

MATERIAL SPECIFICATIONS

PA 614-GS

HIGHLIGHTS

- 40% glass filled nylon 12
- Parts exhibit excellent stiffness and mechanical properties
- Tightly controlled glass particle size for a higher detailed surface finish
- Excellent long term wear resistance

APPLICATIONS

- Automotive engine components
- Mould and tooling applications
- Complex geometries requiring accuracy and feature resolution
- Ideal for rugged applications requiring stiffness at elevated temperatures

TYPICAL PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	U.S. STANDARD	METRIC
Colour/Appearance	Visual	Light Grey	Light Grey
Bulk Density	ASTM D1895	0.364 oz/in ³	0.63 g/cm ³
Average Particle Size (D50)	Laser Diffraction	0.002 inches	55 microns
Particle Size Range (D10-D90)	Laser Diffraction	0.001 - 0.004 inches	35 - 100 microns
Sintered Part Density	ASTM D792	0.705 oz/in ³	1.22 g/cm ³
Heat Deflection Temperature	ASTM D648	205°F @ 264 psi	96°C @ 1.82 MPa
Heat Deflection Temperature	ASTM D648	315°F @ 66 psi	157°C @ 0.45 MPa
Ultimate Tensile Strength (XY)	ASTM D638	7,397 psi	51 MPa
Tensile Modulus (XY)	ASTM D638	464,120 psi	3,200 MPa
Flexural Modulus (XY)	ASTM D790	420,609 psi	2,900 MPa
Elongation at Break (XY)	ASTM D638	9%	9%
Izod Impact Strength - Notched (XY)	ASTM D256	1.5 ft-lb/in	65 J/m
Izod Impact Strength - Un-notched (XY)	ASTM D256	3.2 ft-lb/in	144 J/m
Dielectric Constant	ASTM D150	3.7	3.7
Chemical Resistance		Alkalines, hydrocarbons, fuels, solvents	

For reference use only. Actual properties may vary significantly from those listed above based on processing parameters, operating conditions and end use applications. The above properties were based on virgin ALM PA 614-GS using normal processing parameters on a 2500+ platform as outlined in the ALM Material Processing Guide. Advanced Laser Materials, LLC makes no warranties of materials for any application, nor does it make a warranty of any type, expressed or implied, but not limited to, the warranties of merchantability for a particular purpose.

