

Somos[®] WaterShed[®] Black

Stereolithography

Multipurpose resin that prints 50% faster than alternatives, eliminates the need for painting.

Somos[®] WaterShed Black, with similar properties and processing as Somos[®] WaterShed XC 11122, has up to a 50% faster processing speed, offering minimal finishing and more consistent processing over time. Compared to alternatives currently on the market, Somos[®] WaterShed Black prints a more true black color off the machine. The material offers a smooth surface finish, as well as higher moisture and chemical resistance.



Key Benefits

- Ease-of-use and fast processing with minimal finishing, more consistent processing over time
- A more true black color off the machine
- Based on proven technology of Somos[®] WaterShed XC 11122
- Smooth surface finish
- Higher moisture and chemical resistance

Ideal Applications

- Durable, stiff, tough parts
- Automotive components
- Electronic housings
- Packaging
- Functional prototypes and end use parts

LIQUID PROPERTIES		OPTICAL PROPERTIES		
Appearance	Black	E_c	8.4 mJ/cm ²	[critical exposure]
Viscosity	~260 cps @ 30°C	D_p	4.15 mils	[slope of cure-depth vs. ln (E) curve]
Density	~1.127 g/cm ³ @ 25°C	E_{10}	93.4 mJ/cm ²	[exposure that gives 0.254 mm (.010 inch) thickness]

MECHANICAL PROPERTIES		UV POSTCURE	
ASTM	Property Description	Metric	Imperial
D638M	Tensile Strength at Break	50.4 MPa	7.3 ksi
D638M	Elongation at Break	15.5%	
D638M	Elongation at Yield	3%	
D638M	Tensile Modulus	2,770 MPa	402 ksi
D790M	Flexural Strength	68.7 MPa	10 ksi
D2240	Flexural Modulus	2,205 MPa	320 ksi
D256A	Izod Impact (Notched)	25 J/m	0.47 ft-lb/in
D570-98	Water Absorption	0.35%	

THERMAL/ELECTRICAL PROPERTIES		UV POSTCURE	
ASTM	Property Description	Metric	Imperial
E831-05	C.T.E. 40°C – 0°C (-40°F – 32°F)	67 µm/m°C	37 µin/in°F
E831-05	C.T.E. 0°C – 50°C (32°F – 122°F)	93 µm/m°C	52 µin/in°F
E831-05	C.T.E. 50°C – 100°C (122°F – 212°F)	180 µm/m°C	100 µin/in°F
E831-05	C.T.E. 100°C – 150°C (212°F – 302°F)	187 µm/m°C	104 µin/in°F
D150-98	Dielectric Constant 60 Hz		4
D150-98	Dialectric Constant 1KHz		3.8
D150-98	Dielectric Constant 1MHz		3.5
D149-97a	Dielectric Strength	15.9 kV/mm	404 V/mil
E1545-00	Tg	43°C	109°F
D648	HDT @ 0.46 MPa (66 psi)	50°C	122°F
D648	HDT @ 1.81 MPa (264 psi)	49°C	120°F

Mechanical and Thermal/Electrical Properties based on Somos® WaterShed XC 11122.
The Liquid and Optical Properties are specific to WaterShed Black.

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