

## PRODUCT DESCRIPTION

Our Nylon FR, fire retardant material is ideal for applications where FAR certification is required (meeting FAR 25.853 60 second burn specification) – typical applications would be aircraft, or other commercial transportation interiors, automotive interiors, laboratory ventilation and air handling. Parts will exhibit a smooth surface finish and sharp feature detail. Mechanical properties are similar to our standard Nylon 12.

### MECHANICAL PROPERTIES

The properties of parts manufactured using laser sintering are due to their layer-by-layer production, to some extent direction dependent. This has to be considered with designing the part and defining the build orientation.

	VALUE	UNIT	TEST STANDARD
Heat Deflection Temp @ 0.45 MPa	177	°C	ASTM D648
Heat Deflection Temp @ 1.82 MPa	86	°C	ASTM D648
Ultimate Tensile Strength (XY)	48 / 6962	MPa / psi	ASTM D638
Tensile Modulus (XY)	1700 / 247	MPa / psi	ASTM D638
Flexural Modulus (XY)	1500 / 217	MPa / psi	ASTM D790
Elongation at Break (XY)	24	%	ASTM D638
Izod Impact Strength Unnotched	440	joules/meter	ASTM D256
Izod Impact Strength Notched	220	joules/meter	ASTM D256
Volume Resistivity (22C, 50% RH, 500V)	3.1x10 <sup>14</sup>	ohm-cm	ASTM D257
Surface Resistivity (22C, 50% RH, 500V)	3.0x10 <sup>14</sup>	ohm	ASTM D257
Dielectric Constant (22C, 50% RH, 500V)	2.9	–	ASTM D150

### THERMAL PROPERTIES

	VALUE	UNIT	TEST STANDARD
Melting Point	181	°C	ASTM D3418
Melt Flow Rate (3min 5.0kg, 235C)	50/10	grams/min	ASTM D1238

### OTHER PROPERTIES

	VALUE	UNIT	TEST STANDARD
Specific Gravity	1.02	grams/CC	ASTM D792
Bulk Density	0.46	grams/CC	ASTM D1895
Average Particle Size (D50)	50	microns	Laser Diffraction
Particle Size Range (D10-D90)	30 to 100	microns	Laser Diffraction

### CHARACTERISTIC

#### Processing –

Laser Sintering

#### Delivery Form –

White

#### Chemical Resistance –

General Chemical Resistance

#### Manufacturer –

ALM (PA 606-FR)

Last Change: 2011-09-28

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 606-FR (Nylon12 FR) 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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NWRM011V1-5/2013