

DSM Somos® 9120

a DSM Product

Description

DSM Somos® 9120 is a liquid photopolymer that produces robust, functional and accurate parts using stereolithography machines. The material offers superior chemical resistance and a wide processing latitude. With mechanical properties that mimic many engineering plastics, parts created from Somos 9120 exhibit superior fatigue properties, strong memory retention and high quality up-facing and down-facing surfaces. Somos 9120 also offers a good balance of properties between rigidity and functionality.

Application

This photopolymer is used in solid imaging processes, like stereolithography, to build three-dimensional parts. This material is also useful in creating parts for applications where durability and robustness are critical requirements (e.g., automobile components, electronic housings, medical products, large panels and snap-fit parts).

Technical Data: Liquid Properties

Appearance	Off White
Viscosity	~450 cps @ 30° C
Density	1.13 g/cm ³ @ 25° C

Technical Data: Optical Properties

E _c	10.9 mJ/cm ²	[critical exposure]
D _p	5.60 mils	[slope of cure-depth vs. ln(E) curve]
E ₁₀	65 mJ/cm ²	[exposure that gives 0.254 mm (.010 inch) thickness]



DSM Somos® 9120 is a liquid photopolymer that produces robust, functional and accurate parts using stereolithography machines.

Key Product Benefits:

- Functional parts
- Durable parts
- Extremely accurate

(continued)

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

Rev Date: 10/09

Somos® 9120

Technical Data: Mechanical Properties

Technical Data: Mechanical Properties		Somos® 9120 UV Postcure	Polypropylene*
ASTM Method	Property Description	Metric	Metric
D638M	Tensile Strength	30 – 32 MPa	31 – 37.2 MPa
D638M	Elongation at Yield	15 – 25%	7 – 13 %
D638M	Young's Modulus	1,227 – 1,462 MPa	1,138 – 1,551 MPa
D790M	Flexural Strength	44 – 46 MPa	41 – 55 MPa
D790M	Flexural Modulus	1,310 – 1455 MPa	1,172 – 1,724 MPa
D2240	Hardness (Shore D)	80 – 82	N/A
D256A	Izod Impact (notched)	48 – 53 J/m	21 – 75 J/m
D570-98	Deflection Temperature	52 – 61 °C	107 – 121°C

*Unfilled polypropylene (Reference: Modern Plastics Encyclopedia, 1997)

Technical Data: Mechanical Properties

Technical Data: Mechanical Properties		Somos® 9120 UV Postcure	Polypropylene*
ASTM Method	Property Description	Imperial	Imperial
D638M	Tensile Strength	4.4 – 4.7 ksi	4.5 – 5.4 ksi
D638M	Elongation at Yield	15 - 21 %	7 – 13%
D638M	Young's Modulus	178 – 212 ksi	165 – 225 ksi
D790M	Flexural Strength	6.0 – 6.7 ksi	6.0 – 8.0 ksi
D790M	Flexural Modulus	190 – 210 ksi	170,000 – 250,000 psi
D2240	Hardness (Shore D)	80 – 82	N/A
D256A	Izod Impact (notched)	0.9 – 1.0 ft-lb/in	0.4 – 1.4 ft-lb/in
D570-98	Deflection Temperature	126 – 142°F	225 – 250 °F

*Unfilled polypropylene (Reference: Modern Plastics Encyclopedia, 1997)

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