



## SOMOS® PERFORM

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### 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 stereo lithography 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 moulding.

Technical Data - Liquid Properties	
Appearance	Off-White
Viscosity	~1,000 cps @ 30°C
Density	~1.61 g/cm <sup>3</sup> @ 25°C

Technical Data - Optical Properties		
EC	7.8 mJ/cm <sup>2</sup>	[Critical Exposure]
DP	4.3 mils	[slope of cure-depth vs. ln (E) curve]
E10	80 mJ/cm <sup>2</sup>	[exposure that gives 0.254 mm (.010 inch) thickness]



Somos® PerForm Technical Data\*

Mechanical and Thermal/Electrical Properties		Somos® PerForm UV Post cure		UV & Thermal Post cure	
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	~0.31 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
D15-11	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	~26.3kV/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 (264psi)	~82°C	~180°F	~119°C	~246°F

The information in this data sheet is provided for general guidance only and must not be relied upon as a definitive statement of the product's properties or suitability. CBM will not be liable for the consequences of any decision by you to use the product and you must conduct your own testing to determine whether or not the product is suitable for your needs.