

SLS MATERIAL SPECIFICATIONS

Nylon 12 GF

Highlights

- Excellent mechanical stiffness
- Elevated temperature resistance
- Dimensionally stable

Applications

- Housings and enclosures
- Consumer sporting goods
- Complex prototype plastic parts
- Form, fit, or functional prototypes
- Parts requiring stiffness

TYPICAL PHYSICAL PROPERTIES

Property	Test Method	English	Metric
Color/Appearance	Visual	Light Grey	Light Grey
Density	DIN 53466	0.050 lb/in ³	1.4 g/cm ³
Elongation at Break	ASTM D638	1.4 - 6%	1.4 - 6%
Flexural Modulus	ASTM D790	320,000 - 450,000 psi	2,200 - 3,100 MPa
Heat Deflection Temperature @ 264 psi	ASTM D648	273°F	134°C
Heat Deflection Temperature @ 66 psi	ASTM D648	354°F	179°C
Izod Impact Strength (method A, notched)	ASTM D256	0.8 - 3.75 ft-lb/in	40 - 200 J/m
Izod Impact Strength (un-notched)	ASTM D256	2.3 - 2.8 ft-lb/in	120 - 150 J/m
Tensile Modulus	ASTM D638	480,000 - 590,000 psi	4,070 - 3,300 MPa
Tensile Strength	ASTM D638	3,900 - 6,500 psi	27 - 45 MPa
Coefficient of Thermal Expansion: 77°F-212°F (25-100°C)	ASTM E831	61.4 10 ⁻⁶ µin/in°F	110.5 10 ⁻⁶ µm/m°C
Coefficient of Thermal Expansion: 212°F-338°F (100-170°C)	ASTM E831	87.7 10 ⁻⁶ µin/in°F	157.8 10 ⁻⁶ µm/m°C
Volume Resistivity (22°C, 50%RH, 500V)	ASTM D257-93	2.0 x 10 ¹⁴ ohm x cm	2.0 x 10 ¹⁴ ohm x cm
Surface Finish	Up-facing surface finish	6.5 µm RA	6.5 µm RA

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.