

Somos® BioClear

Unspecified

DSM Somos®

Message:

DSM's Somos® BioClear produces clear, strong, tough and water-resistant parts. This product is the first in the Somos® BioLine portfolio for medical applications and is ISO 10993-5, ISO 10993-10 and USP VI certified.

Applications

Somos® BioClear is designed for medical applications that are non-implant and have limited contact with the body, such as dental drill guides and device prototyping.

General Information			
Features	High strength		
	Definition, high		
	Good toughness		
	Biocompatibility		
	Low or no water absorption		
Uses	Forming		
	Engineering accessories		
	Dental application field		
	Medical/nursing supplies		
	Medical devices		
Agency Ratings	ISO 10993 Part 10		
	ISO 10993 Part 5		
	USP Class VI		
Appearance	Clear/transparent		
Processing Method	stereolithography		
Physical	Nominal Value	Unit	Test Method
Density	1.12	g/cm³	
Water Absorption (Equilibrium)	0.35	%	ASTM D570
Viscosity (30°C)	260	mPa · s	
Graves Tear	150.3	kN/m	ASTM D1004
Critical Exposure	11.5	mJ/cm²	
Penetration Depth	165.1	µm	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2650 - 2880	MPa	ASTM D638
Tensile Strength (Break)	47.1 - 53.6	MPa	ASTM D638
Tensile Elongation			ASTM D638
Yield	3.0	%	ASTM D638

Fracture	11 - 20	%	ASTM D638
Flexural Modulus	2040 - 2370	MPa	ASTM D790
Flexural Strength	63.1 - 74.2	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	21 - 32	J/m	ASTM D256A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, not annealed	45.9 - 54.5	°C	ASTM D648
1.8 MPa, not annealed	49.0 - 49.7	°C	ASTM D648
Glass Transition Temperature	39.0 - 46.0	°C	ASTM E1545
CLTE - Flow			ASTM E831
-40 to 0°C	6.6E-5 - 6.7E-5	cm/cm/°C	ASTM E831
0 to 50°C	9.0E-5 - 9.6E-5	cm/cm/°C	ASTM E831
50 to 100°C	1.7E-4 - 1.9E-4	cm/cm/°C	ASTM E831
100 to 150°C	1.9E-4	cm/cm/°C	ASTM E831
Electrical	Nominal Value	Unit	Test Method
Dielectric Strength	15 - 16	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	3.90 - 4.10		ASTM D150
1 kHz	3.70 - 3.90		ASTM D150
1 MHz	3.40 - 3.50		ASTM D150
Optical	Nominal Value		Test Method
Refractive Index	1.512 - 1.515		ASTM D542

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