Somos® 14120

Unspecified

DSM Somos®

Message:

DSM's Somos® 14120 is a low-viscosity liquid photopolymer that produces strong, tough and water-resistant parts. Parts created with Somos® 14120 have a white, opaque appearance similar to production plastics.

Applications

This ABS-like photopolymer is used in solid imaging processes, like stereolithography, to build three-dimensional parts. 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 and RTV patterns.

General Information	
Features	Durable Good Strength Good Toughness Humidity Resistant Low to No Water Absorption Low Viscosity
Uses	Automotive Applications Consumer Applications Electrical/Electronic Applications Engineering Parts Medical/Healthcare Applications Modeling Material Patterns Prototyping
Appearance	Opaque White
Forms	Liquid
Processing Method	3D Printing, Stereolithography

Physical	Nominal Value	Unit	Test Method
Density	1.10	g/cm^3	
Water Absorption (Equilibrium)	0.24	%	ASTM D570
Viscosity (30°C)	240	mPa·s	
Graves Tear	123.0	kN/m	ASTM D1004
Critical Exposure	13.0	mJ/cm^2	
Penetration Depth	158.8	µm	

Hardness	Nominal Value	Unit	Test Method

Durometer Hardness (Shore D)	81		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2460	MPa	ASTM D638
Tensile Strength	45.7	MPa	ASTM D638
Tensile Elongation			ASTM D638
Yield	3.0	%	
Break	8.0	%	
Flexural Modulus	2250	MPa	ASTM D790
Flexural Strength	68.9	MPa	ASTM D790
Poisson's Ratio	0.23		ASTM D638
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	24	J/m	ASTM D256A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	53.0	°C	
1.8 MPa, Unannealed	48.0	°C	
Glass Transition Temperature	44.0	°C	ASTM E1545
CLTE - Flow			ASTM E831
-40 to 0°C	6.7E-5	cm/cm/°C	
0 to 50°C	9.3E-5	cm/cm/°C	
50 to 100°C	1.6E-4	cm/cm/°C	
100 to 150°C	1.8E-4	cm/cm/°C	
Electrical	Nominal Value	Unit	Test Method
Dielectric Strength	15	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	3.90		
1 kHz	3.80		
1 MHz	3.50		

Recommended distributors for this material

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