

PRODUCT DESCRIPTION

Loctite[®] 3D 3860 is a black colored light curable acrylic resin that may be used for prototyping via stereolithography. Loctite[®] 3D 3860 cures with very short exposure to monochromatic light sources such as LED or Laser. Printed articles made from Loctite[®] 3D 3860 exhibit high heat deflection temperature (HDT) and good print resolution. Loctite[®] 3D 3860 is a low viscosity liquid that is printable at room temperature across various Laser SLA and DLP Platforms.

Technology	Stereolithography Resin
Appearance	Black opaque liquid
Chemistry Type	Acrylic
Odor	Mild
Cure	Ultraviolet / Visible Light
Viscosity	300-400 mPas at 25°C
Flow Characteristic	Self-leveling, Newtonian fluid
Application	Prototyping
Specific Benefits	<ul style="list-style-type: none"> • Good print resolution • Short exposure times • High HDT Potential • Low Shrinkage • Rigid

TYPICAL PROPERTIES OF UNCURED MATERIAL

Appearance:	Black Liquid
Density:	1.10
Viscosity mPa.s:	300-400
Haake Cone & Plate RV1	
C60 1 TIL, 200 s ⁻¹ @ 25°C	

TYPICAL PRINTER SETTINGS

The following table represents tested settings optimised for the Loctite[®] PR10 Printer. These settings are applicable to small test prints. Print parameters may need to be adjusted for large prints or the addition of support structures and the orientation of objects.

Print Layer	Initial Build Layer (2)	Default Build Layers
Layer Thickness (mm)	0.100	0.050
Rehab Time	3	3
Cure Time (s)	27	2
Retraction Height	7	7
Retraction Speed up	100	100
Time at Top	1	1
Retraction Speed Down	200	200
Light Intensity (%)	100	100

TYPICAL MATERIAL PROPERTIES OF PRINTED PARTS*

Test	Method	Result
Tensile Strength at Break	ASTM D638	51 MPa
Tensile Young's Modulus	ASTM D638	2.6 GPa
Elongation at Break	ASTM D638	2.2 %
Heat Deflection Temperature	ASTM D648	180-190°C

Dog bone specimens printed on the xy axis, unsupported laid flat to the printer head.

*After printing, the end user may expose the specimens to additional UV/VIS light (e.g. 50mW/cm² of 405nm LED for 100 s (each side)) and 160°C for 30 min.

Confidential

July 2018

For safe handling information on this product, consult the Material Safety Data Sheet (MSDS).

Directions for use

- 1 Wear gloves and protective glasses to prevent skin contact and for eye protection.
- 2 ****Shake well before use** and mix resin well before each print.
- 3 Do not leave resin in tray for extended periods when printer is not in use.
- 4 This material is highly photo sensitive protect from natural and artificial light sources outside of the protected printer environments.
- 5 Printer to printer variation requires adjustment of settings. Use the dosage as a guide establishing the correct printer for the specific printer that the material will be printed on.
- 6 Take care to keep printer parts clean and ensure trays and print heads are in good condition.
- 7 Calibrate printers as per user manual before printing.

Storage

Product should be stored in a dry location in unopened containers at 8-21 °C unless otherwise labelled. Storage above 28 °C is not recommended as the viscosity of the product can change at such temperatures. To prevent contamination of unused product, do not return any material to its original container.

Note

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