

PA 650

Nylon 12 Laser Sintering Material

Technical Data Sheet

POWDER PROPERTIES

TEST METHOD

ALM PA 650

Bulk Density	ASTM D1895	0.46 grams/CC
Average Particle Size (D50)	Laser Diffraction	55 microns
Particle Size Range (D10-D90)	Laser Diffraction	30 to 100 microns
Sintered Part Density	ASTM D792	1.02 grams/CC

THERMAL PROPERTIES

TEST METHOD

ALM PA 650

Melting Point	ASTM D3418	181 Deg C
Melt Flow Rate (3min, 5.0kg, 235C)	ASTM D1238	50 grams/10min

MECHANICAL PROPERTIES

TEST METHOD

ALM PA 650

Heat Deflection Temp @ 0.45 MPa	ASTM D648	177 Deg C
Heat Deflection Temp @ 1.82 MPa	ASTM D648	86 Deg C
Ultimate Tensile Strength (XY)	ASTM D638	48 MPa / 6,962 psi
Tensile Modulus (XY)	ASTM D638	1,700 MPa / 247 kpsi
Flexural Modulus (XY)	ASTM D790	1,500 MPa / 217 kpsi
Elongation at Break (XY)	ASTM D638	24%
IZOD Impact Strength (Unnotched)	ASTM D256	440 J/m
IZOD Impact Strength (Notched)	ASTM D256	220 J/m
Volume Resistivity (22C, 50%RH, 500V)	ASTM D257	3.1 x 10 ¹⁴ ohm-cm
Surface Resistivity (22C, 50%RH, 500V)	ASTM E257	3.0 x 10 ¹⁴ ohm
Dielectric Constant (22C, 50%RH, 500V)	ASTM D150	2.9

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 650 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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