

# FR-106

Fire Retardant PA 11 and PA 12



## Typical Physical Properties

PROPERTY	TEST METHOD	ENGLISH	METRIC
Color/Appearance	Visual	White	White
Bulk Density	ASTM D1895	0.26 oz/in <sup>3</sup>	0.45 g/cm <sup>3</sup>
Average Particle Size (D50)	Laser Diffraction	0.004 inches	95 microns
Particle Size Range (D10-D90)	Laser Diffraction	0.002 - 0.006 inches	45 - 151 microns
Sintered Part Density	ASTM D792	0.618 oz/in <sup>3</sup>	1.07 g/cm <sup>3</sup>
Heat Deflection Temperature	ASTM D648	158° F @ 264 psi	70° C @ 1.82 MPa
Heat Deflection Temperature	ASTM D648	367° F @ 66 psi	186° C @ 0.45 MPa
Ultimate Tensile Strength (XY)	ASTM D638	6,700 psi	46 MPa
Tensile Modulus (XY)	ASTM D638	202,000 psi	1,392 MPa
Flexural Modulus (XY)	ASTM D790	195,000 psi	1,345 MPa
Elongation at Break (XY)	ASTM D638	38 %	38 %
Izod Impact Strength - Notched (XY)	ASTM D256	1.3 ft-lb/in	69 J/m
Izod Impact Strength - Unnotched (XY)	ASTM D256	3.2 ft-lb/in	144 J/m
Flammability, 12 Second Vertical Burn	FAR 25.853	Pass	Pass
Flammability, 60 Second Vertical Burn	FAR 25.853	Pass	Pass

The material properties provided herein are for reference purposes only. Actual values may vary significantly as they are dramatically affected by part geometry and process parameters. Material specifications are subject to change without notice.

## ADVANCED LASER MATERIALS - MATERIAL SPECIFICATIONS

### HIGHLIGHTS

- Fire retardant nylon 11
- Only LS material certified to pass the FAR 25.853 60 second vertical burn requirement
- Parts withstand intense functional testing
- Parts are approved for end-use production applications

### APPLICATIONS

- Automotive and aerospace production
- Housing and enclosure assemblies
- Complex thin wall geometries requiring strength and accuracy
- Ideal for low to mid volume production applications

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