

a **DSM**Product

## Product Description

DSM Somos® WaterShed® 11120 is a low viscosity liquid photopolymer that produces strong, tough, water-resistant, ABS-like parts. Most importantly, parts created with WaterShed 11120 are nearly colorless, and look more like true, clear engineered plastic.

In addition, WaterShed has been formulated with the DSM Somos Oxetane Advantage™—an advanced chemistry platform that produces parts with outstanding water resistance and high dimensional stability.

## Applications

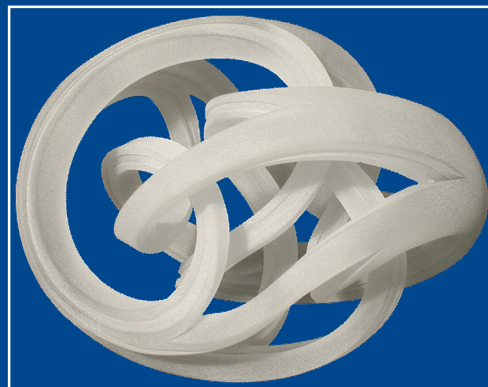
WaterShed offers many properties that mimic traditional engineering plastics, including ABS and PBT. This makes the material ideal for many applications in the automotive, medical and consumer electronic markets and include lenses, packaging, water flow analysis, RTV patterns, durable concept models, wind tunnel testing and quickcast patterns.

## Technical Data: Liquid Properties

Appearance	Optically clear, near colorless
Viscosity	~260 cps @ 30° C
Density	1.12 g/cm <sup>3</sup> @ 25° C

## Technical Data: Optical Properties

E <sub>c</sub>	~11.5 mJ/cm <sup>2</sup>	[critical exposure]
D <sub>p</sub>	5.5 mils (~0.0055 inch)	[slope of cure-depth vs. ln(E) curve]
E <sub>10</sub>	54 mJ/cm <sup>2</sup>	[exposure that gives 0.254 mm (.010 inch) thickness]



WaterShed® 11120 is an optically clear resin with ABS-like properties and good temperature resistance. It produces near-colorless, functional, accurate parts.

## Key Product Benefits:

- High clarity
- Water-resistant
- Extremely accurate

(continued)

For technical service, please visit: <http://www.dsmsomos.com>

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# WaterShed® 11120

## Technical Data: Mechanical Properties

		WaterShed® 11120 UV Postcure		ABS (transparent)		Polybutylene Terephthalate	
		Metric	Imperial	Metric	Imperial	Metric	Imperial
D638M	Tensile Strength at Break	47.1 - 53.6 MPa	6,831 - 7774 psi	45.7 MPa	6,628 psi	55 MPa	7,977
D638M	Elongation at Break	11 - 20%	11 - 20 %	41.6%	41.6 %	20%	20%
D638M	Elongation at Yield	3.3 - 3.5%	3.3 - 3.5 %	N/A	N/A	3.5 - 9%	3.5 - 9%
D638M	Modulus of Elasticity	2,650 - 2,880 MPa	0.40 - 0.42	2,000 MPa	0.37 - 0.45	2,700 MPa	0.37 - 0.45
D790M	Flexural Strength	63.1 - 74.2 MPa	11.8 - 12.4 ksi	73.5 MPa	12.8 - 20.0 ksi	80 MPa	12.8 - 20.0 ksi
D790M	Flexural Modulus	2,255 Mpa	349 - 373 ksi	2,300 MPa	435 - 508 ksi	2,500 MPa	435 - 508 ksi
D256A	Izod Impact-Notched	0.2 - 0.3 J/cm	0.4 - 0.6 ft-lb/in	1.6 J/cm	1.5 - 2.0 ft-lb/in	1.2 J/cm	0.56 ft-lb/in
D542	Index of Refraction	1.512 - 1.515	1.512 - 1.515	1.52	1.52	N/A	N/A
D2240	Hardness (Shore D)	N/A	86 - 87	N/A	63 - 97	98 - 120	63 - 97
D1004	Graves Tear	150,288 N/m	833 - 858 ft-lb/in	N/A	N/A	N/A	N/A
D570-98	Water Absorption	0.35%	0.35%	0.20 - 0.45%	0.20 - 0.45 %	0.16%	0.16 %

## Technical Data: Thermal/Electrical Properties

		WaterShed® 11120 Postcure		ABS (transparent)		Polybutylene Terephthalate	
		Metric	Imperial	Metric	Imperial	Metric	Imperial
E831-05	C.T.E. -40° C - 0° C (-40° F - 32° F)	66 - 67 µm/m-° C	37 µin/in-° F	60 - 130 µm/m-° C	33 - 72 µin/in-° F	50 - 145 µm/m-° C	28 - 81 µin/in-° F
E831-05	C.T.E. 0° C - 50° C (32° F - 122° F)	90 - 96 µm/m-° C	48.8 - 51.7 µin/in-° F	60 - 130 µm/m-° C	33 - 72 µin/in-° F	50 - 145 µm/m-° C	28 - 81 µin/in-° F
E831-05	C.T.E. 50° C - 100° C (122° F - 212° F)	170 - 189 µm/m-° C	91.3 - 95.5 µin/in-° F	60 - 130 µm/m-° C	33 - 72 µin/in-° F	50 - 145 µm/m-° C	28 - 81 µin/in-° F
E831-05	C.T.E. 100° C - 150° C (212° F - 302° F)	185 - 189 µm/m-° C	83.3 - 92.9 µin/in-° F	60 - 130 µm/m-° C	33 - 72 µin/in-° F	50 - 145 µm/m-° C	28 - 81 µin/in-° F
D150-98	Dielectric Constant 60 Hz	3.9 - 4.1	3.9 - 4.1	3.7	3.7	2.9 - 4.0	2.9 - 4.0
D150-98	Dielectric Constant 1KHz	3.7 - 3.9	3.7 - 3.9	not recorded	not recorded	2.9 - 4.0	2.9 - 4.0
D150-98	Dielectric Constant 1MHz	3.4 - 3.5	3.4 - 3.5	3.7	3.7	2.9 - 4.0	2.9 - 4.0
D149-97a	Dielectric Strength	15.4 - 16.3 kV/mm	390 - 413 V/mil	13.8 - 19.7 kV/mm	350 - 500 V/mil	14.7 - 30 kV/mil	373 - 762 V/mil
E1545-00	Tg	39 - 46 ° C	102 - 109 ° F	not recorded	not recorded	41 °C	106 °F
D648-98c	HDT @ 0.46 MPa (66 psi)	45.9 - 54.5 ° C	115 - 130 ° F	94 - 207 °C	201 - 405 °F	150 °C	106 °F
D648-98c	HDT @ 1.81 MPa (264 psi)	49.0 - 49.7 ° C	120 ° F	86.4 - 194 °C	187 - 381 °F	61.3 °C	142.3 °F

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[www.dsmsomos.com](http://www.dsmsomos.com)

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