DSM Somos® GP Plus 14122

Category : Polymer , Rapid Prototyping Polymer

Material Notes:

Somos® GP Plus 14122 is a low-viscosity stereolithography resin with an opaque white appearance. This material mirrors production plastics like ABS and PBT, making it an ideal choice for virtually any application. Recognized for its durability, accuracy, as well as water and humidity resistance, Somos® GP Plus 14122 is a sought-after resin among designers in the automotive, aerospace and consumer product industries. This resin creates highly functional prototypes, concept models and low-volume production parts. It's easy to integrate into the production cycle, making products available much faster.

Order this product through the following link:
http://www.lookpolymers.com/polymer_DSM-Somos-GP-Plus-14122.php

Physical Properties	Metric	English	Comments
Density	1.16 g/cc	0.0419 lb/in³	
Water Absorption	0.40 %	0.40 %	ASTM D570-98
Viscosity	340 cP @Temperature 30.0 °C	340 cP @Temperature 86.0 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	79	79	ASTM D2240
Tensile Strength, Ultimate	33.8 - 40.2 MPa	4900 - 5830 psi	UV Postcure; ASTM D638M
Tensile Strength, Yield	47.2 - 47.6 MPa	6850 - 6900 psi	ASTM D638M
Elongation at Break	6.0 - 9.0 %	6.0 - 9.0 %	UV Postcure; ASTM D638M
Elongation at Yield	3.0 %	3.0 %	UV Postcure; ASTM D638M
Modulus of Elasticity	2.37 - 2.65 GPa	344 - 384 ksi	UV Postcure; ASTM D368M
Flexural Strength	66.8 - 67.8 MPa	9690 - 9830 psi	ASTM D790M
Flexural Modulus	2.178 - 2.222 GPa	315.9 - 322.3 ksi	ASTM D790M
Poissons Ratio	0.41	0.41	ASTM D638M
Izod Impact, Notched	0.230 - 0.290 J/cm	0.431 - 0.543 ft-lb/in	ASTM D256A

Thermal Properties	Metric	English	Comments
CTE, linear	63.0 µm/m-°C @Temperature -40.0 - 0.000 °C	35.0 µin/in-°F @Temperature -40.0 - 32.0 °F	UV Postcure; ASTM E831-05

Thermal Properties	Metric	English	Comments
	89.0 µm/m-°C @Temperature 0.000 - 50.0 °C	49.4 µin/in-°F @Temperature 32.0 - 122 °F	UV Postcure; ASTM E831-05
	170 µm/m-°C @Temperature 50.0 - 100 °C	94.4 µin/in-°F @Temperature 122 - 212 °F	UV Postcure; ASTM E831-05
	172 µm/m-°C @Temperature 100 - 150 °C	95.6 µin/in-°F @Temperature 212 - 302 °F	UV Postcure; ASTM E831-05
Deflection Temperature at 0.46 MPa (66 psi)	46.0 °C	115 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	41.0 °C	106 °F	ASTM D648
Glass Transition Temp, Tg	41.0 - 43.0 °C	106 - 109 °F	ASTM E1545-00

Electrical Properties	Metric	English	Comments
Dielectric Constant	3.4 @Frequency 1.00e+6 Hz	3.4 @Frequency 1.00e+6 Hz	ASTM D150-98
	3.7 @Frequency 1000 Hz	3.7 @Frequency 1000 Hz	ASTM D150-98
	3.8 @Frequency 60.0 Hz	3.8 @Frequency 60.0 Hz	ASTM D150-98
Dielectric Strength	17.9 kV/mm	455 kV/in	ASTM D149-97A

Descriptive Properties	Value	Comments
Appearance	Opaque White	
DP (mils)	6.25	Slope of cure-depth vs. ln (E) curve
E10 (mJ/cm2)	64	exposure that gives 0.254 mm (0.010 inch) thickness
Ec (mJ/cm2)	13	Critical Exposure
High Speed Puncture-Impact	4.6 J	

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