PA 850 Black

High Performance Black Nylon 11

Technical Data Sheet

POWDER PROPERTIES	TEST METHOD	ALM PA 850 Black
Bulk Density	ASTM D1895	0.50 grams/CC
Average Particle Size (D50)	Laser Diffraction	50 microns
Particle Size Range (D10-D90)	Laser Diffraction	38 to 78 microns
Sintered Part Density	ASTM D792	1.03 grams/CC

THERMAL PROPERTIES	TEST METHOD	ALM PA 850 Black
Melting Point	ASTM D3418	200 Deg C
Melt Flow Rate (3min, 5.0kg, 235C)	ASTM D1238	26 grams/10min

MECHANICAL PROPERTIES	TEST METHOD	ALM PA 850 Black
Heat Deflection Temp @ 0.45 MPa	ASTM D648	188 Degrees C
Heat Deflection Temp @ 1.82 MPa	ASTM D648	48 Degrees C
Ultimate Tensile Strength (XY)	ASTM D638	48 MPa / 6,946 psi
Ultimate Tensile Strength (Z)	ASTM D638	42 MPa / 6,051 psi
Tensile Modulus (XY)	ASTM D638	1,475 MPa / 214 kpsi
Tensile Modulus (Z)	ASTM D638	1,427 MPa / 207 kpsi
Elongation at Break (XY)	ASTM D638	51%
Elongation at Break (Z)	ASTM D638	14%
Coefficient Thermal Expansion (0-50C)	ASTM E831	120 um/m-C
Coefficient Thermal Expansion (85-145C)	ASTM E831	342 um/m-C
Volume Resistance	ASTM D257	1.3 x 10^13 ohm-cm
Surface Resistance	ASTM D257	4.9 x 10^12 ohm-cm
Hardness, Shore D	ASTM D2240	74

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 850 Black 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.

Advanced Laser Materials, LLC • Tel: 254-773-3080 • Fax: 254-773-3084
3115 Lucius McCelvey, Temple, TX 76504 • www.alm-llc.com