



Product Data Sheet

Somos[®] PerFORM

Description

Somos[®] PerFORM produces strong, stiff, high-temperature resistant composite parts on standard 355 nm stereolithography machines. This material's lower viscosity makes processing parts faster. It exhibits superior sidewall quality, along with excellent detail resolution compared to other composite stereolithography materials.

Applications

Somos[®] PerFORM is an easy to process material with excellent detail resolution. It is the ideal material for creating strong, stiff parts with excellent high heat resistance, including wind tunnel models for aerospace and automotive applications, as well as rapid tooling for injection molding.

TECHNICAL DATA – LIQUID PROPERTIES	
Appearance	Off-White
Viscosity	~1,000 cps @ 30°C
Density	~1.61 g/cm ³ @ 25°C

TECHNICAL DATA – OPTICAL PROPERTIES		
E _c	7.8 mJ/cm ²	[critical exposure]
D _p	4.3 mils	[slope of cure-depth vs. ln (E) curve]
E ₁₀	80 mJ/cm ²	[exposure that gives 0.254 mm (.010 inch) thickness]

SOMOS® PERFORM TECHNICAL DATA*					
Mechanical and Thermal/Electrical Properties		Somos® PerFORM UV Postcure		UV & Thermal Postcure	
ASTM Method	Property Description	Metric	Imperial	Metric	Imperial
D638-10	Tensile Strength	~68 MPa	~9.9 ksi	~80 MPa	~11.8 ksi
D638-10	Tensile Modulus	~10,500 MPa	~1,520 ksi	~9,800 MPa	~1,420 ksi
D638-10	Elongation at Break	~1.1%	~1.1%	~1.2%	~1.2%
D638-10	Poisson's Ratio	~0.32	~0.32	~0.33	~0.33
D790-10	Flexural Strength	~120 MPa	~16.5 ksi	~146 MPa	~21.2 ksi
D790-10	Flexural Modulus	~10,000 MPa	~1,340 ksi	~9,030 MPa	~1,310 ksi
D256-10	Izod Impact (Notched)	~17 J/m	~0.32 ft-lb/in	~20 J/m	~0.37 ft-lb/in
D2240-05	Hardness (Shore D)	94	94	93	93
D570-98	Water Absorption	0.2%	0.2%	0.1%	0.1%
E831-12	C.T.E. -40 – 0°C (-40 - 32°F)	~29.9 µm/m°C	~16.6 µin/in°F	~26.4 µm/m°C	~14.7 µin/in°F
E831-12	C.T.E. 0 – 50°C (32 - 122°F)	~49.4 µm/m°C	~27.4 µin/in°F	~34.3 µm/m°C	~19.1 µin/in°F
E831-12	C.T.E. 50 – 100°C (122 - 212°F)	~79.1 µm/m°C	~43.9 µin/in°F	~59.9 µm/m°C	~33.3 µin/in°F
E831-12	C.T.E. 100 – 150°C (212 - 302°F)	~80.9 µm/m°C	~44.9 µin/in°F	~94.7 µm/m°C	~52.6 µin/in°F
D150-11	Dielectric Constant 60 Hz	~4.0	~4.0	~4.0	~4.0
D150-11	Dielectric Constant 1 KHz	~3.8	~3.8	~3.9	~3.9
D150-11	Dielectric Constant 1 MHz	~3.6	~3.6	~3.7	~3.7
D149-09	Dielectric Strength	~26.3 kV/mm	~668 V/mil	~25.4 kV/mm	~644 V/mil
E1545-11	Tg	~72°C	~162°F	~81°C	~178°F
D648-07	HDT @ 1.81 MPa (264 psi)	~82°C	~180°F	~119°C	~246°F

*Typical performance properties. Results are dependent upon processing.

DSM Functional Materials Somos® Materials Group

in North America

1122 St. Charles Street
Elgin, Illinois 60120
USA
Phone: +1.847.697.0400

in Europe

Slachthuisweg 30
3150 XN Hoek van Holland
The Netherlands
Phone: +31.174.315.391

in China

476 Li Bing Road
Zhangjiang Hi-Tech Park
Pudong New Area
Shanghai 201203, China
Phone: +86.21.6141.8064

Visit us online at www.dsm.com/somos

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