

# PA 616-GS

## Technical Data Sheet

P-Machine Optimized 50% Glass Filled Nylon 12

<b>POWDER PROPERTIES</b>	<b>TEST METHOD</b>	<b>ALM PA 616-GS</b>
Specific Gravity	ASTM D792	1.49 grams/CC
Bulk Density	ASTM D1895	0.75 grams/CC
Average Particle Size (D50)	Laser Diffraction	50 microns
Particle Size Range (D10-D90)	Laser Diffraction	35 to 100 microns

<b>THERMAL PROPERTIES</b>	<b>TEST METHOD</b>	<b>ALM PA 616-GS</b>
Melting Point	ASTM D3418	186 Deg C
Melt Flow Rate (3min, 5.0kg, 235C)	ASTM D1238	40 (+/-) 5 grams/10min

<b>MECHANICAL PROPERTIES</b>	<b>TEST METHOD</b>	<b>ALM PA 616-GS</b>
Heat Deflection Temp @ 0.45 MPa	ASTM D648	175 Deg C
Heat Deflection Temp @ 1.82 MPa	ASTM D648	110 Deg C
Ultimate Tensile Strength (XY)	ASTM D638	31 MPa / 4,500 psi
Tensile Modulus (XY)	ASTM D638	4,100 MPa / 595 kpsi
Flexural Modulus (XY)	ASTM D790	3,100 MPa / 450 kpsi
Elongation at Break (XY)	ASTM D638	1.45%
IZOD Impact Strength (Un-notched)	ASTM D256	101 joules/meter
IZOD Impact Strength (Notched)	ASTM D256	96 joules/meter
Volume Resistivity (22C, 50% RH, 500V)	ASTM D257-93	2.0 * 10 <sup>14</sup> ohm/cm
Surface Resistivity (22C, 50% RH, 500V)	ASTM D257-93	2.3 * 10 <sup>14</sup> ohm/cm
Dielectric Constant (22C, 50% RH, 500V)	ASTM D150-95	3.7

Actual part properties may vary slightly from those listed above based on processing parameters, operating conditions, and material usage. The above properties were based on virgin ALM PA 616-GS using nominal operating parameters on a 2500+ platform. Advanced Laser Materials, LLC makes no warranties of materials for any particular application, nor does it make a warranty of any type, expressed or implied, including, but not limited to, the warranties of merchantability for a particular purpose.



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