

## Proto3000 Duraform® GF Selective Laser Sintering (SLS®) Prototyping Polymer

Category : Polymer , Rapid Prototyping Polymer , Thermoplastic , Nylon

### Material Notes:

Description: Glass-filled polyamide (nylon) material for real-world physical testing and functional use  
 Features: Excellent mechanical stiffness  
 Elevated temperature resistance  
 Dimensionally stable  
 Easy-to-process  
 Nice surface finish  
 Benefits: Excels in load bearing applications at higher temperatures  
 Build prototypes and end-use parts without tooling  
 Create accurate and repeatable parts as demanded by manufacturers  
 Machinable and paintable for demonstration parts  
 Improved isotropic shrinkage due to glass filler  
 Applications: Housings and enclosures  
 Consumer sporting goods  
 Appropriate for low- to mid-volume rapid manufacturing  
 Parts requiring machining or joining with adhesives  
 Complex production and prototype plastic parts  
 Form, fit, or functional prototypes  
 Parts requiring stiffness  
 Thermally stressed parts  
 Information provided by Proto3000 for their prototyping engineering services.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Proto3000-Duraform-GF-Selective-Laser-Sintering-SLS-Prototyping-Polymer.php](http://www.lookpolymers.com/polymer_Proto3000-Duraform-GF-Selective-Laser-Sintering-SLS-Prototyping-Polymer.php)

Physical Properties	Metric	English	Comments
Density	1.49 g/cc	0.0538 lb/in <sup>3</sup>	ASTM D792
Water Absorption	22 %	22 %	ASTM D570
	@Time 86400 sec	@Time 24.0 hour	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	77	77	ASTM D2240
Tensile Strength, Ultimate	26.0 MPa	3770 psi	ASTM D638
Tensile Strength, Yield	27.0 MPa	3920 psi	ASTM D638
Elongation at Break	1.4 %	1.4 %	ASTM D638
Elongation at Yield	1.4 %	1.4 %	ASTM D638
Tensile Modulus	4.068 GPa	590.0 ksi	ASTM D638
Flexural Strength	37.0 MPa	5370 psi	ASTM D790
Flexural Modulus	3.106 GPa	450.5 ksi	ASTM D790
Izod Impact, Notched	0.410 J/cm	0.768 ft-lb/in	ASTM D256
Izod Impact, Unnotched	1.23 J/cm	2.30 ft-lb/in	ASTM D256
Gardner Impact	4.50 J	3.32 ft-lb	ASTM D5420

Thermal Properties	Metric	English	Comments
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Thermal Properties	82.6 $\mu\text{m}/\text{m}\cdot\text{°C}$ Metric	45.9 $\mu\text{in}/\text{in}\cdot\text{°F}$ English	Comments
CTE, linear	@Temperature 0.000 - 50.0 °C	@Temperature 32.0 - 122 °F	ASTM E631
	179.2 $\mu\text{m}/\text{m}\cdot\text{°C}$	99.56 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 85.0 - 145 °C	@Temperature 185 - 293 °F	ASTM E831
Specific Heat Capacity	1.09 J/g·°C	0.261 BTU/lb·°F	ASTM E1269
Thermal Conductivity	0.470 W/m-K	3.26 BTU-in/hr-ft <sup>2</sup> -°F	ASTM E1225
Deflection Temperature at 0.46 MPa (66 psi)	179 °C	354 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	134 °C	273 °F	ASTM D648
Flammability, UL94	HB	HB	

Electrical Properties	Metric	English	Comments
Volume Resistivity	3.20e+11 ohm-cm	3.20e+11 ohm-cm	ASTM D257
Surface Resistance	3.20e+11 ohm	3.20e+11 ohm	ASTM D257
	6.27	6.27	
Dielectric Constant	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	ASTM D150
Dielectric Strength	8.70 kV/mm	221 kV/in	ASTM D149
	0.177	0.177	
Dissipation Factor	@Frequency 1000 Hz	@Frequency 1000 Hz	ASTM D150

## Contact Songhan Plastic Technology Co.,Ltd.

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