Product Data

Somos® 9110

Description

DSM's Somos® 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® 9110 exhibit superior fatigue properties, strong memory retention and high quality up-facing and down-facing surfaces. Somos® 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® 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^3 @ 25°C

TECHNICAL DATA - OPTICAL PROPERTIES		
E_C	8.0 mJ/cm^2	[critical exposure]
D_P	5.2 mils	[slope of cure-depth vs. ln (E) curve]
E_{10}	55 mJ/cm^2	[exposure that gives 0.254 mm (.010 inch) thickness]

TECHNICAL DATA					
Mechanical Properties		**Somos® 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)