

Material List and Spec Sheets

Material	Description	
Generic Resin	C-UV 9400	Page 2-3
Rigid Resin	Somos 8000	Page 4
	TOP31B	Page 5-6
High Toughness Resin	8228	Page 7
	Lasty-R	Page 8
	Somos Taurus	Page 9-10
High Temp Material	YG H-3001	Page 11
	Lasty-702	Page 12-13
Transparent Resin	Crysta-8QEF1	Page 14-15

SLA Materials

C-UV 9400

Product Description

C-UV 9400 is an ABS like SL resin which has accurate and durable features. It is designed for solid state SLA platforms. C-UV 9400 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 C-UV 9400 stay durable for over 6.5 months.

Typical Features

- Liquid resin's medium viscosity, so easy recoating, easy to 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 white color
- Outstanding machinable SLA material

Physical Properties — Liquid Material

Appearance	White
Density	1.13 g/cm ³ at 25°C
Viscosity	355cps at 28°C
DP	0.145mm
EC	9.3 mJ/cm ³
Building Layer Thickness	0.1mm

SLA Materials

C-UV 9400

Mechanical Properties of Post-Cured Material

Measurement	Test Method	Value
		90-minute UV post-cure
Hardness (Shore D)	ASTM D2240	83
Flexural Modulus	ASTM D790	2692 - 2775
Flexural Strength	ASTM D790	69 - 74
Tensile Modulus	ASTM D638	2189 - 2395
Elongation at Break	ASTM D638	27 - 31
Impact Strength, notched Izod, J/m	ASTM D638	12 - 20%
Heat Deflection temperature, °C	ASTM D256	58 - 70
Glass Transition, Tg	ASTM D648@66PSI	52
Coefficient of Thermal Expansion	DMA, E"peak	62
Density	TMA (T<Tg)	97*E-6
		1.16

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

Godart®8228

Product Description

Godart®8228 is a ABS like material which have super toughness, high hardness, and high strength. It can produce thin-walled parts with a thickness of 2.5mm and is resistant to temperature 70°C. It has excellent detail, small molding shrinkage, good dimensional stability, durability, and can meet the requirements of painting. As a kind of 3D printing material, it is suitable for parts with high impact and shock absorption.

Key Benefits

- Rigid, precision plastic like injection molding ABS
- Resistant to temperature 65-70°C
- Suitable for functional prototype, tools, electrical components, chassis, phone cover
- Post-process including painting, bonding or metalization
- Suitable for SLA light curing 3D printing system with light source of 355nm

Mechanical Properties of Post-Cured Material

Heat Deflection Temperature (0.46 MPa)	56°C
Hardness (Shore D)	86
Tensile Strength	51.21 MPa
Tensile Modulus	2136 MPa
Flexural Strength	93.5 MPa
Flexural Modulus	2155 MPa
Impact Strength	27 J/m

Lasty-R

Product Description

Lasty-R is an ABS like SL resin which has accurate and durable features. It is designed for solid state SLA platforms. Lasty-R 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 Lasty-R 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 yellow color
- Outstanding machinable SLA material

Physical Properties — Liquid Material

Appearance	Yellow
Density	1.11 - 1.15 g/cm3 at 25°C
Viscosity	450 - 530 cps at 25°C
DP	0.14 - 0.16 mm
EC	7.1 - 8.1 mJ/cm2
Building Layer Thickness	0.05 - 0.12 mm

Lasty-R

Mechanical Properties of Post-Cured Material

Measurement	Test Method	Value
		90-minute UV post-cure
Hardness (Shore D)	ASTM D2240	78 - 90
Flexural Modulus	ASTM D790	2685 - 2755
Flexural Strength	ASTM D790	71 - 78
Tensile Modulus	ASTM D638	2611 - 2765
Tensile Strength	ASTM D638	45 - 58
Elongation at Break	ASTM D638	13 - 22%
Poisson's Ratio	ASTM D638	0.4 - 0.45
Impact Strength, notched Izod, J/m	ASTM D256	25 - 40
Heat Deflection Temperature, °C	ASTM D648@66PSI	55 - 69
Glass Transition, T _g	DMA, E''peak	60 - 79
Coefficient of Thermal Expansion	TMA (T<T _g)	85 - 99*E-6
Density		1.12 - 1.18
Dielectric Constant 60Hz	ASTM D150-98	4.1 - 5.1
Dielectric Constant 1kHz	ASTM D150-98	3.4 - 4.2
Dielectric Constant 1MHz	ASTM D150-98	3.1 - 4.1
Dielectric Strength	ASTM D1549-9a	12.7 - 16.9

Somos® Taurus

Product Description

Somos® Taurus parts are easy to clean and finish. The higher heat deflection temperature of this material increases the number of applications for the part producer and user. Somos® Taurus brings the combination of thermal and mechanical performance that until now has only been achieved using thermoplastic 3D printing techniques such as FDM and SLS.

With Somos® Taurus, you can create large, accurate parts with excellent surface quality and isotropic mechanical properties. Its robustness combined makes it ideal for the most demanding functional prototyping and even end-use applications.

Key Benefits

- Superior strength and durability
- Wide range of applications
- Excellent surface and large part accuracy
- Heat tolerance up to 90°C
- Thermoplastic-like performance, look and feel

Ideal Applications

- Customized end-use parts
- Tough, functional prototypes
- Under the hood automotive parts
- Functional testing for aerospace
- Low volume connectors for electronics

Physical Properties — Liquid Material

Appearance	Charcoal	
Density	~350 cps at 30°C	
Viscosity	~1.13 g/cm ³ at 25°C	
EC	10.5 mJ/cm ²	[critical exposure]
DP	4.2 mils	[slope of cure-depth vs ln (E) curve]
E10	111 mJ/cm ²	[exposure that gives 0.254 mm (0.010 inch) thickness]

SLA Materials

Somos® Taurus

Mechanical Properties

ASTM Method	Property Description	UV Postcure		UV & Thermal Postcure	
		Metric	Imperial	Metric	Imperial
D638-14	Tensile Modulus	2310 MPa	335 ksi	2206 MPa	320 ksi
D638-14	Tensile Strength at Yield	46.9 MPa	6.8 ksi	49 MPa	7.1 ksi
D638-14	Elongation at Break	24%	24%	17%	17%
D638-14	Elongation at Yield	4%	4%	5.7%	5.7%
D638-14	Poisson's Ratio	0.45	0.45	0.44	0.44
D790-15e2	Flexural Strength	73.8 MPa	10.7 ksi	62.7 MPa	9.1 ksi
D790-15e2	Flexural Modulus	2054 MPa	298 ksi	1724 MPa	250 ksi
D256 10e1	Izod Impact (Notched)	47.5 J/m	0.89 ft-lb/in	35.8 J/m	0.67 ft-lb.in
D2240-15	Hardness (Shore D)	83	83	83	83
D570-98	Water Absorption	0.75%	0.75%	0.70%	0.70%

Thermal/Electric Properties

ASTM Method	Property Description	UV Postcure		UV & Thermal Postcure	
		Metric	Imperial	Metric	Imperial
E831-14	CTE. -40 - 0°C (-40-32°F)	76.5 µm/m°C	42.5 µin/in°F	71.4 µm/m°C	39.7 µin/in°F
E831-14	CTE. 0 - 50°C (32-122°F)	105.3 µm/m°C	58.5 µin/in°F	103.4 µm/m°C	57.4 µin/in°F
E831-14	CTE. 50 - 100°C (122-212°F)	151.9 µm/m°C	84.4 µin/in°F	157.5 µm/m°C	87.5 µin/in°F
E831-14	CTE. 100 - 150°C (212-302°F)	171.4 µm/m°C	95.2 µin/in°F	173.4 µm/m°C	96.3 µin/in°F
D150-11	Dielectric Constant 60 Hz	4.6	4.6	4.8	4.8
D150-11	Dielectric Constant 1 KHz	4.2	4.2	4.4	4.4
D150-11	Dielectric Constant 1 MHz	3.7	3.7	3.5	3.5
D149-09	Dielectric Strength	17.7 kV/mm	451 V/mil	17.3 kV/mm	440 V/mil
D648-16	HDT @ 0.46 MPa (66 psi)	62°C	144°F	91°C	196°F
D648-16	HDT @ 1.81 MPa (264 psi)	50°C	122°F	73°C	163°F
D3418-15	Glass Transition Temperature	53°C	127°F	54°C	129°F

SLA Materials

YG H-3001

Product Description

YG H-3001 is a stereolithography resin with high temperature resistance and high precision, and the printed workpiece is a special gray color. It is used in the stereolithography method of SLA. YG H-3001 can be widely used in the production of models and parts for industrial prototypes, automobiles, medical care, shoe molds, household appliances, mobile phones, home automation, building materials, and consumer electronic products.

Typical Features

High precision: Compared with ordinary products on the market, the shrinkage ratio will be reduced by 30%.

Physical Properties — Liquid Material

Appearance	White
Proportion	1.1 g/cm ³ at 25°C
Viscosity	580cps at 28°C
DP	0.10mm
EC	9.8 mJ /cm ³
Building Layer Thickness	0.1mm

Mechanical Properties of Post-Cured Material

Measurement	Test Method	Value
Hardness (Shore D)	ASTM D2240	85D
Flexural Modulus	ASTM D790	2900 - 3220
Flexural Strength	ASTM D790	64 - 69
Tensile Modulus	ASTM D638	1900 - 2090
Tensile Strength	ASTM D638	40 - 44
Elongation at Break	ASTM D638	13 - 20%
Impact Strength, notched Izod, J/m	ASTM D256	34.4
Heat Deflection Temperature, °C	ASTM D648@66PSI	99.6°C

SLA Materials

Lasty-702

Product Description

Lasty-702 is an ABS like SL resin which has accurate and durable features. It is designed for solid state SLA platforms. Lasty-702 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 Lasty-702 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 yellow color
- Outstanding machinable SLA material

Physical Properties — Liquid Material

Appearance	White
Density	1.11 - 1.15 g/cm ³ at 25°C
Viscosity	510- 590 cps at 25°C
DP	0.135 - 0.158 mm
EC	8.1 - 8.9 mJ/cm ²
Building Layer Thickness	0.05 - 0.12 mm

SLA Materials

Lasty-702

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

SLA Materials

Crysta-8QEF1

Mechanical Properties of Post-Cured Material

Measurement	Test Method	Value
		90-minute UV post-cure
Hardness (Shore D)	ASTM D2240	76 - 82
Flexural Modulus	ASTM D790	2570 - 2860
Flexural Strength	ASTM D790	75 - 81
Tensile Modulus	ASTM D638	2490 - 2660
Tensile Strength	ASTM D638	44 - 62
Elongation at Break	ASTM D638	7 - 11%
Impact Strength, notched Izod, J/m	ASTM D256	27 - 35
Heat Deflection Temperature, °C	ASTM D648@66PSI	40 - 51
Glass Transition, Tg	DMA, E"peak	42 - 58

SLA Materials

Crysta-8QEF1

Product Description

Crysta-8QEF1 is a clear SL resin which has accurate and durable features. It is designed for solid state SLA platforms. Crysta-8QEF1 can be applied in master patterns, concept models, general parts and functional prototypes in the field of automotive, medical and consumer electronics industries.

Typical Features

- Liquid resin's medium viscosity, so easy recoating, easy clean parts and machines
- Improved strength retention, improved dimensions retention of parts in humid condition
- Need minimal part finishing
- Easy to burn completely

Typical Benefits

- Superior clear. Builds parts with outstanding clarity and excellent accuracy
- Need less part finishing time, easier post-curing
- Suitable for casting

Physical Properties — Liquid Material

Appearance	Clear
Density	1.12 g/cm ³ at 25°C
Viscosity	312 - 420 cps at 28°C
DP	0.18mm
EC	9.8 - 12 mJ/cm ³
Building Layer Thickness	0.1mm