

DSM Somos® 14120 Water-resistant resin for stereolithography, White

Category : Polymer , Rapid Prototyping Polymer

Material Notes:

Description DSM Somos® 14120 is a low viscosity liquid photopolymer that produces strong, tough, water-resistant parts. Parts created with Somos® 14120 have a white, opaque appearance similar to production plastics. Application Somos® 14120 offers many properties that mimic traditional engineering plastics including ABS and PBT. This makes the material ideal for many applications in the automotive, medical and consumer electronics markets and include: functional prototypes water resistant applications Appearance models with minimal finishing Durable concept models High humidity environment applications RTV patterns Information Provided by DSM Desotech Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_DSM-Somos-14120-Water-resistant-resin-for-stereolithography-White.php

Physical Properties	Metric	English	Comments
Density	1.10 g/cc	0.0397 lb/in ³	
	@Temperature 22.0 °C	@Temperature 71.6 °F	
Water Absorption	0.24 %	0.24 %	ASTM D570-98
Viscosity	240 cP	240 cP	
	@Temperature 30.0 °C	@Temperature 86.0 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	81	81	ASTM D2240
Tensile Strength, Yield	45.7 MPa	6630 psi	ASTM D638M
Elongation at Break	7.9 %	7.9 %	ASTM D638M
Elongation at Yield	3.5 %	3.5 %	ASTM D638M
Modulus of Elasticity	2.46 GPa	357 ksi	ASTM D638M
Flexural Strength	68.9 MPa	9990 psi	ASTM D790M
Flexural Modulus	2.25 GPa	326 ksi	ASTM D790M
Poissons Ratio	0.23	0.23	ASTM D638M
Shear Modulus	1.00 GPa	145 ksi	Calculated
Izod Impact, Notched	23.5 J/cm	44.0 ft-lb/in	ASTM D256A
Graves Tear Strength	123 kN/m	702 pli	ASTM D1004

Thermal Properties	Metric	English	Comments

Thermal Properties <i>CTE, linear</i>	Metric	English	Comments
	@Temperature -40.0 - 0.000 °C	@Temperature -40.0 - 32.0 °F	ASTM E831-00
	93.0 µm/m-°C	51.7 µin/in-°F	ASTM E831-00
	@Temperature 0.000 - 50.0 °C	@Temperature 32.0 - 122 °F	
	156 µm/m-°C	86.7 µin/in-°F	ASTM E831-00
	@Temperature 50.0 - 100 °C	@Temperature 122 - 212 °F	
	180 µm/m-°C	100 µin/in-°F	ASTM E831-00
	@Temperature 100 - 150 °C	@Temperature 212 - 302 °F	
Deflection Temperature at 0.46 MPa (66 psi)	53.0 °C	127 °F	ASTM D648-98c
Deflection Temperature at 1.8 MPa (264 psi)	48.0 °C	118 °F	ASTM D648-98c
Glass Transition Temp, Tg	44.0 °C	111 °F	ASTM E1545-00

Electrical Properties	Metric	English	Comments
Dielectric Constant	3.5	3.5	ASTM D150-98
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.8	3.8	ASTM D150-98
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Strength	3.9	3.9	ASTM D150-98
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
	14.6 kV/mm	371 kV/in	ASTM D149-97a

Descriptive Properties	Value	Comments
Appearance	Opaque White	
Dp (mm)	0.159	Slope of cure-depth vs. ln(E) curve
E10 (mJ/cm ²)	64	Exposure that gives 0.254mm thickness
Ec (mJ/cm ²)	13	Critical exposure

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