

PA 640-GSL

Extremely Light Weight Nylon 12 Laser Sintering Material

Technical Data Sheet

POWDER PROPERTIES

TEST METHOD

ALM PA 640-GSL

Bulk Density	ASTM D1895	0.37 grams/CC
Average Particle Size (D50)	Laser Diffraction	55 microns
Particle Size Range (D10-D90)	Laser Diffraction	35 to 100 microns
Sintered Part Density	ASTM D792	0.82 grams/CC

THERMAL PROPERTIES

TEST METHOD

ALM PA 640-GSL

Melting Point	ASTM D3418	184 Deg C
Melt Flow Rate (3min, 5.0kg, 235C)	ASTM D1238	26 grams/10min

MECHANICAL PROPERTIES

TEST METHOD

ALM PA 640-GSL

Heat Deflection Temp @ 0.45 MPa	ASTM D648	180 Deg C
Heat Deflection Temp @ 1.82 MPa	ASTM D648	170 Deg C
Ultimate Tensile Strength (XY)	ASTM D638	49 MPa / 7,170 psi
Ultimate Tensile Strength (Z)	ASTM D638	33 MPa / 4,835 psi
Tensile Modulus (XY)	ASTM D638	3,816 MPa / 554 kpsi
Tensile Modulus (Z)	ASTM D638	1,945 MPa / 282 kpsi
Elongation at Break (XY)	ASTM D638	3%
Elongation at Break (Z)	ASTM D638	3%
Flexural Modulus (XY)	ASTM D790	5,040 MPa / 731 kpsi
Flexural Modulus (Z)	ASTM D790	4,313 MPa / 626 kpsi
Volume Resistivity	ASTM D257	7.6E +05 ohms-cm
Surface Resistivity		4.0E +04 ohms

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 640-GSL 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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