version 1.0
08/2024

Technical Data Sheet (TDS)

Hyper Speed Burnt Titanium PETG

Eryone Hyper Speed Burnt Titanium PETG 3D Printing Filament is a material that surpasses traditional PLA-based combustion titanium filaments. While maintaining high-speed printing performance (up to 600mm/s), it delivers exceptional toughness and significantly enhanced resistance to brittle fracture. Its optimized melt flowability ensures precise molding, producing a delicate metallic-textured surface with unique granular patterns. The printed parts exhibit strong interlayer adhesion and excellent impact resistance, effectively mitigating the risk of cracking. Featuring a light-responsive color-shifting effect, the finished products display an iridescent gradient under different viewing angles, adding a dynamic visual dimension to creative designs. Combining high strength with artistic expressiveness, this material is an ideal choice for premium innovative applications.

Part I:Suggests Printing Parameters

Parameter	Set up
Nozzle temperature	230-250 ℃
Bed temperature	75-80℃
Bed material	glass, PEI, spring steel plate
Bottom printing temperature	230℃-250℃
Sealed printing	enclosed printing/open printing
Printing speed	30-600mm/s
Drying conditions	65℃, 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	1.25
Vicat Softening Temperature(° C)	ASTM D1525 (ISO 306 GB/T 1633)	℃	78
Heat distortion temperature(° C)	ASTM D648 1.8MPa 0.45MPa	℃	67
Glass transition temperature (° C)	DSC, 10 ° C/min	℃	68
Melt Index(g/10 min)	220 ° C, 10kg 240 ° C, 2.16 kg	g/10min	18±2

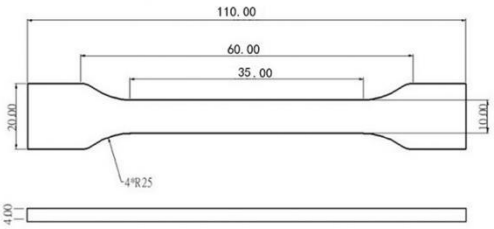
Part III: Mechanical Properties of Printed Samples

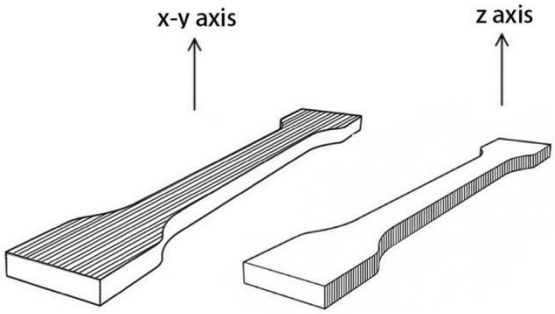
Property	Test conditions	Test standards	unit	Typical Value
Tensile strength X-Y	50mm/min	GB/T 1040.4	MPa	45.7
Elastic modulus X-Y	50mm/min	GB/T 1040.1-2006	MPa	1301.9
Elongation at break X-Y	50mm/min	GB/T 1040.4	%	2.7
Tensile strength X-Z	50mm/min	GB/T 1843	MPa	31.7
Elastic modulus X-Z	50mm/min	GB/T 1040.1-2006	MPa	1022.5
Elongation at break X-Z	50mm/min	GB/T 1040.4	%	2.1
Bending strength	2mm/min	GB/T 9341	MPa	70.2
Bending modulus	2mm/min	GB/T 9341	MPa	1953.2
Charpy Impact strenght	2.75J	GB/T 1843	kJ/m2	2.4

Note: All splines are printed under the following conditions: printing temperature=240 ° C, printing speed=80mm/s, base plate 60 ° C, filling=100%, nozzle diameter=0.4mm

TENSILE TESTING SPECIMEN

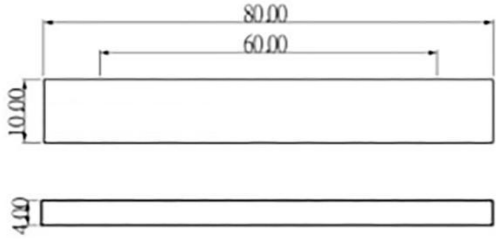
ISO 527,GB/T 1040

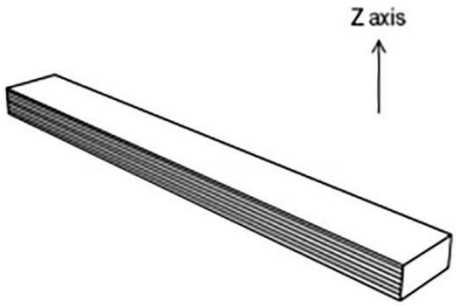




FLEXURAL TESTING SPECIMEN

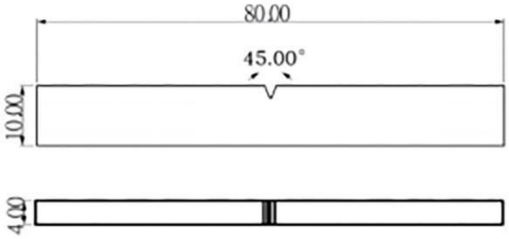
ISO 178,GB/T 9341

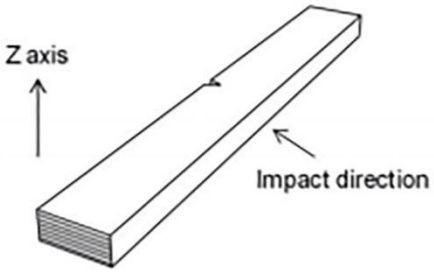




IMPACT TESTING SPECIMEN

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.