

# Product Data

# Somos<sup>®</sup> 9110

## Description

DSM's Somos<sup>®</sup> 9110 is a liquid photopolymer that produces robust, functional and accurate parts using stereolithography machines. The material offers superior chemical resistance, a wide processing latitude and excellent tolerance to a broad range of temperatures and humidity during and after the build. Parts created from Somos<sup>®</sup> 9110 exhibit superior fatigue properties, strong memory retention and high quality up-facing and down-facing surfaces. Somos<sup>®</sup> 9110 also offers a good balance of properties between rigidity and functionality. The resulting part properties are ideal for master patterns in rubber molding applications.

## Applications

Somos<sup>®</sup> 9110 photopolymer is used in the solid imaging process to build three-dimensional parts. 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	Transparent amber
Viscosity	~230 cps @ 30°C
Density	~1.13 g/cm <sup>3</sup> @ 25°C

TECHNICAL DATA - OPTICAL PROPERTIES		
E <sub>c</sub>	8.0 mJ/cm <sup>2</sup>	[critical exposure]
D <sub>p</sub>	5.2 mils	[slope of cure-depth vs. ln (E) curve]
E <sub>10</sub>	55 mJ/cm <sup>2</sup>	[exposure that gives 0.254 mm (.010 inch) thickness]

TECHNICAL DATA					
Mechanical Properties		Somos <sup>®</sup> 9110 UV Postcure		Polypropylene*	
ASTM Method	Property Description	Metric	Imperial	Metric	Imperial
D638M	Tensile Strength	31 MPa	4.5 ksi	31 - 37.2 MPa	4.5 - 5.4 ksi
D638M	Elongation at Yield	15 - 21%	15 - 21%	7 - 13%	7 - 13%
D638M	Young's Modulus	1,590 MPa	231 ksi	1,138 - 1,551 MPa	165 - 225 ksi
D790M	Flexural Strength	44 MPa	6.4 ksi	41 - 55 MPa	6 - 8 ksi
D790M	Flexural Modulus	1,450 MPa	210 ksi	1,172 - 1,724 MPa	170 - 250 ksi
D2240	Hardness (Shore D)	83	83	N/A	N/A
D256A	Izod Impact (Notched)	55 J/m	1.03 ft-lb/in	21 - 75 J/m	0.4 - 1.4 ft-lb/in
D648-07	Deflection Temperature	50°C	122°F	107 - 121°C	225 - 250°F

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

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## About RPS

RPS has been in operation over ten years and our engineers collectively have decades of experience working with stereolithography and laser sintering equipment. With proven experience in 3D printing, engineering, electronics, computer-aided engineering and more, we understand the technology and can offer advice on how it can suit your specific application.

We manufacture the **NEO800** stereolithography system, designed, developed and built by RPS engineers. We are also an HP Channel Partner of HP's Multi-Jet Fusion technology and offer a range of materials and software through our partnership with market-leading suppliers ALM, DSM Somos® and Materialise.

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