

# TOP31B

# TECHNICAL DATA SHEET

## PRODUCT DESCRIPTION 产品介绍

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. The parts durability building with TOP31B is over 6.5 months. TOP31B 是一种具备精确和耐久特性的类 ABS 的立体光造型树脂。它被用于固态激光的光固化成型法。TOP31B 可应用于汽车，医疗，消费电子等工业领域的母模，概念模型，一般部件，功能性部件的制作。用 TOP31B 树脂制造的部件的耐久性长达 6.5 个月以上。

## TYPICAL FEATURES 典型特点

- Liquid resin's medium viscosity, so easy recoating, easy clean parts and machines 中等粘度的液态树脂，确保其更容易涂层以及清洗部件和机器
- Improved strength retained, improved dimensions retention of parts in humid condition 在潮湿环境中具有更好的强度及尺寸保持特性
- need minimal part finishing 只需要极小的部件修饰
- Long shelf life in machine 更长的实际使用期限

## TYPICAL BENEFITS 典型优点

- Need less part finishing time, easier post-curing 更少的部件完成时间
- Building accurate and high tough parts with an improved dimensional stability 能够建造精确和高韧性的部件并提高了部件的尺寸稳定性
- High quality controls for vacuum casting parts 对于真空铸造部件的高质量控制
- Outstanding machinable SLA material 卓越的可加工性

### Physical Properties – Liquid Material 液态材料的物理性能

Appearance 外观	Black 黑色
Density 密度	1.11~1.15g/cm <sup>3</sup> @ 25 °C
Viscosity 粘度	510~590 cps @ 25 °C
Dp 固化深度	0.135~0.158 mm
Ec 临界曝光量	8.1~8.9 mJ/cm <sup>2</sup>
Building layer thickness 建造层厚	0.05~0.12mm

### Mechanical Properties of Post-Cured Material 固化后材料的机械性能

MEASUREMENT 测试项目	TEST METHOD 测试方法	VALUE 数值
		90-minute UV post-cure 90 分钟紫外固化
Hardness 硬度, Shore D	ASTM D 2240	78~86
Flexural modulus 弯曲模量, Mpa	ASTM D 790	2,720-2,790
Flexural strength 弯曲强度, Mpa	ASTM D 790	69- 76
Tensile modulus 拉伸模量, MPa	ASTM D 638	2,649-2,731
Tensile strength 拉伸强度, MPa	ASTM D 638	41-58
Elongation at break 断裂延长率	ASTM D 638	7 -11%
Poisson`s Ratio 泊松比	ASTM D 638	0.4-0.44
Impact strength notched Izod, J/m 缺口冲击强度	ASTM D 256	29 - 34
Heat deflection temperature, °C 热变形温度	ASTM D 648 @66PSI	58~69
Glass transition, Tg 玻璃化转变温度, °C	DMA, E” peak	62~75
Coefficient of thermal expansion, 热膨胀系数, /°C	TMA(T<Tg)	90~103*E-6
Density 密度, g/cm <sup>3</sup>		1.12~1.18
Dielectric Constant 介电常数 60 Hz	ASTM D 150-98	4.2~5.0
Dielectric Constant 介电常数 1 kHz	ASTM D 150-98	3.3~4.2
Dielectric Constant 介电常数 1 MHz	ASTM D 150-98	3.2~4.0
Dielectric Strength 绝缘强度 kV/mm	ASTM D 1549-97a	12.8~16.1

注：TOP31B 使用及保存温度不宜过高，请在 25 摄氏度以下使用；使用及保存的相对湿度必须在 38RH% 以下。