

MATERIAL SPECIFICATIONS

PA 703-CF Preliminary

HIGHLIGHTS

- Carbon fiber filled nylon 6
- 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	Dark Grey	Dark Grey
Bulk Density	ASTM D1895	0.260 oz/in ³	0.45 g/cm ³
Average Particle Size (D50)	Laser Diffraction	0.002 inches	63 microns
Particle Size Range (D10-D90)	Laser Diffraction	0.001 - 0.004 inches	35 - 95 microns
Sintered Part Density	ASTM D792	0.728 oz/in ³	1.26 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	7,725 psi	53 MPa
Tensile Modulus (XY)	ASTM D638	928,000 psi	6,398 MPa
Flexural Modulus (XY)	ASTM D790	982,000 psi	6,771 MPa
Elongation at Break (XY)	ASTM D638	2%	2%
Flexural Strength (XY)	ASTM D790	13,348 psi	92 MPa
Part Moisture Absorption (23°C 50% RH)	ASTM D570	3.3%	3.3%
Powder Moisture Absorption (23°C 50% RH)	ASTM D570	4.1%	4.1%

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 703-CF 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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