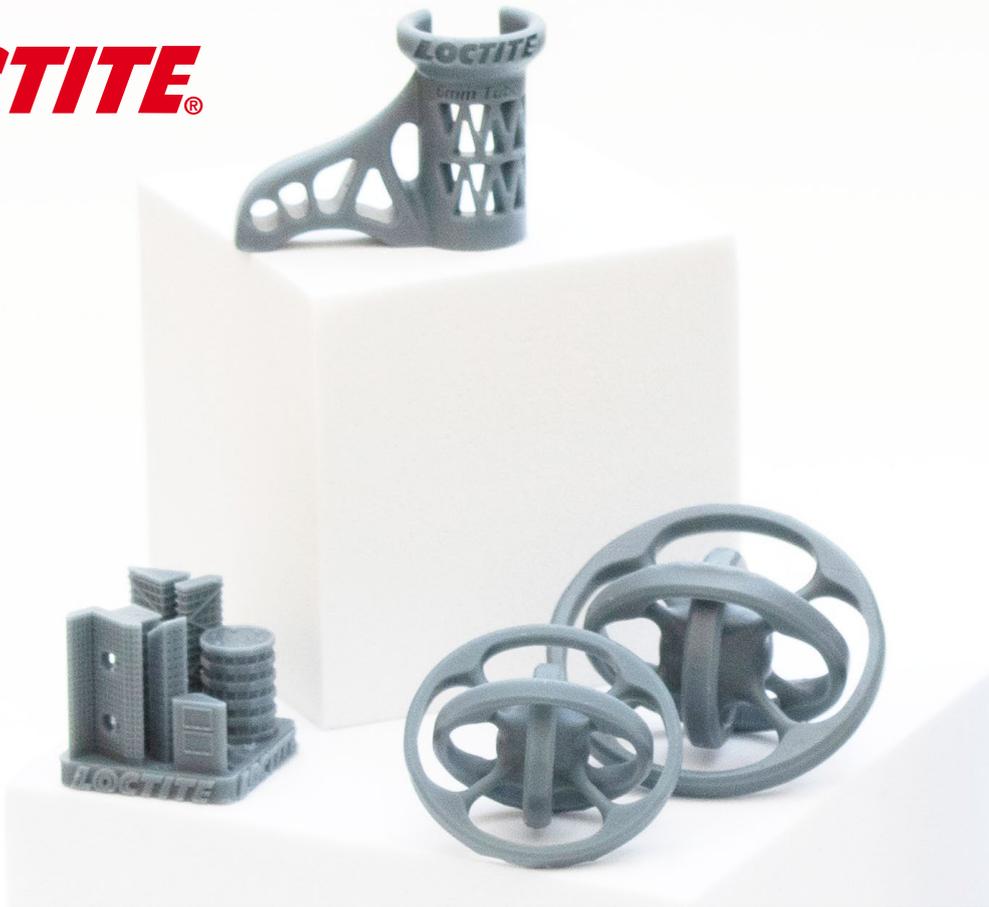


LOCTITE®



LOCTITE® 3D PRO9274™

General Purpose
Gray

LOCTITE®

Henkel Corporation

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PRO9274™ GENERAL PURPOSE



LOCTITE 3D PRO9274™

A multipurpose resin, ideal as a starting point for creating fast prototypes and models. With a high degree of printing detail, **LOCTITE 3D PRO9274** allows customers the versatility to transform their 2D designs into 3D physical parts. It is a great choice for architects, crafters, designers, and engineers.

LOCTITE 3D PRO9274's mechanical properties offer both durability and toughness, allowing parts to be adjusted or flexed without breaking. The resin is designed for easy printing on the widest range of LCD and DLP printers.

As part of the Loctite3D PRO Series of products, **LOCTITE 3D PRO9274** offers a cost-effective and consistent solution for general-purpose part printing.



Benefits:

- Easy to print
- High detail
- Durable and economical



Ideal for:

- High volume general purpose
- Prototypes and test parts
- Jigs, fixtures and tools



Markets:



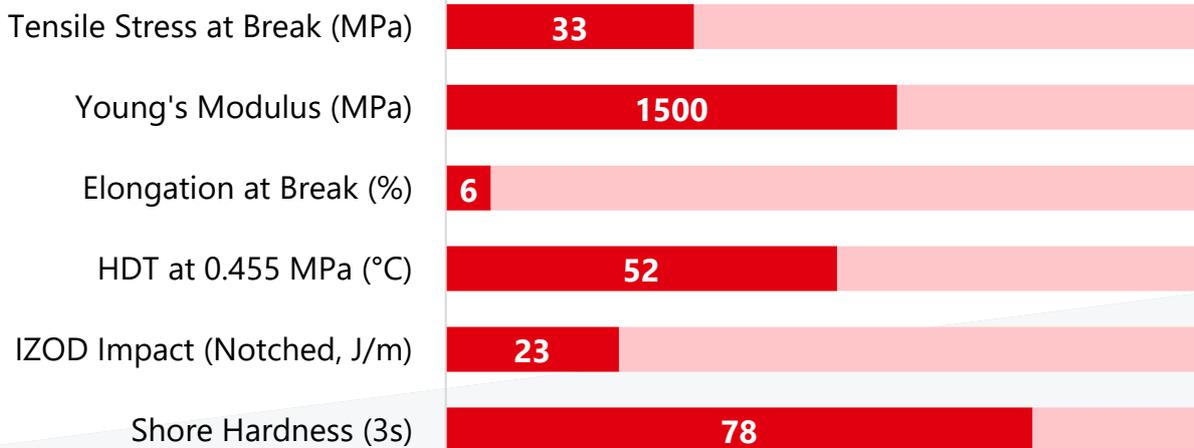
Industry



Automotive



Consumer Goods





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PROPERTIES

| Mechanical Properties | Measure | Method | Green | Post Processed |
|------------------------------|---------|------------|--------------------------|----------------------------|
| Young's Modulus | MPa | ASTM D638 | 450 – 830 ^[1] | 1400 – 1900 ^[1] |
| Tensile Stress at Yield | MPa | ASTM D638 | 13 – 20 ^[1] | 33 – 42 ^[1] |
| Elongation at Yield | % | ASTM D638 | 4 – 6 ^[1] | 3 – 4 ^[1] |
| Tensile Stress at Break | MPa | ASTM D638 | 16 – 23 ^[1] | 32 – 41 ^[1] |
| Elongation at Break | % | ASTM D638 | 16 – 19 ^[1] | 6 – 9 ^[1] |
| Flexural Modulus | MPa | ASTM D790 | 500 – 900 ^[2] | 1900 – 2200 ^[2] |
| Flexural Stress at Break | MPa | ASTM D790 | 24 – 36 ^[2] | 73 – 78 ^[2] |
| Flexural Elongation at Break | % | ASTM D790 | >5 ^[2] | 4 – 5 ^[2] |
| IZOD Impact (Notched) | J/m | ASTM D256 | - | 21 – 22 ^[3] |
| Shore Hardness (3s) | D | ASTM D2240 | - | 76 - 80 ^[4] |

Other Properties

| | | | | |
|-------------------------|-------------------|------------|---------------------|----------------------------|
| HDT at 0.455 MPa | °C | ASTM D648 | - | 51 – 53 ^[5] |
| HDT at 1.82 MPa | °C | ASTM D648 | - | 42 – 45 ^[5] |
| Water Absorption (24hr) | % | ASTM D570 | - | 0.19 – 0.23 ^[6] |
| Water Absorption (48hr) | % | ASTM D570 | - | 0.25 – 0.34 ^[6] |
| Water Absorption (72hr) | % | ASTM D570 | - | 0.42 ^[6] |
| Solid Density | g/cm ³ | ASTM D1475 | 1.16 ^[7] | 1.16 ^[7] |

Liquid Properties

| Liquid Properties | Measure | Method | Value |
|--------------------------|-------------------|------------|--------------------------|
| Viscosity at 25°C (77°F) | cP | ASTM D7867 | 180 - 250 ^[8] |
| Liquid Density | g/cm ³ | ASTM D1475 | 1.08 ^[7] |

Test parameters:

"All specimen are printed unless otherwise noted. All specimen were conditioned in ambient lab conditions at 19-23°C / 40-60% RH for at least 24 hours." ASTM Methods: D638 Type IV, 5 mm/min, D790-B, 13 mm/min, D648, D256 Notched IZOD (Machine Notched), 6 mm x 12 mm, D570 0.125" x 2" Disc 24hr@ 25°C, D2240, Type "D" (3 seconds), D7867, D1475

Internal Data Sources:

[1]GEN540553, [2]GEN540581, [3]FOR540608, [4]GEN540637, [5]GEN540620, [6]GEN541413, [7]FOR528728, [8]GEN540678





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WORKFLOW

Validated workflows need to be followed to achieve properties as provided in the TDS. Examples of validated workflow steps are listed below. Users should defer to the most current workflow information for best results which can be found at <https://www.loctiteam.com/printer-validation-settings>

PRINTER SETTINGS

LOCTITE 3D PRO9274 GY is formulated to print optimally on LCD and DLP printers. Read the safety data sheet carefully to get details about health and safety instructions. Recommended print parameters:

- Shake resin bottle well before usage
- Temperature: 20°C to 35°C
- Intensity: 1.5 mW/cm² to 5 mW/cm²

| Settings: 405 nm at 2 mW/cm ² | Measure | Method | Value |
|--|---------|----------|-------|
| Layer Thickness | µm | Internal | 50 |
| Burn-in Region | s | Internal | 5.5 |
| Transition Region | s | Internal | 5.5 |
| Model Region | s | Internal | 5.5 |

| Settings: 405 nm at 2 mW/cm ² | Measure | Method | Value |
|--|--------------------|----------|----------------------|
| E _C | mJ/cm ² | Internal | 5.038 ^[9] |
| D _p | mm | Internal | 0.136 ^[9] |

| Settings: 405 nm at 2 mW/cm ² | Measure | Method | Exposure Time |
|--|---------|----------|----------------------|
| D _C = 50µm | s | Internal | 3.14 ^[10] |
| D _C = 100µm | s | Internal | 4.54 ^[10] |

Test parameters:
Exposure times are calculated without a safety factor

Internal data source:
^[9] FOR540761, ^[10] GEN541400





PRO9274™ GENERAL PURPOSE GRAY



WORKFLOW

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CLEANING

LOCTITE 3D PRO9274 GY requires post processing to achieve specified properties. Prior to post curing, support structures should be removed from the printed part, and the part should then be washed. Use compressed air to remove residual solvent from the surface of the material between intervals.

| Post Process Step | Agent | Method | Duration | Intervals | Additional Info |
|-------------------------|-------|-------------------|--------------|-----------|-------------------------|
| Cleaning Step #1 | IPA | Ultrasonic | 1 min | 1 | Dry after each interval |
| Cleaning Step #2 | IPA | Ultrasonic | 1 min | 1 | Dry after each interval |
| Dry | n.a. | Compressed air | 10 s to 60 s | 1 | Air pressure (30psi) |
| Wait before post curing | n.a. | Ambient condition | 60 min | 1 | Room temperature |

POST CURING

LOCTITE 3D PRO9274 GY requires post curing to achieve specified properties. It is recommended that either an LED or wide spectrum lamp be used to post cure parts.

| UV Curing Unit | UV Source | Intensity | Cure time per side | Additional Settings (Shelf, Output Energy) |
|---------------------------------------|-----------|---------------------------------|--------------------|--|
| Loctite CL36 | 405nm LED | 20 mW/cm ² at 405 nm | 15 min | 25% top & side |
| Anycubic Wash & Cure 2.0 | 405nm LED | 22 mW/cm ² at 405 nm | 20 min | Rotary Table |
| Elegoo Mercury Plus 2.0 Wash and Cure | 405nm LED | 22 mW/cm ² at 405 nm | 20 min | Rotary Table |





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WORKFLOW

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STORAGE

Store **LOCTITE 3D PRO9274 GY** in the unopened container in a dry location. Optimal Storage: 8 °C to 30 °C. Storage below 8 °C or above 30 °C can adversely affect product properties. Material removed from containers may be contaminated during use. For this reason, filter used resin with 190 µm mesh filter before placing back into proper storage container.





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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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