

# 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 <sub>c</sub>	10,5 mJ/cm <sup>2</sup>	[critical exposure]
Viscosity	~350 cps @ 30°C	D <sub>p</sub>	4,2 mils	[slope of cure-depth vs. ln (E) curve]
Density	~1,13 g/cm <sup>3</sup> @ 25°C	E <sub>10</sub>	111 mJ/cm <sup>2</sup>	[exposure that gives 0,254 mm thickness]

Mechanical Properties		UV Postcure	UV & Thermal Postcure
ASTM Method	Property Description	Metric	Metric
D638-14	Tensile Modulus	2.310 MPa	2.206 MPa
D638-14	Tensile Strength at Yield	46,9 MPa	49,0 MPa
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	62,7 MPa
D790-15e2	Flexural Modulus	2.054 MPa	1.724 MPa
D256-10e1	Izod Impact (Notched)	47,5 J/m	35,8 J/m
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	Metric
E831-14	C.T.E. -40 - 0°C	76,5 µm/m°C	71,4 µm/m°C
E831-14	C.T.E. 0 - 50°C	105,3 µm/m°C	103,4 µm/m°C
E831-14	C.T.E. 50 - 100°C	151,9 µm/m°C	157,5 µm/m°C
E831-14	C.T.E. 100 - 150°C	171,4 µm/m°C	173,4 µm/m°C
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	17,3 kV/mm
D648-16	HDT @ 0.46 MPa	62°C	91°C
D648-16	HDT @ 1.81 MPa	50°C	73°C
D3418-15	Glass Transition Temperature (DSC)	53°C	54°C

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

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## About RPS

RPS has been in operation over ten years and our engineers collectively have decades of experience working with stereolithography and laser sintering equipment. With proven experience in 3D printing, engineering, electronics, computer-aided engineering and more, we understand the technology and can offer advice on how it can suit your specific application.

We manufacture the **NEO800** stereolithography system, designed, developed and built by RPS engineers. We are also an HP Channel Partner of HP's Multi-Jet Fusion technology and offer a range of materials and software through our partnership with market-leading suppliers ALM, DSM Somos® and Materialise.

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