

MATERIAL SPECIFICATIONS

PA 850-Black

HIGHLIGHTS

- Sleek, melt mixed black surface finish nylon 11
- Parts exhibit excellent mechanical properties
- Easy to process on most laser sintering platforms
- Specially formulated for properties to be achieved using a single scan

APPLICATIONS

- Cleated footwear devices
- Highly functional end use parts
- Automotive housings, enclosures, and connectors
- Ideal for applications requiring rigorous functionality and testing

TYPICAL PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	U.S. STANDARD	METRIC
Colour/Appearance	Visual	Black	Black
Bulk Density	ASTM D1895	0.289 oz/in ³	0.50 g/cm ³
Average Particle Size (D50)	Laser Diffraction	0.002 inches	50 microns
Particle Size Range (D10-D90)	Laser Diffraction	0.001 - 0.003 inches	38 - 78 microns
Sintered Part Density	ASTM D792	0.595 oz/in ³	1.03 g/cm ³
Heat Deflection Temperature	ASTM D648	118°F @ 264 psi	48°C @ 1.82 MPa
Heat Deflection Temperature	ASTM D648	370°F @ 66 psi	188°C @ 0.45 MPa
Ultimate Tensile Strength (XY)	ASTM D638	6,961 psi	48 MPa
Ultimate Tensile Strength (Z)	ASTM D638	6,092 psi	42 MPa
Tensile Modulus (XY)	ASTM D638	213,931 psi	1,475 MPa
Tensile Modulus (Z)	ASTM D638	206,969 psi	1,427 MPa
E longation at Break (XY)	ASTM D638	51%	51%
Flexural Modulus	ASTM D790	190,000 psi	1,310 MPa
Izod Impact Strength (notched)	ASTM D256	0.4 ft-lb/in	74 J/m
Hardness (Shore D)	ASTM D2240	74	74

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 850-Black 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.



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