

DSM Somos® NeXT Stereolithography (SLA) Prototyping Polymer

Category : Polymer , Rapid Prototyping Polymer

Material Notes:

Somos® NeXT combines stiffness and impact resistance which brings it close the performance of injection molded thermoplastics. It produces finished parts with tight tolerances and detailed features. Applications include short run manufacturing, functional end use performance prototypes such as snap-fit designs, impellers, duct work, connectors, electronic covers, automotive housings, dashboard assemblies, packaging and sporting goods. Property data for post-cured polymer. Information provided by Axis Prototypes.

Order this product through the following link:

http://www.lookpolymers.com/polymer_DSM-Somos-NeXT-Stereolithography-SLA-Prototyping-Polymer.php

Physical Properties	Metric	English	Comments
Density	1.17 g/cc	0.0423 lb/in ³	Liquid
Water Absorption	0.39 - 0.41 %	0.39 - 0.41 %	ASTM D570-98
Viscosity	1000 cP @Temperature 30.0 °C	1000 cP @Temperature 86.0 °F	Liquid

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	82	82	ASTM D2240
Tensile Strength at Break	31.0 - 34.6 MPa	4500 - 5020 psi	ASTM D638M
Tensile Strength, Yield	41.1 - 43.3 MPa	5960 - 6280 psi	ASTM D638M
Elongation at Break	8.0 - 10 %	8.0 - 10 %	ASTM D638M
Elongation at Yield	3.0 %	3.0 %	ASTM D638M
Tensile Modulus	2.37 - 2.49 GPa	344 - 361 ksi	ASTM D638M
Flexural Strength	67.8 - 70.8 MPa	9830 - 10300 psi	ASTM D790M
Flexural Modulus	2.415 - 2.525 GPa	350.3 - 366.2 ksi	ASTM D790M
Poissons Ratio	0.42 - 0.44	0.42 - 0.44	ASTM D638M
Shear Modulus	0.875 GPa	127 ksi	calculated
Izod Impact, Notched	0.470 - 0.520 J/cm	0.881 - 0.974 ft-lb/in	ASTM D256A

Thermal Properties	Metric	English	Comments
CTE, linear	71.5 - 74.3 µm/m-°C @Temperature -40.0 - 0.000 °C	39.7 - 41.3 µin/in-°F @Temperature -40.0 - 32.0 °F	ASTM E831-05

Thermal Properties	Metric	English	Comments
	114.5 $\mu\text{m/m}^\circ\text{C}$	63.61 $\mu\text{in/in}^\circ\text{F}$	
	@Temperature 0.000 - 50.0 $^\circ\text{C}$	@Temperature 32.0 - 122 $^\circ\text{F}$	ASTM E831-05
	168.6 - 175.4 $\mu\text{m/m}^\circ\text{C}$	93.67 - 97.44 $\mu\text{in/in}^\circ\text{F}$	
	@Temperature 50.0 - 100 $^\circ\text{C}$	@Temperature 122 - 212 $^\circ\text{F}$	ASTM E831-05
	168.8 - 176.4 $\mu\text{m/m}^\circ\text{C}$	93.78 - 98.00 $\mu\text{in/in}^\circ\text{F}$	
	@Temperature 100 - 150 $^\circ\text{C}$	@Temperature 212 - 302 $^\circ\text{F}$	ASTM E831-05
Deflection Temperature at 0.46 MPa (66 psi)	55.0 - 57.0 $^\circ\text{C}$	131 - 135 $^\circ\text{F}$	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	48.0 - 51.0 $^\circ\text{C}$	118 - 124 $^\circ\text{F}$	ASTM D648
Glass Transition Temp, Tg	43.0 - 47.0 $^\circ\text{C}$	109 - 117 $^\circ\text{F}$	ASTM E1545-00

Electrical Properties	Metric	English	Comments
	3.62	3.62	
Dielectric Constant	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	ASTM D150-98
	3.97	3.97	
	@Frequency 1000 Hz	@Frequency 1000 Hz	ASTM D150-98
	4.65	4.65	
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	ASTM D150-98
Dielectric Strength	14.9 - 15.5 kV/mm	378 - 394 kV/in	ASTM D149-97a

Descriptive Properties	Value	Comments
Color	White	

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