

DMX-SL™ 100

Extremely tough/durable SL resin for stereolithography

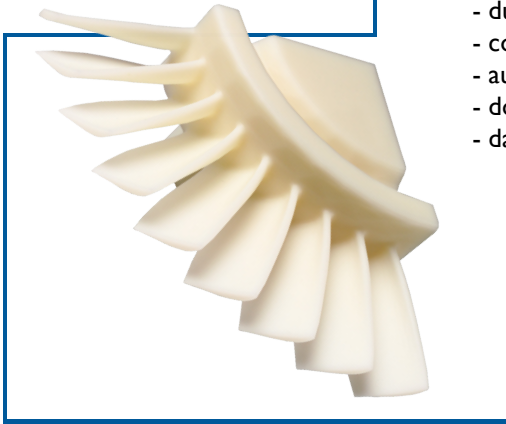
Description

DSM Somos® DMX-SL 100 is an extremely durable SL resin that produces very accurate parts with high feature detail. Based on a whole new chemistry platform that gives the material high impact resistance similar to thermoplastics, it is a breakthrough in Stereolithography resin technology. Tough, complex parts can be built with a superb surface finish compared with competing technologies.

Application

This product produces parts that are much more resistant to breakage than parts made with standard SL resin, and 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 firms. Applications include:

- living hinge and snap fit designs
- impellers
- duct work
- connectors
- automotive covers such as fenders
- door pieces
- dashboards



Container above made with DMX-SL 100.

Physical Properties –

Appearance Natural White
 Viscosity 1200 - 1400 cps at 30°C
 Density

Optical Properties at 355 nm

E_c 11.3 mJ/cm²
 [critical exposure]
 D_p 0.135 mm (~0.0053 inch)
 [slope of cure-depth vs. ln(E) curve]
 E_{10} 74.6 mJ/cm²
 [exposure that gives 0.254 mm (.010 inch) thickness]

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Preliminary Product Data Sheet

Mechanical Properties (Metric)

ASTM Method	Description	DMX-SL 100
D638M	Tensile Strength	40 - 43 MPa
	Elongation at Break	12 - 20 %
	Tensile Modulus	2,000 - 2,400 MPa
D790M	Flexural Modulus	2,100 - 2,300 MPa
D256A	Izod Impact-Notched	0.65 - 0.80 J/cm

Thermal & Electrical Properties (Metric)

ASTM Method	Description	DMX-SL 100
D648-98c	HDT @ 0.46 MPa	45 °C

T_g = Glass Transition Temperature
HDT = Deflection Temperature

Mechanical Properties (Imperial)

ASTM Method	Description	DMX-SL 100
D638M	Tensile Strength	5.8 - 6.2 ksi
	Elongation at Break	12 - 20 %
	Tensile Modulus	290 - 350 ksi
D790M	Flexural Modulus	305 - 335 ksi
D256A	Izod Impact-Notched	1.2 - 1.5 ft lb/in

Thermal & Electrical Properties (Imperial)

ASTM Method	Description	DMX-SL 100
D648-98c	HDT @ 66 psi	113 °F

T_g = Glass Transition Temperature
HDT = Deflection Temperature