

### PRODUCT DESCRIPTION

Loctite® 3D 3820 is a clear light curing acrylic resin that may be used for prototyping via stereo-lithography. Loctite® 3D 3820 cures with very short exposure to monochromatic light sources such as LED or Laser. Printed articles made from Loctite® 3D 3820 exhibit good print resolution and high optical clarity. Loctite® 3D 3820 is a low viscosity liquid that is printable at room temperature across various Laser SLA and DLP Platforms.

Technology	Stereolithography Resin
Appearance	Clear liquid
Chemistry Type	Acrylic
Odor	Mild
Cure	Ultraviolet / Visible Light
Viscosity	800-900 mPas at 25°C
Flow Characteristic	Self-leveling, Newtonian fluid
Application	Prototyping
Specific Benefits	<ul style="list-style-type: none"> <li>• Good print resolution</li> <li>• Short exposure times</li> <li>• High Clarity</li> </ul>

### TYPICAL PROPERTIES OF UNCURED MATERIAL

**Appearance:** Clear Liquid with light blue hue  
**Density:** 1.10  
**Viscosity mPa.s** 800-1000  
 Haake Cone & Plate  
 RV1, C60 1 TiL, 200 s<sup>-1</sup> @ 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	2	2
Cure Time (s)	50	8.0
Retraction Height	7	7
Retraction Speed up	100	100
Time at Top	1	1
Retraction Speed Down	200	200
Light Intensity (%)	65	65

### TYPICAL MATERIAL PROPERTIES OF PRINTED PARTS\*

Test	Method	Results
IZOD Impact	ASTM D-256	35 J/m
Tensile Strength	ASTM D638	20-40 MPa
Elongation @ Break	ASTM D638	10-20%
Modulus	ASTM D638	800 -1200MPa

The appearance of the printed part can be improved by cleaning with a fluid such as isopropanol.

\*If desired by the end user, the hardness of the printed part can be improved by additional exposure to 405 nm light source.

## Confidential

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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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