

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	8900	MPa	
Z Orientation	2700	MPa	
Tensile Strength ⁽²⁾			ASTM D638
XY Orientation	117	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 Notched Impact Strength ⁽⁴⁾			ISO 179
XY Orientation	44	kJ/m ²	
Z Orientation	8.4	kJ/m ²	

Recommended Printing Conditions

Print Conditions	Typical Value [Metric]
Nozzle Temperature	270 °C
Nozzle Diameter	0.4 or 0.6 mm
Bed Temperature	90 to 110 °C
Surface Preparation	PEI print bed: glue stick or liquid glue required
Print Speed	Up to 100 mm/s
Part Cooling Fan	Off for all layers
Drying Conditions	Lyten PA1205 must be thoroughly dried before use 140 °F/60 °C for 8 hours under vacuum (optimal), 176 °F/80 °C for 8 hours without vacuum
Brim	Use a brim for large prints, sharp corners, and in areas close to the edges of the print bed

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.

Legal

Lyten, the Lyten logo, Lyten 3D Graphene, etc. are trademarks of Lyten, unless indicated otherwise. Lyten makes no warranty, representation, or guarantee regarding the information contained herein or the suitability of its products and services for any particular purpose, nor does Lyten assume any liability whatsoever arising out of the application or use of any product. It is the user's responsibility to independently determine suitability of any products and to test and verify the same. The information provided by Lyten hereunder is provided "as is." Lyten does not grant, explicitly or implicitly, to any party any patent rights, licenses, or any other IP rights, whether with regard to such information itself or anything described by such information. Information provided in this document is proprietary to Lyten, and Lyten reserves the right to make any changes to the information in this document or to any products and services at any time without notice.