

ALM FR 106 Nylon 11 SLS Prototyping Polymer

Category : Polymer , Rapid Prototyping Polymer , Thermoplastic , Nylon , Nylon 11

Material Notes:

This flame retardant rapid prototyping material has additives in the raw material that allows it to pass aeronautic standard FAR25.853 smoke, flame, and toxicity tests. This material is ideal for Aeronautic applications and any other application that needs self extinguishing properties for rapid prototype parts or V0 flammability ratings. Information provided by Axis Prototypes.

Order this product through the following link:

http://www.lookpolymers.com/polymer_ALM-FR-106-Nylon-11-SLS-Prototyping-Polymer.php

Physical Properties	Metric	English	Comments
Bulk Density	0.460 g/cc	0.0166 lb/in ³	ASTM D1895
Density	1.07 g/cc	0.0387 lb/in ³	Sintered Part; ASTM D792
Particle Size	95 µm	95 µm	Average D50; Laser Diffraction
	45 - 151 µm	45 - 151 µm	Range (D10 to D90); Laser Diffraction
Melt Flow	9.0 g/10 min	9.0 g/10 min	ASTM D1238
	@Load 5.00 kg, Temperature 235 °C	@Load 11.0 lb, Temperature 455 °F	

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	39.0 MPa	5660 psi	Z direction; ASTM D638
	46.0 MPa	6670 psi	XY direction; ASTM D638
Tensile Strength, Yield	21.0 MPa	3050 psi	Z direction; ASTM D638
	26.0 MPa	3770 psi	XY direction; ASTM D638
Elongation at Break	21 %	21 %	Z direction; ASTM D638
	38 %	38 %	XY direction; ASTM D638
Flexural Modulus	1.345 GPa	195.1 ksi	ASTM D790

Thermal Properties	Metric	English	Comments
Melting Point	189 °C	372 °F	ASTM D3418
Deflection Temperature at 0.46 MPa (66 psi)	186 °C	367 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	70.0 °C	158 °F	ASTM D648

Descriptive Properties	Value	Comments
Color	White	
Flammability, 12 Sec. Burn	Pass	FAR 25.853
Flammability, 60 Sec. Burn	Pass	FAR 25.853
Smoke Density	Pass	

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