

MATERIAL SPECIFICATIONS

PA 820-MF Preliminary

HIGHLIGHTS

- Mineral fiber filled nylon 11
- Parts exhibit excellent stiffness and mechanical properties
- Higher temperature tolerance compared to standard nylon 12's
- Easy to process on EOS plastics machines, and machines with a Multizone heating system from Integra

APPLICATIONS

- Automotive engine components
- Mould and tooling applications
- High performance motorsports and outdoor recreation
- Ideal for rugged applications requiring stiffness at sustained elevated temperatures

TYPICAL PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	U.S. STANDARD	METRIC
Colour/Appearance	Visual	Light Grey	Light Grey
Bulk Density	ASTM D1895	0.277 oz/in ³	0.48 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	0.723 oz/in ³	1.25 g/cm ³
Heat Deflection Temperature	ASTM D648	Testing in Progress	Testing in Progress
Heat Deflection Temperature	ASTM D648	Testing in Progress	Testing in Progress
Ultimate Tensile Strength (XY)	ASTM D638	7,832 psi	54 MPa
Tensile Modulus (XY)	ASTM D638	531,128 psi	3,662 MPa
Flexural Modulus (XY)	ASTM D790	253,961 psi	1,751 MPa
Elongation at Break (XY)	ASTM D638	7%	7%
Flexural Strength (XY)	ASTM D790	7,681 psi	53 MPa
Shore Hardness (Shore "D")	ASTM D2240	76	76

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 820-MF 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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