

**PRODUCT DESCRIPTION**

Loctite® 3D 8195™ is an elastomeric 3D printing resin designed for functional prototyping via stereolithography. It is formulated to have firm compression properties with extremely quick rebound performance to emulate soft rubber materials. It can be printed with high-resolution and excellent surface finish across various SLA and DLP printer platforms.

Loctite® 3D 8195™ provides the following product characteristics:

**TYPICAL PROPERTIES OF LIQUID RESIN**

Specific Gravity, g/cm<sup>3</sup>@ 25°C 1.1  
 Viscosity, mPa\*s (cP) @ 25°C 1,000 – 1,300 LMS  
 Appearance/Color Grey

**3D PRINTING MACHINE SETTINGS**

LOCTITE® 3D 8195 is formulated to print optimally on DLP machines operating with a wavelength ranging from 300 – 450nm with recommended intensity between 4-8 mW/cm<sup>2</sup>. Cure rate and ultimate depth of cure depend on light intensity, spectral distribution of the light source, exposure time and light transmittance of the printer window through which the light must pass.

The following working curve values were determined using a DLP printer at 405nm and 385nm wavelengths;

Measurement	Wavelength	Value
Critical Exposure (E <sub>c</sub> )	385 nm	NA
	405 nm	7.25 mJ/cm <sup>2</sup>
Penetration Depth (D <sub>p</sub> )	385 nm	NA
	405 nm	0.168 mm

Please note: in order to achieve high print yield LOCTITE® recommends at least 50% "over-cure". Therefore, it is necessary to cure 150µm depth when printing with 100µm layer thickness. This will greatly improve the interlayer adhesion and bulk mechanical properties of the printed resin. Typical layer exposure times are given below for 405nm DLP projector @ 6mW/cm<sup>2</sup>;

	Layer thickness 50 µm	Layer thickness 100 µm
Base layer exposure time	25 secs	25 secs
Default layer exposure time	5 secs	7 secs

**TYPICAL PROPERTIES OF PRINTED MATERIAL**

All data is recorded on specimens printed in the Z plane at 0.05mm layer thickness on a 405nm wavelength DLP printer. Some variation is expected when printing in XY plane. The physical properties in the

table below are reflective of what one may observe under the noted conditions. Contact your local Loctite Technical Service team for further information.

Mechanical Properties	Test Method	After post-processing <sup>1</sup>
Tensile Strength at Break	ASTM D638	3.28 ± 1 MPa
Young's Modulus	ASTM D638	3.55 ± 0.2 MPa
Elongation at Failure	ASTM D638	81.3 ± 18 %
Tear Strength	ASTM D624	14.5 ± 3.9 kN/m
Shore Hardness	Scale A	60.0
Water Absorption	ASTM D570	1.4%

<sup>1</sup>Test specimens were exposed for 600 secs per side under a 400W metal halide UV flood lamp @ ~200mW/cm<sup>2</sup> (UVA).

**GENERAL INFORMATION**

**This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.**

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

**Directions for use:**

- This product is light sensitive; exposure to daylight, UV light and artificial lighting should be kept to a minimum during storage and handling.
- **Shake or stir Loctite® 3D 8195™ well before use.**
  - Agitate resin before each print
  - Do not leave resin in printer tray when not in use
- Recommended Post Print Processing:
  - Rinse the printed part using an approved cleaner to remove uncured resin

**Loctite Material Specification<sup>LMS</sup>**

Test reports for each batch are available for the indicated properties. LMS test reports include selected QC test parameters considered appropriate to specifications for customer use. Additionally, comprehensive controls are in place to assure product quality and consistency. Special customer specification requirements may be coordinated through Henkel Quality.

**Storage**

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labelling.

**Optimal Storage: 8 °C to 21 °C. Storage below 8 °C or**

**greater than 28 °C can adversely affect product properties.**

Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Technical Service Centre or Customer Service Representative.

**Conversions**

$$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$$

$$\text{kV/mm} \times 25.4 = \text{V/mil}$$

$$\text{mm} / 25.4 = \text{inches}$$

$$\mu\text{m} / 25.4 = \text{mil}$$

$$\text{N} \times 0.225 = \text{lb}$$

$$\text{N/mm} \times 5.71 = \text{lb/in}$$

$$\text{N/mm}^2 \times 145 = \text{psi}$$

$$\text{MPa} \times 145 = \text{psi}$$

$$\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$$

$$\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$$

$$\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$$

$$\text{mPa}\cdot\text{s} = \text{cP}$$

**Note**

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

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