

Product Data (Metric):  
**Somos® 8110 Epoxy Photopolymer**

**Flexible, Accurate, High-Speed, High-Impact-Strength Epoxy Resin for Stereolithography**

**Description**

DSM Somos® 8110 is a high-speed liquid photopolymer that produces flexible, high-impact-strength, accurate parts using stereolithography machines. It has a wide processing latitude and excellent tolerance to a wide temperature and humidity range during and after build. This material is especially useful in functional applications where flexibility and impact-strength are critical requirements (e.g., plastic bottles, packaging, automobile panels, electronic enclosures, medical products, and snap-fit parts).

**Application**

Somos® 8110 Photopolymer is used in the solid imaging process to build three-dimensional parts. It is for use with a layer thickness of approximately 0.10 mm to 0.25 mm (0.004 inch to 0.010 inch). After part formation via UV laser exposure, rinsing with a solvent such as tripropylene glycol monomethylether (TPM) or 2-propanol (isopropyl alcohol, IPA) removes the excess resin. Then the part is post-cured by UV fluorescent light.

**Physical Properties – Liquid**

**Appearance** Transparent Amber

**Viscosity** ~600 cps at 30°C

**Density** ~1.11 g/cm<sup>3</sup>

**Optical Properties at 325 nm**

Initial values for determining working curve for a He-Cd laser operating at 325 nm.

**E<sub>c</sub>** 6.0 mJ/cm<sup>2</sup>  
[critical exposure]

**D<sub>p</sub>** 0.135 mm (.0053 inch)  
[slope of cure-depth vs. ln(E) curve]

**E<sub>5</sub>** 15 mJ/cm<sup>2</sup>  
[exposure that gives 0.127 mm (.005 inch) thickness]

**E<sub>10</sub>** 40 mJ/cm<sup>2</sup>  
[exposure that gives 0.254 mm (.010 inch) thickness]

**Physical Properties**

ASTM Test	Description	Somos® 8110 UV	Polyethylene*
D638M	Tensile Strength (MPa)	18	13 - 28
	Elongation at Break (%)	27	100 - 965
	Young's Modulus (MPa)	317	262 - 517
D790M	Flexural Strength (MPa)	11	N/A**
	Flexural Modulus (MPa)	310	276 - 724
D2240	Hardness (Shore D)	77	44 - 50
D256A	Izod Impact - Notched (J/m)	87	53 – No break
D648	Deflection Temperature (°C)	54	55 - 56
D1004	Graves Tear (Newton)	196	N/A**

\*Low and medium density polyethylene linear copolymer (Reference: Modern Plastics Encyclopedia, 1998).

\*\*N/A: Not Available

The ProtoFunctional™ Materials Company

**DSM Somos®**



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