Technical Data Sheet

# LOCTITE® AA 352™

January 2025

## PRODUCT DESCRIPTION

LOCTITE® AA 352™ provides the following product characteristics:

| | |
|---|---|
| **Technology** | Acrylic |
| Chemical Type | Modified Acrylic |
| Appearance (uncured) | Transparent light amber liquid |
| Components | One component – requires no mixing |
| Viscosity | Medium |
| **Cure** | Ultraviolet (UV) light |
| **Secondary Cure** | Heat and Activator |
| **Application** | Bonding, Coating or Sealing |
| Specific Benefits | Production - high speed curing |

LOCTITE® AA 352™ is suitable for bonding a wide range of materials. When cured, it is highly resistant to vibration and impact forces. LOCTITE® AA 352™ is used to bond, seal or coat metal and glass components in industrial applications. Typical uses include unitizing electrical devices, appliance parts and decorative components.

## TYPICAL PROPERTIES OF UNDRIED MATERIAL

| | |
|---|---|
| Specific Gravity @ 25 °C | 1.06 |
| Refractive Index, ASTM D542 | 1.48 |
| Color, Gardener standard number, ISO 4630-1 | 6 |
| Viscosity @ 25°C, mPa.s (cP) | |
| Brookfield – RVT | |
| Spindle 6, Speed 20 rpm | 20,500 |

## TYPICAL CURING PERFORMANCE

This product is cured when exposed to UV radiation of 365nm. To obtain a full cure on surfaces exposed to air, radiation at 250nm is also required. The speed of cure will depend on the UV intensity as measured at the product surface.

### Fixture Time

Fixture time is defined as the time to develop a shear strength of 0.1 N/mm².

UV Fixture Time, Glass microscope slides, seconds:

LED flood light, CL42:

| | |
|---|---|
| 100 mW/cm², measured @ 405 nm, | 5 |
| 100 mW/cm², measured @ 365 nm, | 5 |

UV Fixture Time, Glass microscope slides, seconds:

Black light, Zeta® 7500 light source:

| | |
|---|---|
| 6 mW/cm², measured @ 365 nm, | 12 |

### Tack Free Time

Tack Free Time is the time required to achieve a tack free surface.

Tack Free Time, seconds:

LED flood light, CL42:

| | |
|---|---|
| 514 mW/cm², measured @ 405 nm, | >60 |
| 1290 mW/cm², measured @ 405 nm, | >60 |
| 100 mW/cm², measured @ 365 nm, | >60 |
| 1000 mW/cm², measured @ 365 nm, | >60 |

Zeta® 7200:

| | |
|---|---|
| 50 mW/cm², measured @ 365 nm, | 20 |
| 100 mW/cm², measured @ 365 nm, | 10 |

Electrodeless, D bulb:

| | |
|---|---|
| 50 mW/cm², measured @ 365 nm, | 90 |
| 100 mW/cm², measured @ 365 nm, | 45 |

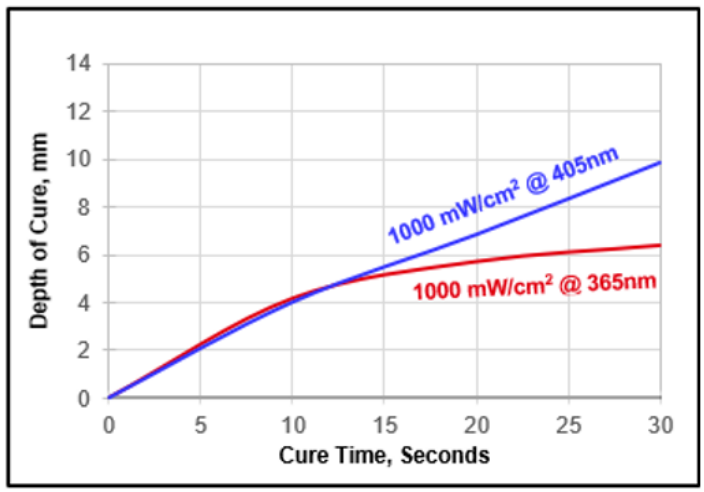
Tack Free Time, minutes:

Zeta® 7400:

| | |
|---|---|
| 30 mW/cm², measured @ 365 nm, | >5 |
| 50 mW/cm², measured @ 365 nm, | >5 |

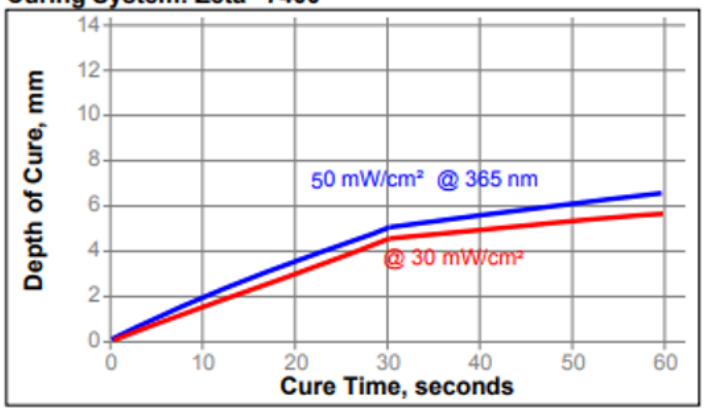
### Depth of Cure vs. Irradiance (LED)

The graph below shows the increase in depth of cure with timeat various light intensities as measured from the thickness ofthe cured product formed.

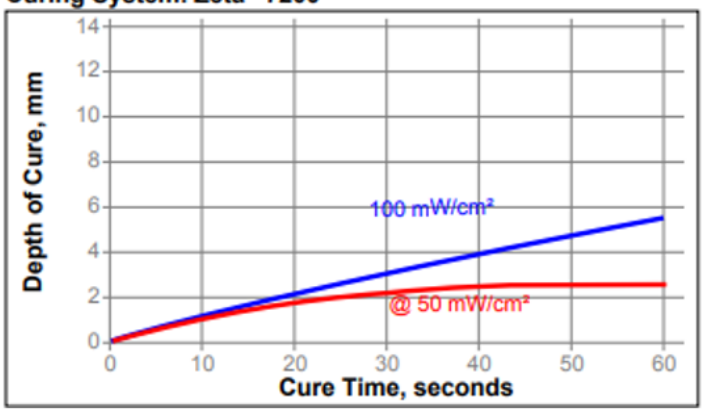


**Depth of Cure vs. Irradiance (365 nm)**
Cure depth depends both on external factors including the type of light source, light intensity and exposure time and on internal factors including composition of the adhesive . The following graphs show the effect of light source, light intensity and exposure time on depth of cure for LOCTITE® AA 352™.

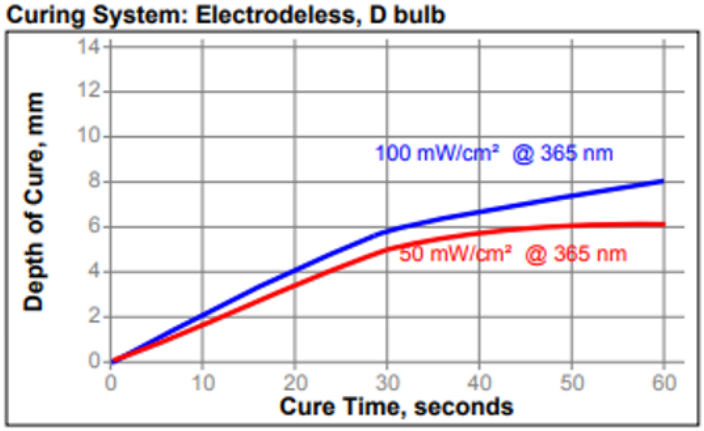
**Curing System: Zeta® 7400**




**Curing System: Zeta® 7200**




**Curing System: Electrodeless, D bulb**




**Heat Cure**
This product may be cured with heat. The bond area should be heated to 121°C and maintained at that temperature for 30 minutes.

**Activator Cure**
Apply LOCTITE® Activator 7075™ to one surface and the adhesive to the other, mate and clamp. The assembly will reach handling strength in approximately 4 minutes if the gap is small, full cure in 72 hours.

**TYPICAL PERFORMANCE OF CURED MATERIAL**
Cured @ 100 mW/cm², measured @ 365 nm, for 30 seconds per side. Plus, 24 hours @ 22°C.

**Physical Properties**

| | | |
|---|---|---|
| Shore Hardness, ISO 868, Durometer D | | 60 |
| Refractive Index, ASTM D542 | | 1.51 |
| Water Absorption, %: | | 8.7 |
| Elongation, at break, ISO 527-3, % | | 290 |
| Tensile Strength, at break, ISO 527-3 | N/mm² (psi) | 24.4 (3,540) |
| Tensile Modulus, ISO 527-2 | N/mm² (psi) | 255 (37,000) |
| Glass Transition Temperature, ISO 11357-2, °C | | 45 |

**Electrical Properties**
Dielectric Constant / Dissipation Factor, IEC 60250:

| | |
|---|---|
| 1-kHz | 5.2 / 0.03 |
| Dielectric Breakdown Strength, IEC 60243-1, kV/mm | 25 |
| Volume Resistivity, IEC 60093, Ω·cm | $8x10^{12}$ |

**Adhesive Properties:**
Cured @ 100 mW/cm², measured @ 365 nm, for 30 seconds using a medium pressure mercury arc light source.

Block Shear Strength, ISO 13445:

| | | |
|---|---|---|
| Steel to Glass | $N/mm^2$ (psi) | 16.5 (2,400) |
| Aluminum to Glass | $N/mm^2$ (psi) | 10.2 (1,485) |
| Polycarbonate to Glass | $N/mm^2$ (psi) | 8.2 (1,200) |
| PVC to Glass | $N/mm^2$ (psi) | 8.8 (1,290) |
| ABS to Glass | $N/mm^2$ (psi) | 7.9 (1,150) |
| G-10 Epoxyglass to Glass | $N/mm^2$ (psi) | 13.5 (1,960) |

| | | |
|---|---|---|
| Cured for 24 h @ 22 °C, Activator 7075™ on 1 side | | |
| Lap Shear Strength, ISO 4587: | | |
| Steel (Grit Blasted) | $N/mm^2$ (psi) | 15.2 (2,200) |
| Cured @ 121°C for 45 minutes | | |
| Lap Shear Strength, ISO 4587: | | |
| Steel to Glass | $N/mm^2$ (psi) | 20.6 (3,000) |
| Cured @ 121°C for 35 minutes | | |
| Lap Shear Strength, ISO 4587: | | |
| Aluminum to Glass | $N/mm^2$ (psi) | 18.6 (2,710) |
| Cured @ 121°C for 25 minutes | | |
| Block Shear Strength, ISO 13445: | | |
| Steel | $N/mm^2$ (psi) | 13.1 (1,910) |
| Aluminum | $N/mm^2$ (psi) | 10.6 (1,540) |

**TYPICAL ENVIRONMENTAL RESISTANCE**

Cured @ 100 mW/cm², measured @ 365 nm, for 30 seconds using a medium pressure mercury arc light source.

Block Shear Strength, ISO 13445:

Steel to Glass

**Chemical/Solvent Resistance**

Aged under conditions indicated and tested @ 23°C.

| | | % of initial strength | |
|---|---|---|---|
| **Environment** | °C | 300 h | 500 h |
| Air | 121 | 75 | 80 |
| Air | 150 | 50 | 55 |
| Motor oil (10W30) | 22 | 90 | 85 |
| Unleaded gasoline | 22 | 70 | 80 |
| Heat/Humidity 90% RH | 50 | 45 | 30 |

| | | % of initial strength | | |
|---|---|---|---|---|
| **Environment** | °C | 2 h | 24 h | 170 h |
| Isopropanol | 22 | -- | 80 | -- |
| Boiling Water | 100 | 85 | -- | -- |
| Water | 50 | -- | -- | 75 |

**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:**

1. This product is light sensitive; exposure to daylight, UV light and/or artificial lighting should be kept to a minimum during storage and handling.
2. The product should be dispensed from applicators with black feedlines.
3. For best performance bond surfaces should be clean and free from grease.
4. Cure rate is dependent on lamp intensity, distance from light source, depth of cure needed or bondline gap and light transmission of the substrate through which the radiation must pass.
5. Cooling should be provided for temperature sensitive substrates such as thermoplastics.
6. Plastic grades should be checked for risk of stress cracking when exposed to liquid adhesive.
7. Excess adhesive can be wiped away with organic solvent.
8. Bonds should be allowed to cool before subjecting to any service loads.

**Storage**

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.
**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 Corporation 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 Henkel representative.

**Product Specification**

The technical data contained herein are intended as reference only and are not considered specifications for the product.
Product specifications are located on the Certificate of Analysis or please contact Henkel representative.

**Approval and Certificate**

Please contact Henkel representative for related approval or certificate of this product.

**Data Ranges**

The data contained herein may be reported as a typical value. Values are based on actual test data and are verified on a periodic basis.

Temperature/Humidity Ranges: 23°C / 50% RH = 23±2°C / 50±5% RH

**Conversions**
(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
µm / 25.4 = mil
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm² x 145 = psi
MPa x 145 = psi
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

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