

a DSM Product

Product Description

Somos® NeXt is an extremely durable stereolithography (SL) resin that produces very accurate parts with high feature detail. Based on the DMX-SL 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, 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 | 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] |



Somos® NeXt is a next generation of SL resin technology: creates durable, accurate parts with high feature detail and excellent finishing characteristics, combined with exceptional moisture resistance and improved thermal properties.

Key Product Benefits:

- SL accuracy, sintered-like durability
- High feature detail
- Stiff & durable
- Outstanding moisture resistance
- Easy finishing and processing

(continued)

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

Rev Date: 04/10

Somos® NeXt

Technical Data: Mechanical Properties

| | | Somos® NeXt Postcure | |
|---------|---------------------------|-------------------------|----------------------|
| | | Metric | Imperial |
| D638M | Tensile Modulus | 2,370 – 2,490 MPa | 343 – 361 ksi |
| D638M | Tensile Strength at Break | 31.0 – 34.6 MPa | 4.5 – 5.0 ksi |
| D638M | Tensile Strength at Yield | 41.1 – 43.3 MPa | 5.9 – 6.3 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 |
| D790M | Flexural Modulus | 2,415 – 2,525 MPa | 350 – 366 ksi |
| D2240 | Hardness (Shore D) | 82 | 82 |
| D256A | Izod Impact (Notched) | 0.47 – 0.52 J/cm | 0.88 – 0.97 ft-lb/in |
| D570-98 | Water Absorption | 0.39 – 0.41% | 0.39 – 0.41% |

Technical Data: Thermal/Electrical Properties

| | | Somos® NeXt Postcure | |
|----------|--------------------------------------|--|--|
| | | Metric | Imperial |
| E831-05 | C.T.E. -40°C - 0°C (-40°F – 32°F) | 71.5 – 74.3 $\mu\text{m}/\text{m}^\circ\text{C}$ | 39.7 – 41.3 $\mu\text{in}/\text{in}^\circ\text{F}$ |
| E831-05 | C.T.E. 0°C - 50°C (32°F – 122°F) | 106.5 – 114.5 $\mu\text{m}/\text{m}^\circ\text{C}$ | 59.2 – 63.6 $\mu\text{in}/\text{in}^\circ\text{F}$ |
| E831-05 | C.T.E. 50°C - 100°C (122°F – 212°F) | 168.6 – 175.4 $\mu\text{m}/\text{m}^\circ\text{C}$ | 93.7 – 97.4 $\mu\text{in}/\text{in}^\circ\text{F}$ |
| E831-05 | C.T.E. 100°C - 150°C (212°F – 302°F) | 168.8 – 176.4 $\mu\text{m}/\text{m}^\circ\text{C}$ | 93.8 – 98.0 $\mu\text{in}/\text{in}^\circ\text{F}$ |
| D150-98 | Dielectric Constant 60 Hz | 4.65 | 4.65 |
| D150-98 | Dielectric Constant 1KHz | 3.97 | 3.97 |
| D150-98 | Dielectric Constant 1MHz | 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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www.dsmsomos.com

DSM 

DSM Somos®
1122 St. Charles Street
Elgin, Illinois 60120 USA
Tel: +1-847-697-0400
Fax: +1-847-468-7785

DSM Desotech bv
3150 AB Hoek van Holland
The Netherlands
Tel: +31-1743-15391
Fax: +31-1743-15530

DSM Desotech-China
476 Li Bing Road
Zhangjiang Hi-Tech Park,
Pudong New Area
Shanghai 201203, China
Tel: +(86) 21-6141 8064
Fax: +(86) 21-6141 8088

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