



Somos® 9120

# Take action

No matter your industry Somos® 9120 provides the ultimate solution for form, fit and function with parts that are semi-flexible.

- ⊕ Excellent flexibility
- ⊕ Superior strength
- ⊕ Outstanding durability

The need for movable parts is a constant when it comes to prototyping. Being able to ensure the proper fit for parts within a component can save both time and money.

Somos® 9120 creates semi-transparent parts that can allow you to see the inner working of parts you are creating. You can count on this material to simplify processes, such as in wiring and cable projects for electronic or automotive applications.



## Ideal for a variety of applications

Somos® 9120 helps our customers produce more functional prototype parts than those made with standard SL resins. They are ideal for a variety of applications including:

- Automotive Housings
- Electronic Covers
- Consumer Packaged Goods

## Solutions for many industries

Regardless of what industry you're in, new product developers rely on high-performance prototypes to test their design concepts. As a world leader in stereolithography material innovation, DSM has a Somos® solution for just about any industry. Somos® 9120 helps our customers produce functional prototype parts. It is perfect for:



Aerospace



Automotive



Consumer Goods



Design



Industrial



Motorsports

## Why Somos® Materials?

DSM is a global stereolithography materials provider committed to helping our clients design whatever their imaginations can create. Through collaborative partnerships and groundbreaking materials innovation, we're pushing the boundaries of possibilities to deliver brighter lives for generations to come.

Since the late 1980s, DSM's Somos® group has earned a global reputation for stereolithography material innovation. Prototypes made from Somos® resins closely replicate the functionality of engineered thermoplastics, but are delivered with increased speed and accuracy.

We are continually advancing the performance benefits of our extensive line of Somos® materials. You'll find a solution for just about any stereolithography application.



## DSM Functional Materials Somos® Material Group

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# Product Data Sheet

# Somos<sup>®</sup> 9120

## Description

DSM's Somos<sup>®</sup> 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<sup>®</sup> 9120 exhibit superior fatigue properties, strong memory retention and high quality up-facing and down-facing surfaces. Somos<sup>®</sup> 9120 also offers a good balance of properties between rigidity and functionality.

## Applications

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 <sup>3</sup> @ 25°C

### TECHNICAL DATA - OPTICAL PROPERTIES

E <sub>c</sub>	10.9 mJ/cm <sup>2</sup>	[critical exposure]
D <sub>p</sub>	5.6 mils	[slope of cure-depth vs. ln (E) curve]
E <sub>10</sub>	65 mJ/cm <sup>2</sup>	[exposure that gives 0.254 mm (.010 inch) thickness]

TECHNICAL DATA					
Mechanical Properties		Somos® 9120 UV Postcure		Polypropylene*	
ASTM Method	Property Description	Metric	Imperial	Metric	Imperial
D638M	Tensile Strength	30 - 32 MPa	4.4 - 4.7 ksi	31 - 37.2 MPa	4.5 - 5.4 ksi
D638M	Elongation at Yield	15 - 25%	15 - 21%	7 - 13%	7 - 13%
D638M	Young's Modulus	1,227 - 1,462 MPa	178 - 212 ksi	1,138 - 1,551 MPa	165 - 225 ksi
D790M	Flexural Strength	44 - 46 MPa	6.0 - 6.7 ksi	41 - 55 MPa	6.0 - 8.0 ksi
D790M	Flexural Modulus	1,310 - 1,455 MPa	190 - 210 ksi	1,172 - 1,724 MPa	170 - 250 ksi
D2240	Hardness (Shore D)	80 - 82	80 - 82	N/A	N/A
D256A	Izod Impact (Notched)	48 - 53 J/m	0.9 - 1.0 ft-lb/in	21 - 75 J/m	0.4 - 1.4 ft-lb/in
D648-07	Deflection Temperature	52 - 61°C	126 - 142°F	107 - 121°C	225 - 250°F

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

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