Product Data

Somos® NeXt

Description

Somos® NeXt is an extremely durable stereolithography (SL) resin that produces very accurate parts with high feature detail. Based on the Somos® DMX technology, Somos® NeXt is a next generation of material that facilitates the production of tough, complex parts with improved moisture resistance and greater thermal properties.

Applications

Somos® NeXt produces parts that are much more resistant to breakage than parts made with standard SL resins. It is ideal for use in functional testing applications as well as low-volume manufacturing applications where toughness is required. Market segments include aerospace, automotive, medical, consumer products and electronics.

This resin is ideal for functional end-use performance prototypes such as: snap-fit designs, impellers, duct work, connectors and electronic covers, automotive housings and dashboard assemblies, packaging and sporting goods.

TECHNICAL DATA - LIQUID PROPERTIES	
Appearance	White
Viscosity	~1,000 cps @ 30°C
Density	~1.17 g/cm^3 @ 25°C

TECHNICAL DATA - OPTICAL PROPERTIES		
E_C	12.0 mJ/cm^2	[critical exposure]
D_P	5.80 mils	[slope of cure-depth vs. ln (E) curve]
E_{10}	67.0 mJ/cm^2	[exposure that gives 0.254 mm (.010 inch) thickness]

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TECHNICAL DATA			
Mechanical Properties		**Somos® NeXt** Postcure	
ASTM Method	Property Description	Metric	Imperial
D638M	Tensile Modulus	2,370 - 2,490 MPa	343 - 361 ksi
D638M	Tensile Strength at Yield	41.1 - 43.3 MPa	5.9 - 6.3 ksi
D638M	Tensile Strength at Break	31.0 - 34.6 MPa	4.5 - 5.0 ksi
D638M	Elongation at Break	8 - 10%	8 - 10%
D638M	Elongation at Yield	3%	3%
D638M	Poisson's Ratio	0.42 - 0.44	0.42 - 0.44
D790M	Flexural Strength	67.8 - 70.8 MPa	9.8 - 10.3 ksi
D2240	Flexural Modulus	2,415 - 2,525 MPa	350 - 366 ksi
D256A	Izod Impact (Notched)	0.47 - 0.52 J/cm	0.88 - 0.97 ft-lb/in
D2240	Hardness (Shore D)	82	82
D570-98	Water Absorption	0.39 - 0.41%	0.39 - 0.41%

TECHNICAL DATA			
Thermal/Electrical Properties		**Somos® NeXt** Postcure	
ASTM Method	Property Description	Metric	Imperial
E831-05	C.T.E. -40 - 0°C (-40 - 32°F)	71.5 - 74.3 µm/m°C	39.7 - 41.3 µin/in°F
E831-05	C.T.E. 0 - 50°C (32 - 122°F)	106.5 - 114.5 µm/m°C	59.2 - 63.6 µin/in°F
E831-05	C.T.E. 50 - 100°C (122 - 212°F)	168.6 - 175.4 µm/m°C	93.7 - 97.4 µin/in°F
E831-05	C.T.E. 100 - 150°C (212 - 302°F)	168.8 - 176.4 µm/m°C	93.8 - 98.0 µin/in°F
D150-98	Dielectric Constant 60 Hz	4.65	4.65
D150-98	Dielectric Constant 1 KHz	3.97	3.97
D150-98	Dielectric Constant 1 MHz	3.62	3.62
D149-97a	Dielectric Strength	14.9 - 15.5 kV/mm	379 - 395 V/mil
E1545-00	Tg	43 - 47°C	109 - 116°F
D648	HDT @ 0.46 MPa (66 psi)	55 - 57°C	131 - 134°F
D648	HDT @ 1.81 MPa (264 psi)	48 - 51°C	118 - 124°F

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