

Proto3000 Accura® 45HC Plastic Stereolithography (SLA) Prototyping Polymer

Category : Polymer , Rapid Prototyping Polymer

Material Notes:

A high speed material, with excellent thermal and moisture resistance for producing functional prototypes in 3D Systems' SLA 250 systems. Benefits: Fast build speed: Provides build speeds that are significantly faster than other resin - up to two times the speed of SL 5170. Fast build time results in better utilization of older SL equipment. Build larger parts than were previously practical with other materials. Faster delivery to end customers. High temperature resistance combined with good durability: Suitable for use at temperatures in excess of 100 °C (212 °F). Durable enough for limited snap-fit testing. Nylon 6:6 plastic properties: Suitable for thin-walled parts that require the stiffness of high performance engineering plastics. Parts retain both accuracy and stiffness even in wet and humid environments: Longer part life with out significant degradation. Parts that can be used in wet applications such as consumer appliance design, with out excessive softening (or swelling). Fully developed and tested build styles. Maximize reliability with no user R&D. Applications: High temperature testing: - Automotive "under-the-hood" parts- Lighting components and accessories- HVAC components. Thin-wall enclosures that require high stiffness and durability. Parts involved in water-base or high humidity testing- Consumer appliance. Form, fit and function testing. General purpose prototyping. Investment casting using QuickCast™ build style. Rigid snap-fit assemblies. Information provided by Proto3000 for their prototyping engineering services.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Proto3000-Accura-45HC-Plastic-Stereolithography-SLA-Prototyping-Polymer.php

Physical Properties	Metric	English	Comments
Density	1.20 g/cc	0.0434 lb/in ³	Solid
	1.41 g/cc	0.0509 lb/in ³	Liquid
Viscosity	475 cP	475 cP	
	@Temperature 30.0 °C	@Temperature 86.0 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	87	87	
Tensile Strength at Break	59.0 - 61.0 MPa	8560 - 8850 psi	ASTM D638
Elongation at Break	4.8 - 5.4 %	4.8 - 5.4 %	ASTM D638
Tensile Modulus	2.76 - 2.96 GPa	400 - 429 ksi	ASTM D638
Flexural Strength	94.0 - 101 MPa	13600 - 14600 psi	ASTM D790
Flexural Modulus	2.76 - 2.90 GPa	400 - 421 ksi	ASTM D790
Izod Impact, Notched	0.110 - 0.160 J/cm	0.206 - 0.300 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
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Thermal Properties CTE, linear	72.0 µm/m-°C Metric	40.0 µin/in-°F English	Comments T<Tg, ASTM E831-93
	@Temperature 0.000 - 20.0 °C	@Temperature 32.0 - 68.0 °F	
	160 µm/m-°C	88.9 µin/in-°F	
	@Temperature 90.0 - 150 °C	@Temperature 194 - 302 °F	T>Tg; ASTM E831-93
Deflection Temperature at 0.46 MPa (66 psi)	58.0 °C	136 °F	ASTM D648
	103 °C	217 °F	with 160°C Thermal Postcure; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	51.0 °C	124 °F	ASTM D648
Glass Transition Temp, Tg	66.0 - 87.0 °C	151 - 189 °F	DMA, E"

Descriptive Properties	Value	Comments
Appearance	Clear Amber	
Critical Exposure (Ec)	7.4 mJ/cm ²	
Penetration Depth (Dp)	5.1 mils	

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