



# LOCTITE<sup>®</sup> 3662™

December 2008

## PRODUCT DESCRIPTION

LOCTITE<sup>®</sup> 3662™ provides the following product characteristics:

<b>Technology</b>	Acrylic
<b>Chemical Type</b>	Urethane methacrylate
<b>Appearance (uncured)</b>	Transparent, yellow to light amber liquid <sup>LMS</sup>
<b>Components</b>	One component - requires no mixing
<b>Viscosity</b>	Medium
<b>Cure</b>	Ultraviolet (UV) light
<b>Secondary Cure</b>	Activator
<b>Application</b>	Bonding, Coating or Sealing

LOCTITE<sup>®</sup> 3662™ is a single component, medium viscosity, UV anaerobic structural adhesive suitable for bonding a wide range of materials. The product cures when exposed to suitable ultraviolet radiation and can also bond surfaces treated with a surface activator. When cured, it is highly resistant to vibration and impact forces. LOCTITE<sup>®</sup> 3662™ is used to bond, seal or coat metal and glass components in industrial applications. Typical uses include hard disk drive applications.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	1.13
Flash Point - See MSDS	
Viscosity, Brookfield - RVT, 25 °C, mPa·s (cP):	
Spindle 4, speed 10 rpm	6,000 to 12,000 <sup>LMS</sup>
Ionic Contaminants, ppm:	
Chloride	≤250 <sup>LMS</sup>
Sulfate	≤100 <sup>LMS</sup>
Ionic Contaminants, ppb:	
Tin	≤500 <sup>LMS</sup>
Infrared Spectroscopy	To match standard <sup>LMS</sup>

## TYPICAL CURING PERFORMANCE

LOCTITE<sup>®</sup> 3662™ can be cured when exposed to UV radiation of 365 nm. To obtain a full cure on surfaces exposed to air, radiation at 250 nm is also required. The speed of cure will depend on the UV intensity as measured at the product surface. Typical cure condition is <15 seconds at 100mW/cm<sup>2</sup> using a medium pressure, quartz envelope, mercury vapour UV lamp.

## Fixture Time

UV fixture time is defined as the light exposure time required to develop a shear strength of 0.1 N/mm<sup>2</sup>.

UV Fixture Time, Glass microscope slides, seconds:  
25 mW/cm<sup>2</sup>, measured @ 365 nm ≤15<sup>LMS</sup>

## TYPICAL PROPERTIES OF CURED MATERIAL

### Physical Properties:

Coefficient of Thermal Expansion, ISO 11359-2, K <sup>-1</sup> :	
Pre Tg	104×10 <sup>-6</sup>

Post Tg	295×10 <sup>-6</sup>
Glass Transition Temperature, ISO 11359-2, °C	58
Shore Hardness, ISO 868, Durometer D	70

Cured @ 150 mW/cm<sup>2</sup>, measured @ 365 nm, for 30 seconds, tested @ 85 °C for 2 hours.

### Physical Properties

Outgassing, % Weight Loss ≤1<sup>LMS</sup>

## TYPICAL PERFORMANCE OF CURED MATERIAL

### Adhesive Properties

Cured for 24 hours @ 22 °C, Activator 7649™ on 2 sides

### Shear Strength

Lap Shear Strength, ISO 4587:	
Steel (grit blasted)	N/mm <sup>2</sup> ≥10.3 <sup>LMS</sup> (psi) (≥1,493)

## GENERAL INFORMATION

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

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

## 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 bondline situation is 40 mW/cm<sup>2</sup> minimum (measured at the bondline) with an exposure time of 4-5 times the fixture time at the same intensity.
6. For dry curing of exposed surfaces, higher intensity UV is required (100 mW/cm<sup>2</sup>).
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<sup>LMS</sup>**

LMS dated March 15, 2001. 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 Technical Service Center 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**

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Reference 1.1