

Proto3000 Accura® Bluestone™ Stereolithography (SLA) Prototyping Polymer

Category : Polymer , Rapid Prototyping Polymer

Material Notes:

Description: A high stiffness engineered nanocomposite that opens new applications for stereolithography users. **Features:** Exceptional stiffness High temperature resistance Excellent accuracy High humidity resistance Non-settling formulation Fully developed and tested build styles **Benefits:** Bluestone parts resist deformation even under heavy loads Resists temperatures up to 250 °C, making it suitable for tooling or other demanding applications Part retain their properties over time No expensive mixing equipment required Consistent mechanical properties, even on long builds **Improves/enhance demanding applications:** wind tunnel, soft tooling, injection mold tooling **Maximize reliability with no user R&D** **Applications:** Wind-tunnel testing for the motorsports and aerospace industries Production of CMM/inspection and assembly jigs and fixtures Lighting design and other applications where heat-generation from electrical components may be a factor Covers and enclosures of electrical and mechanical components Water-handling products, such as pump and impeller design or other components Automotive "under-the-hood" applications Housings and enclosures that require high stiffness and rigidity, such as those for business machines Electronic applications, such as insulating components, connectors, adaptor fittings, bases, sockets, and areas where ceramics might be used Information provided by Proto3000 for their prototyping engineering services.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Proto3000-Accura-Bluestone-Stereolithography-SLA-Prototyping-Polymer.php

Physical Properties	Metric	English	Comments
Density	1.70 g/cc	0.0614 lb/in ³	Liquid
	1.78 g/cc	0.0643 lb/in ³	Solid
Viscosity	1200 - 1800 cP	1200 - 1800 cP	
	@Temperature 30.0 °C	@Temperature 86.0 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	92	92	
Tensile Strength at Break	66.0 - 68.0 MPa	9570 - 9860 psi	ASTM D638
Elongation at Break	1.4 - 2.4 %	1.4 - 2.4 %	ASTM D638
Tensile Modulus	7.60 - 11.7 GPa	1100 - 1700 ksi	ASTM D638
Flexural Strength	124 - 154 MPa	18000 - 22300 psi	ASTM D790
Flexural Modulus	8.30 - 9.80 GPa	1200 - 1420 ksi	ASTM D790
Izod Impact, Notched	0.130 - 0.170 J/cm	0.244 - 0.318 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	33.0 - 44.0 µm/m-°C	18.3 - 24.4 µin/in-°F	T<Tg; ASTM E831-93

Thermal Properties	@Temperature 0.000 - Metric 20.0 °C	@Temperature 32.0 - English 89.6 °F	Comments
	81.0 - 98.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	45.0 - 54.4 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	T>Tg; ASTM E831-93
	@Temperature 90.0 - 150 °C	@Temperature 194 - 302 °F	
Deflection Temperature at 0.46 MPa (66 psi)	65.0 - 66.0 °C	149 - 151 °F	ASTM D648
	267 - 284 °C	513 - 543 °F	with 120°C Thermal Postcure; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	65.0 °C	149 °F	ASTM D648
Glass Transition Temp, Tg	71.0 - 83.0 °C	160 - 181 °F	DMA, E"

Descriptive Properties	Value	Comments
Appearance	Opaque Blue	
Critical Exposure (Ec)	6.9 mJ/cm ²	
Penetration Depth (Dp)	4.1 mils	

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