Somos® Taurus

An extremely durable and high temperature resistant stereolithography (SLA) material that allows expansion into new prototype and end-use applications

Product Description

Somos® Taurus is the latest addition to the high impact family of stereolithography (SLA) materials from Somos®. Parts printed with this material are easy to clean and finish. The higher heat deflection temperature of this material increases the number of applications for the part producer and user. Somos® Taurus brings the combination of thermal and mechanical performance that until now has only been achieved using thermoplastic 3D printing techniques such as FDM and SLS.

With Somos® Taurus, you can create large, accurate parts with excellent surface quality and isotropic mechanical properties. Its robustness combined with a charcoal grey appearance makes it ideal for the most demanding functional prototyping and even end-use applications.

Key Benefits

- Superior strength and durability
- Wide range of applications
- Excellent surface and large part accuracy
- Heat tolerance up to 90°C
- Thermoplastic-like performance, look and feel

Ideal Applications

- Customized end-use parts
- Tough, functional prototypes
- Under the hood automotive parts
- Functional testing for aerospace
- Low volume connectors for electronics

Somos® Taurus Technical Data

Liquid Properties		Optical Properties		
Appearance	Charcoal	E_C	10.5 mJ/cm²	[critical exposure]
Viscosity	~350 cps @ 30°C	D_P	4.2 mils	[slope of cure-depth vs. ln (E) curve]
Density	~1.13 g/cm³ @ 25°C	E_{10}	111 mJ/cm²	[exposure that gives 0.254 mm (.010 inch) thickness]

Mechanical Properties		UV Postcure		UV & Thermal Postcure	
ASTM Method	Property Description	Metric	Imperial	Metric	Imperial
D638-14	Tensile Modulus	2,310 MPa	335 ksi	2,206 MPa	320 ksi
D638-14	Tensile Strength at Yield	46.9 MPa	6.8 ksi	49.0 MPa	7.1 ksi
D638-14	Elongation at Break	24%		17%	
D638-14	Elongation at Yield	4.0%		5.7%	
D638-14	Poisson's Ratio	0.45		0.44	
D790-15e2	Flexural Strength	73.8 MPa	10.7 ksi	62.7 MPa	9.1 ksi
D790-15e2	Flexural Modulus	2,054 MPa	298 ksi	1,724 MPa	250 ksi
D256-10e1	Izod Impact (Notched)	47.5 J/m	0.89 ft-lb/in	35.8 J/m	0.67 ft-lb/in
D2240-15	Hardness (Shore D)	83		83	
D570-98	Water Absorption	0.75%		0.70%	
Thermal/Electrical Properties		UV Postcure		UV & Thermal Postcure	
ASTM Method	Property Description	Metric	Imperial	Metric	Imperial
E831-14	C.T.E. -40 - 0°C (-40 - 32°F)	76.5 µm/m°C	42.5 µin/in°F	71.4 µm/m°C	39.7 µin/in°F
E831-14	C.T.E. 0 - 50°C (32 - 122°F)	105.3 µm/m°C	58.5 µin/in°F	103.4 µm/m°C	57.4 µin/in°F
E831-14	C.T.E. 50 - 100°C (122 - 212°F)	151.9 µm/m°C	84.4 µin/in°F	157.5 µm/m°C	87.5 µin/in°F
E831-14	C.T.E. 100 - 150°C (212 - 302°F)	171.4 µm/m°C	95.2 µin/in°F	173.4 µm/m°C	96.3 µin/in°F
D150-11	Dielectric Constant 60 Hz	4.6		4.8	
D150-11	Dielectric Constant 1 KHz	4.2		4.4	
D150-11	Dielectric Constant 1 MHz	3.7		3.5	
D149-09	Dielectric Strength	17.7 kV/mm	451 V/mil	17.3 kV/mm	440 V/mil
D648-16	HDT @ 0.46 MPa (66 psi)	62°C	144°F	91°C	196°F
D648-16	HDT @ 1.81 MPa (264 psi)	50°C	122°F	73°C	163°F
D3418-15	Glass Transition Temperature (DSC)	53°C	127°F	54°C	129°F

These values may vary and depend on individual machine processing and post-curing practices.

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