**PRODUCT DESCRIPTION**

LOCTITE® AA 3494™ provides the following product characteristics:

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
<td>Acrylic</td>
</tr>
<tr>
<td>Chemical Type</td>
<td>Modified acrylic</td>
</tr>
<tr>
<td>Appearance (uncured)</td>
<td>Transparent liquid&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>Components</td>
<td>One component - requires no mixing</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Medium</td>
</tr>
<tr>
<td>Cure</td>
<td>Ultraviolet (UV)/ visible light</td>
</tr>
<tr>
<td>Cure Benefit</td>
<td>Production - high speed curing</td>
</tr>
<tr>
<td>Application</td>
<td>Bonding, Potting or Sealing</td>
</tr>
</tbody>
</table>

LOCTITE® AA 3494™ cures in seconds upon exposure to ultraviolet radiation of 365nm to form an impact resistant bond which exhibits excellent resistance to prolonged humidity or water immersion. Typical applications include bonding and sealing or potting applications of glass to itself or other materials, such as rough surface decorative glass, molded glass tableware items or automotive lighting components.

**TYPICAL PROPERTIES OF UNCURED MATERIAL**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific Gravity @ 25 °C</td>
<td>1.02</td>
</tr>
<tr>
<td>Refractive Index</td>
<td>1.48</td>
</tr>
<tr>
<td>Flash Point - See SDS</td>
<td></td>
</tr>
<tr>
<td>Viscosity, Brookfield - RVT, 25 °C, mPa·s (cP):</td>
<td></td>
</tr>
<tr>
<td>Spindle 4, speed 20 rpm,</td>
<td>5,000 to 7,000&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

**TYPICAL CURING PERFORMANCE**

LOCTITE® AA 3494™ can be cured by exposure to ultraviolet and/or visible light of sufficient intensity. Surface cure is enhanced by exposure to UV light in the 220 to 260 nm range. Cure rate and ultimate depth of cure depend on light intensity, spectral distribution of the light source, exposure time and light transmittance of the substrate through which the light must pass.

**Fixture Time**

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

**Surface Cure**

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

<table>
<thead>
<tr>
<th>Surface Cure</th>
<th>Time, seconds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tack Free Time</td>
<td>Medium pressure mercury arc:</td>
</tr>
<tr>
<td></td>
<td>50 mW/cm², measured @ 365 nm</td>
</tr>
<tr>
<td></td>
<td>100 mW/cm², measured @ 365 nm</td>
</tr>
<tr>
<td>Tack Free Time</td>
<td>Electroless, D bulb:</td>
</tr>
<tr>
<td></td>
<td>50 mW/cm², measured @ 365 nm</td>
</tr>
<tr>
<td></td>
<td>100 mW/cm², measured @ 365 nm</td>
</tr>
<tr>
<td>Tack Free Time</td>
<td>Electroless, V bulb:</td>
</tr>
<tr>
<td></td>
<td>50 mW/cm², measured @ 365 nm</td>
</tr>
<tr>
<td></td>
<td>100 mW/cm², measured @ 365 nm</td>
</tr>
</tbody>
</table>

The following graphs show the effect of light source, light intensity and exposure time on depth of cure for LOCTITE® AA 3494™

**Depth of Cure vs. Irradiance (365 nm)**

Curing System: Medium Pressure Mercury Arc

![Graph showing depth of cure vs. irradiance](image)
Curing System: Electrodeless, D bulb

Curing System: Electrodeless, V bulb

TYPICAL PROPERTIES OF CURED MATERIAL
Cured @ 100 mW/cm², measured @ 365 nm, for 30 seconds per side using an Electrodeless system, D bulb plus 24 hours @ 22 °C

Physical Properties:
- Coefficient of Thermal Expansion, ISO 11359-2, K⁻¹:
  - Pre Tg: 87×10⁻⁶
  - Post Tg: 250×10⁻⁶
- Glass Transition Temperature, ISO 11357-2, °C: 31
- Shore Hardness, ISO 868, Durometer D: 65
- Refractive Index: 1.5
- Water Absorption, ISO 62, %:
  - 2 hours in boiling water: 4.08
- Elongation, at break, ISO 527-3, %: 190
- Tensile Strength, at break, ISO 527-3: N/mm² (psi):
  - N/mm²: 22.5 (3,270)
- Tensile Modulus, ISO 527-3: N/mm² (psi):
  - N/mm²: 520 (75,400)

Electrical Properties:
- Dielectric Constant / Dissipation Factor, IEC 60250:
  - 1 kHz: 3.99 / 0.02
  - 10 kHz: 3.88 / 0.02
  - 100 kHz: 3.76 / 0.02
- Volume Resistivity, IEC 60093, Ω-cm: 3.3×10¹⁰
- Surface Resistivity, IEC 60093, Ω: 3.0×10¹⁰
- Dielectric Breakdown Strength, kV/mm: 32.3

Cured @ 50 mW/cm², measured @ 365 nm, for 30 seconds using an Electrodeless system, D bulb

Adhesive Properties:
- Steel to Glass: N/mm² (psi):
  - 16.8 (2,440)
- Aluminum to Glass: N/mm² (psi):
  - 13.8 (2,000)
- G-10 Epoxyglass to Glass: N/mm² (psi):
  - 7.4 (1,080)
- Polycarbonate to Glass: N/mm² (psi):
  - 4.7 (680)
- PVC to Glass: N/mm² (psi):
  - 6.5 (940)
- ABS to Glass: N/mm² (psi):
  - 5.3 (770)

Cured @ 50 mW/cm², measured @ 365 nm, for 30 seconds using an Electrodeless system, D bulb

Torsional Shear Strength, ASTM D 3658:
- Aluminum hex button to Glass: N·m (lb·ft): ≥67.8 LUS

TYPICAL ENVIRONMENTAL RESISTANCE
Cured @ 100 mW/cm², measured @ 365 nm, for 30 seconds per side using an Electrodeless system, D bulb plus 24 hours @ 22 °C

Heat Aging
Aged at temperature indicated and tested @ 22 °C

Chemical/Solvent Resistance
Aged under conditions indicated and tested @ 22 °C.

<table>
<thead>
<tr>
<th>Environment</th>
<th>% of initial strength</th>
<th>% of initial strength</th>
<th>% of initial strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condensing Humidity</td>
<td>49 75 75 60 60</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Motor oil (10W30)</td>
<td>22 75 60 90</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>Unleaded gasoline</td>
<td>22 70 65 55</td>
<td>55</td>
<td>55</td>
</tr>
<tr>
<td>Salt fog</td>
<td>22 90 80 75</td>
<td>75</td>
<td>75</td>
</tr>
</tbody>
</table>

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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 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 transmittance of the substrate through which the radiation must pass.
5. Recommended intensity for cure in an adhesive application (between substrates) is 40mW/cm² minimum (measured at the bondline) with an exposure time of 5-6 times the fixture time at this same intensity.
6. For dry curing of exposed surfaces, higher intensity UV is required (100 mW/cm²).
7. Cooling should be provided for temperature sensitive substrates such as thermoplastics.
8. Plastic grades should be checked for risk of stress cracking when exposed to liquid adhesive.
9. Excess uncured adhesive can be wiped away with organic solvent (e.g. Acetone).
10. Bonds should be allowed to cool before subjecting to any service loads.

Loctite Material Specification
LMS dated March 4, 1998. 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 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 Technical Service Center or Customer Service Representative.

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/mm² x 145 = psi
MPa x 154 = 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

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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Reference 2.1