



LET'S MANUFACTURE TOMORROW

**SOMOS®
WATERCLEAR
ULTRA 10122**

SOMOS® WATERCLEAR ULTRA 10122

An optically clear stereolithography material tailored for colorless, functional parts with excellent temperature resistance

Somos® WaterClear Ultra 10122 is an optically clear stereolithography material that is easy to use and fast to build. This material produces colorless, functional and accurate parts that simulate an acrylic appearance. Parts produced with Somos® WaterClear Ultra 10122 exhibit excellent temperature resistance.

Somos® WaterClear Ultra 10122 is ideal for applications such as master patterns, concept and functional models. This material also provides refractive values similar to engineered plastics for functional testing in optical light transmission work.

Key Benefits

- Extraordinary optical clarity
- Superior moisture resistance
- Easy to use and finish

Applications

- Automotive lenses
- Bottles
- Lenses
- Light pipes

Liquid Properties		Optical Properties		
Appearance	Optically clear, colorless	E _c	10.0 mJ/cm ²	[critical exposure]
Viscosity	~165 cps @ 30°C	D _p	6.50 mils	[slope of cue-depth vs ln (E) curve]
Density	~1.13 g/cm ³ @ 25°C	E ₁₀	47 mJ/cm ²	[exposure that gives 0.254 mm(.010 inch) thickness]
		D542	1.52	Index of Refraction (cured)

Mechanical Properties		UV Postcure	
ASTM Method	Property Description	Metric	Imperial
D638M	Tensile Strength at Break	56 MPa	8.1 ksi
D638M	Tensile Modulus	2,880 MPa	418 ksi
D638M	Elongation at Break	7.5%	
D638M	Elongation at Yield	4%	
D638M	Poisson's Ratio	0.41	
D790M	Flexural Strength	84 MPa	12.2 ksi
D2240	Flexural Modulus	2,490 MPa	361 ksi
D256A	Izod Impact (Notched)	25 J/m	0.47 ft-lb/in
D2240	Hardness (Shore D)	87	
D570-98	Water Absorption	1.1%	

Thermal/Electrical Properties		UV Postcure	
ASTM Method	Property Description	Metric	Imperial
E831-05	C.T.E. -40 - 0°C (-40 - 32°F)	65 µm/m°C	36 µin/in°F
E831-05	C.T.E. 0 - 50°C (32 - 122°F)	90 µm/m°C	50 µin/in°F
E831-05	C.T.E. 50 - 100°C (122 - 212°F)	168 µm/m°C	93 µin/in°F
E831-05	C.T.E. 100 - 150°C (212 - 302°F)	159 µm/m°C	88 µin/in°F
D150-98	Dielectric Constant 60 Hz	3.1	
D150-98	Dielectric Constant 1 KHz	3.5	
D150-98	Dielectric Constant 1 MHz	3.1	
D149-97a	Dielectric Strength	15.0 kV/mm	381 V/mil
E1545-00	Tg	44°C	111°F
D648	HDT @ 0.46 MPa (66 psi)	47°C	117°F
D648	HDT @ 1.81 MPa (264 psi)	43°C	109°F
D648	Thermal Postcure: HDT @ 0.46 MPa (66 psi)	60°C	140°F
D648	Thermal Postcure: HDT @ 1.81 MPa (264 psi)	50°C	122°F

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

For more information and buying options, please visit www.dsm.com/additive-manufacturing/

DSM – Bright Science. Brighter Living.™

All information supplied by or on behalf of DSM in relation to its products, whether in the nature of data, recommendations or otherwise, is supported by research and, in good faith, believed reliable, but DSM assumes no liability and makes no warranties of any kind, express or implied, including, but not limited to, those of title, merchantability, fitness for a particular purpose or non-infringement or any warranty arising from a course of dealing, usage, or trade practice whatsoever in respect of application, processing or use made of aforementioned information, or product. The user assumes all responsibility for the use of all information provided and shall verify quality and other properties or any consequences from the use of all such information.

Somos® is a trademark of DSM. Copyright © DSM 2020. All rights reserved. No part of the information may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of DSM. Doc 0047-01

