

Somos® Imagine 8000

Product Description

DSM Somos 8000 is a kind of liquid resin with low viscosity. It is a durable translucent and waterproof resin.

Application

Somos® 8000 resin has similar properties to traditional engineering plastics such as ABS, PBT, etc. It is ideal for many applications in the automotive, medical, consumer product industries, water flow system and RTV model, durable conceptual model, air hose testing and rapid casting models.

Physical Properties

Appearance	Opaque White
Viscosity	~260cps (30°C)
Density	~1.3 g/cm ³ (25°C)
EC	~11 mJ/cm ²
DP	0.1mm
E10	~54 mJ/cm ²

Mechanical Properties

	Somos® Imagine 8000	ABS (for comparison)
Tensile Strength	45 - 54 MPa	45.7 MPa
Elongation at Break	11 - 20%	41.6%
Yield elongation	3 - 5 %	N/A
Elastic Modulus	2500 - 3000 MPa	2000 MPa
Flexural Strength	60 - 75 MPa	73.5 MPa
Flexural Modulus	1900 - 2500 MPa	2300 MPa
Impact Strength, notched Izod, J/m	0.2 - 0.3 J/cm	1.6 J/cm
Water Absorption	0.35%	0.2 - 0.45%
Glass Transition, T _g	39 - 50 °C	N/A
Heat Deflection Temperature, °C	46 - 60 °C	94 - 207 °C
	49 - 55 °C	86.4 - 194 °C

SLA Materials

TOP31B

Product Description

TOP31B is an ABS like SL resin which has accurate and durable features. It is designed for solid state SLA platforms. TOP31B can be applied in master patterns, concept models, general parts and functional prototypes in the field of automotive, medical and consumer electronics industries. Parts built from TOP31B stay durable for over 6.5 months.

Typical Features

- Liquid resin's medium viscosity, so easy recoating, easy clean parts and machines
- Improved strength retained, improved dimensions retention of parts in humid condition
- Need minimal part finishing
- Long shelf life in machine

Typical Benefits

- Need less part finishing time,easier post-curing
- Builds accurate and high tough parts with an improved dimensional stability
- High quality controls for vacuum casting parts
- Low shrink and good resistance to yellowing
- Magnificent grey color
- Outstanding machinable SLA material

Physical Properties — Liquid Material

Appearance	Grey
Density	1.11 - 1.15g/cm3 at 25°C
Viscosity	510 - 590 cps at 25°C
DP	0.135 - 0.158mm
EC	8.3 - 9.2mJ/cm2
Building Layer Thickness	0.05 - 0.11mm

SLA Materials

TOP31B

Mechanical Properties of Post-Cured Material

Measurement	Test Method	Value
		90-minute UV post-cure
Hardness (Shore D)	ASTM D2240	78 - 88
Flexural Modulus	ASTM D790	2722 - 2792
Flexural Strength	ASTM D790	69 - 76
Tensile Modulus	ASTM D638	2649 - 2731
Tensile Strength	ASTM D638	41 - 58
Elongation at Break	ASTM D638	7 - 11%
Poisson's Ratio	ASTM D638	0.4 - 0.44
Impact Strength, notched Izod, J/m	ASTM D256	29 - 34
Heat Deflection Temperature, °C	ASTM D648@66PSI	58 - 69
Glass Transition, T _g	DMA, E''peak	62 - 75
Coefficient of Thermal Expansion	TMA (T<T _g)	90 - 103*E-6
Density		1.12 - 1.18
Dielectric Constant 60Hz	ASTM D150-98	4.2 - 5.0
Dielectric Constant 1kHz	ASTM D150-98	3.3 - 4.2
Dielectric Constant 1MHz	ASTM D150-98	3.2 - 4.0
Dielectric Strength	ASTM D1549-9a	12.8 - 16.1