

SLS MATERIAL SPECIFICATIONS

Nylon 12 AF

Highlights

- Aluminum filled composite polyamide SLS material offers a grey metallic appearance.
- Provides improved tensile modulus and flex modulus (stronger & stiffer) parts.
- Offers good wear resistance and good detail reproduction features.
- Particularly suitable for applications which require a superior surface finish.

Applications

- Aerospace, racing, motorsports, automotive, design, packaging, electronics, consumer products (household appliances), industrial, lighting systems, and OEM products.
- Functional components
- Intake manifolds (aspiration and cooling ducts, air intake)
- Wind tunnel tests parts.
- Illustrative models with metallic appearance.
- Excellent for jig and fixture tooling.

TYPICAL PHYSICAL PROPERTIES

Property	Test Method	English	Metric
Color/Appearance	Visual	Grey Metallic	Grey Metallic
Density	DIN 53466	0.049 lb/in ³	1.36 g/cm ³
Elongation at Break	ASTM D638	2.5 - 4.5%	2.5 - 4.5%
Flexural Modulus	ASTM D790	413,200 - 456,800 psi	2,850 - 3,150 MPa
Heat Deflection Temp @ 264 psi	ASTM D648	232°F	111°C
Heat Deflection Temp @ 66 psi	ASTM D648	350 - 356°F	177 - 180°C
Izod Impact Strength (method A, notched)	ASTM D256	—	—
Izod Impact Strength (un-notched)	ASTM D256	—	—
Tensile Modulus	ASTM D638	529,390 - 572,900 psi	3,650 - 3,950 MPa
Tensile Strength	ASTM D638	6,240 - 7,110 psi	43 - 49 MPa
As Processed Surface Finish	Up-facing surface finish	300 - 400 RA	7.6 - 10.2 μm
Volume Resistivity (74°F, 35.4% RH)	—	—	1.1E+03 to 3.8E+03 ohms-cm
Surface Resistance (74°F, 35.4% RH)	—	—	3.1E+10 to 3.2E+10 ohms-cm

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 with out notice.