

# TOP31B

## Product Description

TOP31B is an ABS-like Stereolithography (SLA) resin which has accurate and durable features. It is designed for solid state SLA platforms, and 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

- Resin's medium viscosity supports facilitates easier post-curing and less part finishing time.
- Good dimensional stability and lower shrinkage rate.
- Better resistance to yellowing compared to other SLA materials.
- Ideal for vacuum casting masters.

## Physical Properties (Liquid)

Appearance	Grey
Density	1.11 ~ 1.15 g/cm <sup>3</sup> @25 °C
Viscosity	510 ~ 590 cps@25 °C

## Optical Properties

Critical Exposure (Ec)	8.3 - 9.2 mJ/cm <sup>2</sup>
Penetration Depth (Dp)	0.135 - 0.158 mm
Recommended Layer Thickness of Construction	0.05 - 0.11 mm

## Mechanical Properties (90-minute UV post-cure)

Property Description	Test Method	Metric
Heat Deflection Temperature (HDT)	ASTM D648 @ 66 psi	58 - 69 °C
Glass Transition (Tg)	DMA, E'' peak	62 - 75 °C
Coefficient of Thermal Expansion	TMA (T<Tg)	90 - 103 × 10 <sup>-6</sup> /°C
Tensile Modulus	ASTM D638	2649 - 2731 MPa
Flexural Modulus	ASTM D790	2722 - 2792 MPa
Tensile Strength	ASTM D638	41 - 58 MPa
Flexural Strength	ASTM D790	69 - 76 MPa
Poisson's Ratio	ASTM D638	0.4 - 0.44
Izod Impact (Notched)	ASTM D256	29 - 34 J/m
Elongation at Break	ASTM D638	7 - 11 %

Hardness (Shore D)	ASTM D2240	78 - 88
Density		1.12 - 1.18 g/cm <sup>3</sup>
Dielectric Constant 60 Hz	ASTM D150-98	4.2 - 5.0
Dielectric Constant 1 kHz	ASTM D150-98	3.3 - 4.2
Dielectric Constant 1 MHz	ASTM D150-98	3.2 - 4.0
Dielectric Strength kV/mm	ASTM D149-97a	12.8 - 16.1

\* TOP31B should not be used or stored at high temperatures. Please use it below 25°C. The relative humidity during use and storage must be kept below 38% RH.

Note: Material performance may vary depending on application, processing conditions and end-use environment. The information in this spec sheet is provided as typical values only and is not guaranteed.