

Product Data

DMX-SL™ 100

a DSM Product

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Product Description

DSM Somos® DMX-SL™ 100 is an extremely durable stereolithography (SL) resin that produces very accurate parts with high feature detail. Based on a new chemistry platform that gives the material high impact resistance similar to thermoplastics, DMX-SL is a breakthrough in stereolithography resin technology. It facilitates the production of tough, complex parts can be built with a superb surface finish.

Applications

DMX-SL 100 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, consumer products and electronics.

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

Technical Data: Liquid Properties

Appearance	Off white
Viscosity	~1,500 cps @ 30°C
Density	1.17 g/cm³ @ 25°C

Technical Data: Optical Properties

E _c	15.0 mJ/cm²	[critical exposure]
D _p	5.50 mils	[slope of cure-depth vs. ln(E) curve]
E ₁₀	92 mJ/cm²	[exposure that gives 0.254 mm (.010 inch) thickness]

(continued)

For technical service, please visit: <http://www.dsmsomos.com>



DSM Somos® DMX-SL™ 100 is a breakthrough in stereolithography SL resin technology: an ultra-high-impact material that produces very accurate parts with high feature detail.

Key Product Benefits:

- SL accuracy, sintered-like durability
- Sintering/FDM substitute
- Stiff & tough
- High feature detail

Rev Date: 10/10

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Technical Data: Mechanical Properties

		DMX-SL™ 100 UV Postcure	
ASTM Method	Property Description	Metric	Imperial
D638M	Tensile Modulus	2,260 – 2,560 MPa	327 – 371 ksi
D638M	Tensile Strength at Break	29.7 – 32.1 MPa	4.3 – 4.7 ksi
D638M	Tensile Strength at Yield	44.1 – 45.5 MPa	6.4 – 6.6 ksi
D638M	Elongation at Break	12 – 28%	12 – 28%
D638M	Elongation at Yield	4%	4%
D638M	Poisson's Ratio	0.40 – 0.42	0.40 – 0.42
D790M	Flexural Strength	68.0 MPa	9.8 – 9.9 ksi
D790M	Flexural Modulus	2,280 – 2,300 MPa	331 – 333 ksi
D2240	Hardness (Shore D)	80	80
D256A	Izod Impact (Notched)	0.61 – 0.71 J/cm	1.15 – 1.32 ft-lb/in
D624	Tear Strength	1.1 SI	1.1 SI
D570-98	Water Absorption	0.82 – 0.85%	0.82 – 0.85%

Technical Data: Thermal/Electrical Properties

		DMX-SL™ 100 UV Postcure	
E831-05	C.T.E. -40°C - 0°C (-40°F – 32°F)	83.8 – 85.2 $\mu\text{m}/\text{m}^\circ\text{C}$	46.6 – 47.3 $\mu\text{in}/\text{in}^\circ\text{F}$
E831-05	C.T.E. 0°C - 50°C (32°F – 122°F)	124.0 – 134.1 $\mu\text{m}/\text{m}^\circ\text{C}$	68.9 – 74.5 $\mu\text{in}/\text{in}^\circ\text{F}$
E831-05	C.T.E. 50°C - 100°C (122°F – 212°F)	181.2 – 185.3 $\mu\text{m}/\text{m}^\circ\text{C}$	100.7 – 102.9 $\mu\text{in}/\text{in}^\circ\text{F}$
E831-05	C.T.E. 100°C - 150°C (212°F – 302°F)	178.4 – 179.9 $\mu\text{m}/\text{m}^\circ\text{C}$	99.1 – 99.9 $\mu\text{in}/\text{in}^\circ\text{F}$
D150-98	Dielectric Constant 60 Hz	4.3	4.3
D150-98	Dielectric Constant 1KHz	3.9	3.9
D150-98	Dielectric Constant 1MHz	3.7	3.7
D149-97a	Dielectric Strength	14.1 – 15.8 kV/mm	357 – 400 V/mil
E1545-00	Tg	37°C	99°F
D648	HDT @ 0.46 MPa (66 psi)	44°C	112°F
D648	HDT @ 1.81 MPa (264 psi)	41°C	106°F

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