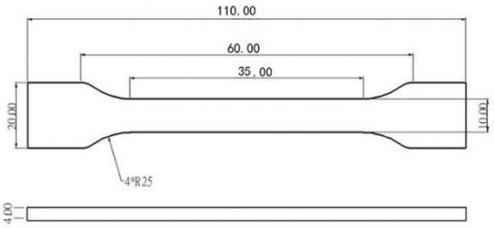
Part III: Mechanical Properties of Printed Samples

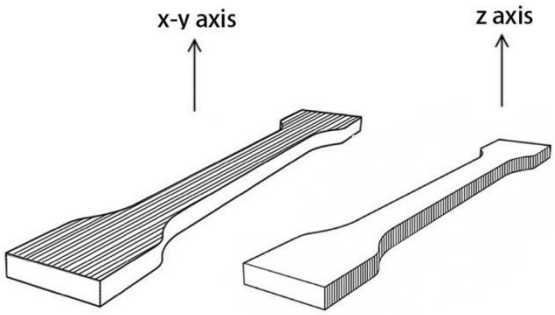
Property	Test conditions	Test standards	unit	Typical Value
Tensile strength X-Y	50mm/min	GB/T 1040.2	MPa	27.3
Tensile strength X-Z	50mm/min	GB/T 1040.2	MPa	16±2
Bending strength	2mm/min	GB/T 9341	MPa	41.7
Bending modulus	2mm/min	GB/T 9341	MPa	2272.3
Charpy Impact strenght	2.75J	GB/T 1843	kJ/m2	5.1

Note: All splines are printed under the following conditions: printing temperature=270 ° C, printing speed=80mm/s, base plate 95 ° C, filling=100%, nozzle diameter=0.4mm

TENSILE TESTING SPECIMEN

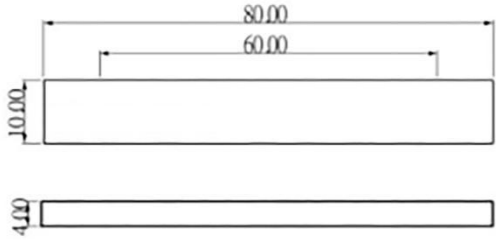
ISO 527,GB/T 1040

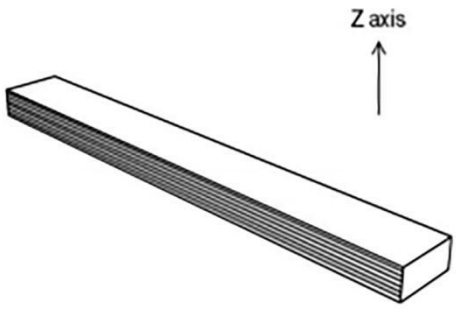




FLEXURAL TESTING SPECIMEN

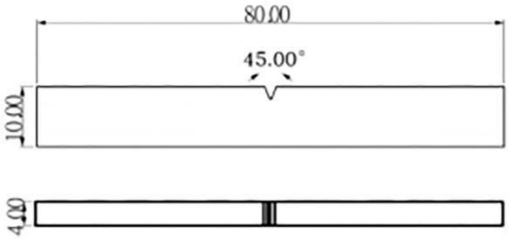
ISO 178,GB/T 9341

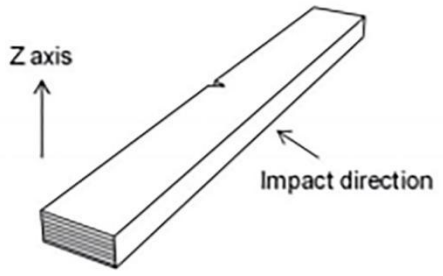




IMPACT TESTING SPECIMEN

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.