version 1.0
08/2024

Technical Data Sheet (TDS)

PA6-CF

Eryone PA6-CF is which is specially designed for 3D FDM printer. As a specific product used in 3D printing, our product shows excellent mechanical and physical properties after printed as a part.With excellent heat resistance up to 185°C and outstanding mechanical properties, it combines high strength, high rigidity, and excellent high-temperature resistance, making it suitable for printing products such as automotive structural components and sports equipment.The carbon fiber content is approximately 20%.

Part I: Suggests Printing Parameters

Parameter	Set up
Nozzle temperature	260-290 ℃
Bed temperature	80-100℃
Bed material	glass, PEI, spring steel plate
Bottom printing temperature	/
Sealed printing	Closed printing
Printing speed	30-100mm/s
Drying conditions	85℃, 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	1.09
Vicat Softening Temperature(° C)	ASTM D1525 (ISO 306 GB/T 1633)	℃	/
Heat distortion temperature(° C)	ASTM D648 0.45MPa	℃	185
Glass transition temperature (° C)	DSC, 10 ° C/min	℃	/
Melt Index(g/10 min)	210 ° C, 2.16kg. D1238	g/10min	35.1-37.5

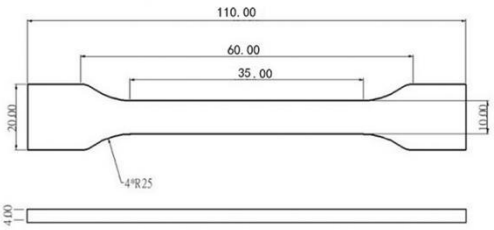
Part III: Mechanical Properties of Printed Samples

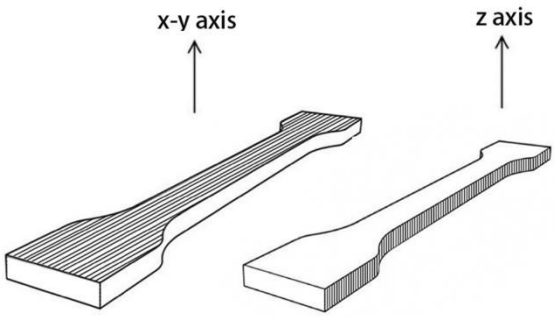
Property	Test conditions	Test standards	unit	Typical Value
Tensile strength X-Y	50mm/min	D638	MPa	53-55
Tensile strength X-Z	50mm/min	D638	MPa	47-53
Tensile Modulus X-Y	50mm/min	D638	MPa	4020-4360
Elongation X-Y	5mm/min	D638	%	8.9-10.3
Bending strength X-Y	2mm/min	D790	MPa	140-145
Bending modulus X-Y	2mm/min	D790	MPa	4240-4580
Charpy Impact strenght	4mm，23℃	D256	kJ/m2	21.3-25.5

Note: All splines are printed under the following conditions: printing temperature=280 ° C, printing speed=60mm/s, base plate 100 ° C, filling=100%, nozzle diameter=0.4mm

TENSILE TESTING SPECIMEN

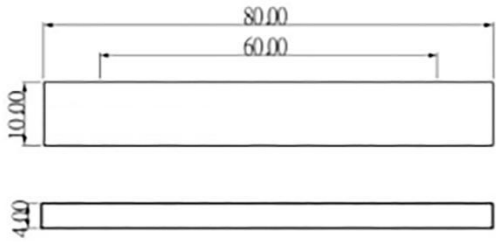
ISO 527,GB/T 1040

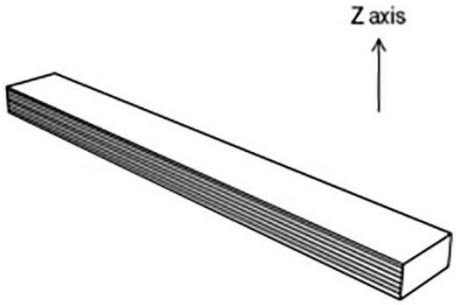




FLEXURAL TESTING SPECIMEN

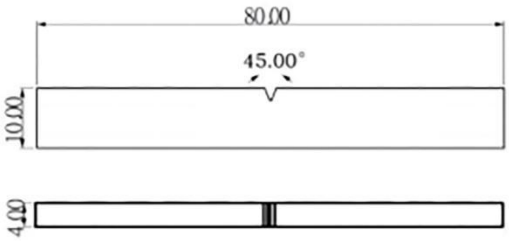
ISO 178,GB/T 9341

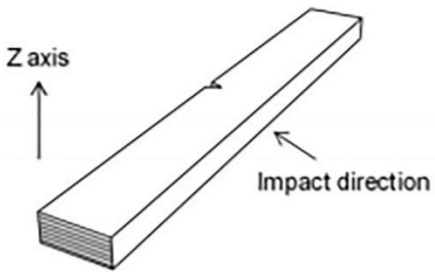




IMPACT TESTING SPECIMEN

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.