Lyten PA1205

Lyten 3D Graphene™ Reinforced Polyamide Filament

LYTEN

Technical Data Sheet

Product Description

Lyten's PA1205 Carbon Fiber filament provides outstanding stiffness and toughness with unmatched print speed and quality. Reinforced with Lyten 3D-Graphene™, confidently choose Lyten PA1205 to print high resolution parts with low warpage.

Resin Properties	Metric	Unit	Test Standard[1]
Density	1.08	g/cm^3	ASTM D792
Melting Temp.	178	°C	DSC
Crystallization Temp.	121	°C	
Glass Transition (T_g)	80	°C	
DTUL, 1.8 MPa	122	°C	ISO 75/B
DTUL, 0.45 MPa	162	°C	

Mechanical Properties	Dry	Unit	Test Standard
Tensile Modulus[2]			ASTM D638
XY Orientation	9260	MPa	
Z Orientation	2700	MPa	
Tensile Strength[2]			ASTM D638
XY Orientation	127	MPa	
Z Orientation	60	MPa	
Elongation at Break			ASTM D638
XY Orientation	3.4	%	
Z Orientation	4.9	%	
Flexural Modulus[3]			ISO 178
XY Orientation	8700	MPa	
Z Orientation	2800	MPa	
Flexural Strength[3]			ISO 178
XY Orientation	183	MPa	
Z Orientation	91	MPa	
Charpy Impact Strength[4]			ISO 179
XY Orientation	52	kJ/m^2	
Z Orientation	8.5	kJ/m^2	

Bond Strength Performance

Variable	Recommendation
Nozzle Temperature	270-300 °C
Nozzle Diameter	0.6 mm
Bed Temperature	100 °C
Surface Preparation	Smooth PEI print bed: glue stick or liquid glue required
Print Speed	Up to 200 mm/s
Part Cooling Fan	Off for all layers (except overhangs and bridges)
Drying Conditions	70 °C for 10 hours
Brim	Use a brim for large prints, sharp corners, and in areas close to the edges of the

Additional Testing Information

(1) Typical property values are intended as guides, not specifications. Properties designated have been determined using methods which are in accordance with, or substantially in accordance with, the specified testing standards. All testing specimens were printed in the specified plane using the recommended conditions, with 100% infill.

(2) ASTM D638 Type IV specimen, 2.0” (50.08 mm) per minute test speed, 0.16” (4mm) thickness.

(3) Chord modulus value, 0.05% - 0.25% strain.

(4) Charpy impact test conducted at 23 °C.

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