# LOCTITE®

# The Promise of 3D. Brought to Life by LOCTITE®.

## New Additive Manufacturing Resins Make the Promise of 3D More Real Than Ever Before.

Until now, the realities of 3D printing have not lived up to its promise. Materials have been limited, which limits design, and true functional prototyping has been difficult to achieve. LOCTITE®'s new 3D portfolio of resins, post-processing bonders and equipment, and printers addresses those shortcomings. It expands the available materials for 3D printing – and the properties they possess. It allows you to create truly functional parts, across a wider range of applications. It opens up truly limitless design possibilities.

Henkel

# Differentiated Resins for True Functional Parts

LOCTITE® brings the promise of 3D to life with a new line of additive manufacturing resins that are years ahead of the rest of the market. Each is low viscosity and printable at room temperature across various Laser SLA and DLP Platforms and can be used for prototyping via stereo-lithography.

## LOCTITE® 3D Silicone 5010/5015

A low viscosity, high performance silicone that cures into a tough silicone elastomer. Can be used in stereo-lithography or layer-by-layer additive manufacturing.

| LOCTITE® SI 5010 | LOCTITE® SI 5015 / LOCTITE® 3860 |
|---|---|
| **Chemistry:** Light Cure Silicone | **Chemistry:** Light Cure Silicone |
| **Printability:** DLP | **Printability:** SLA/DLP |
| **Color:** Clear, White & Black | **Color:** Translucent, White & Black |
| **Viscosity:** 550 | **Viscosity:** 600 |
| **Hardness, Shore A:** 60 | **Hardness, Shore A:** 80 |
| **Tensile N/mm2:** 3.7 | **Tensile N/mm2:** 7.2 |
| **Elongation, %:** 190 | **Elongation, %:** 120 |

*Laboratory data*

| Product | Color | Part Numbers |
|---|---|---|
| **Silicone 5010** | | |
| 5010 | Clear | Coming Soon |
| 5010 | White | Coming Soon |
| 5010 | Black | Coming Soon |
| **Silicone 5015** | | |
| 5015 | Clear | Coming Soon |
| 5015 | White | Coming Soon |
| 5015 | Black | Coming Soon |

## LOCTITE® 3D General Purpose

| RIGID 3830 PROTOTYPING | FLEXIBLE 3840 PROTOTYPING |
|---|---|
| **Color:** White, Grey, Black, Clear | **Color:** White, Grey, Black, Clear |
| **Tensile Strength:** 40 – 55 MPa | **Tensile Strength:** 20 – 30 MPa |
| **Elongation at Break:** 3 – 5% | **Elongation at Break:** 15 – 20% |
| HDT 65º C (Exceptional Print Accuracy) | Enhanced Flexibility for Snap Fit Parts |

*Laboratory data*

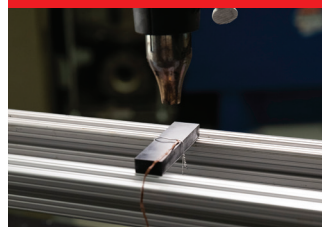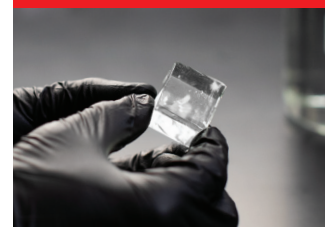| Product | Color | Part Numbers |
|---|---|---|
| **General Purpose 3830** | | |
| 3830 | Clear | 2302203 |
| 3830 | White | 2236047 |
| 3830 | Black | 2302201 |
| 3830 | Grey | 2236246 |
| **General Purpose Flexible 3840** | | |
| 3840 | Clear | 2301488 |
| 3840 | White | 2236049 |
| 3840 | Black | 2301374 |
| 3840 | Black | 2236048 |


Silicone Elastomeric 5010/5015


High Impact 3870


High Temperature 3860


Ultra Clear 3820

# 3D PRINTING—
# ADDITIVE MANUFACTURING RESINS

**LOCTITE**®

## LOCTITE® 3D Durable High Impact 3870

Designed specifically for durability and impact resistance.

| | DESCRIPTION | PROFILE | BENCHMARK COMPETITOR X | LOCTITE® 3870 |
|---|---|---|---|---|
| **Elongation at Break** | Elongation | >=45% | 51% | 60 – 70% |
| **Tensile Youngs Modulus** | Modulus | >=500 MPa | 695 MPa | 500 – 600 MPa |
| **Tensile Strength at Break** | Tensile Strength | >=18 MPa | 20 MPa | 17 – 19 MPa |
| **IZOD (Preliminary)** | ASTM D256 Method A IZOD Impact Resistance | >=80 J/m | 88 J/m | 90 – 105 J/m |

*Laboratory data*

| Product | Color | Part Numbers |
|---|---|---|
| **High Impact 3870** | | |
| **3870** | Black | 2431934 |

## LOCTITE® 3D High Temp 3860

Exhibits high heat deflection temperature (HDT) and good print resolution.

| | DESCRIPTION | PROFILE | BENCHMARK COMPETITOR X | LOCTITE® 3860 |
|---|---|---|---|---|
| **Elongation** | ASTM D538 (Post Cured) | > 2% | 4.5% | 2 – 4% |
| **TG (Post Cure 1)** | DMA Tan Delta Peak | > 180º C | 111º C | 190 – 200º C |
| **HDT (Post Cure 1)** | UV-Oven @60º for 60 Mins + Post Bake 180º | > 120º C | 126º C | 180 – 190º C |

*Laboratory data*

| Product | Color | Part Numbers |
|---|---|---|
| **High Temp 3860** | | |
| **3860** | Black | 2431590 |

## LOCTITE® 3D Ultra Clear 3820

Offers excellent print resolution and high clarity.

| | DESCRIPTION | PROFILE | BENCHMARK COMPETITOR X | LOCTITE® 3820 |
|---|---|---|---|---|
| **Print Appearance Shade** | Colorimetry Bright to Dark 0 – 100 | >70 | 73 | 80 – 90 |
| **Print Appearance Transparency** | % Value of Visible Light Through a 3D Printed Object (standard 7.0 mm block) | >= 70% | 75% | 80 – 90% |
| **Print Appearance Haze** | Haze Distortion Standard 7.0 mm block | <85 | 82 | 30 – 40 |
| **Print Appearance** | Colour Yellow Value | <5 | 10 | 0 – 3.0 |
| **Tensile Youngs Modulus** | Modulus | >1500 MPa | 2400 – 2700 MPa | 800 – 900 MPa |
| **Tensile Strength at Break** | Tensile Strength | >40 MPa | 47 – 54 MPa | 20 – 30 MPa |

*Laboratory data*

| Product | Color | Part Numbers |
|---|---|---|
| **Ultra Clear 3820** | | |
| **3820** | Clear | 2436351 |

## PR10.1 Resin 3D Printer.
## Accurate, Flexible and Fast.

Our large format DLP 3D industrial printer offers exceptional accuracy and can be used with any of our new additive manufacturing resins, as well as a wide variety of other 3DP resins. The large build platform allows manufacturing of an entire range of components, super fast build speeds and production of multiple components at the same time without influencing build speed.

| Product | Part Number |
|---|---|
| **EQ PR10.1 DLP Printer** | 2416987 |



## CL36 LED Curing Chamber.
## Uniform Curing for a Professional Result.

Optimize the post-processing of your 3D printed resins with this all-new, state-of-the-art UV curing station. Specifically designed and engineered for parts printed with LOCTITE® resin, it's equipped with low heat emission LED that provide a life span of up to 20,000 hrs. It's easy to use and adjust with a single touchscreen. And an automatic rotary table ensures uniform curing.

| Product | Part Number |
|---|---|
| **EQ CL36 LED Cure Chamber** | 2331226 |



## Bonding Solutions Kit - Coming Soon!
## Reduced Process Cost and Increased Part Value.

Bonding 3D printed parts offers a number of advantages, from greater design flexibility and use of dissimilar materials to reduced print time, ease of repairs and enhanced performance. And LOCTITE®'s new 3D Printing Bonding Kit includes everything you need to realize those advantages. It's perfect for bonding prototyping parts for the most known 3D Printing technologies, including SLA/DLP, CLIP, SLS, MJF, and FFF. The kit includes:

- 2 different 3DP adhesives:
  Instant 1x 50gr - Coming Soon
  Universal 5x11gr

- Cleaning, priming and activating materials for professional preparation of the bond

- Bonding training , via tutorials and webinars

## Henkel Coporation
## Engineering Adhesives