

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