Technical Data Sheet

LOCTITE® AA 3345™

Known as LOCTITE® 3345™
November 2016

PRODUCT DESCRIPTION

LOCTITE® AA 3345™ provides the following product characteristics:

Technology	Acrylic
Chemical Type	Urethane methacrylate
Appearance (uncured)	Clear, light straw colored liquid[LMS]
Fluorescence	Negative
Components	One component - requires no mixing
Viscosity	Medium
Cure	Ultraviolet (UV) light
Cure Benefit	Production - high speed curing
Application	Bonding

LOCTITE® AA 3345™ is primarily designed for bonding glass to metal including medical devices which may be exposed to steam sterilization conditions. Suitable for use in the assembly of **disposable medical devices**.

ISO-10993

An ISO 10993 Test Protocol is an integral part of the Quality Program for LOCTITE® AA 3345™. LOCTITE® AA 3345™ has been qualified to Henkel's ISO 10993 Protocol as a means to assist in the selection of products for use in the medical device industry. Certificates of Compliance are available on Henkel's website or through the Henkel Quality Department.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	1.0
Flash Point - See SDS	
Viscosity, Brookfield - RVT, 25 °C, mPa·s (cP):	
Spindle 3, speed 20 rpm	1,000 to 2,000[LMS]

TYPICAL CURING PERFORMANCE

LOCTITE® AA 3345™ 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.

Tack Free Time

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

Tack Free Time, seconds:	
100 mW/cm² , measured @ 365 nm	20 to 60[LMS]

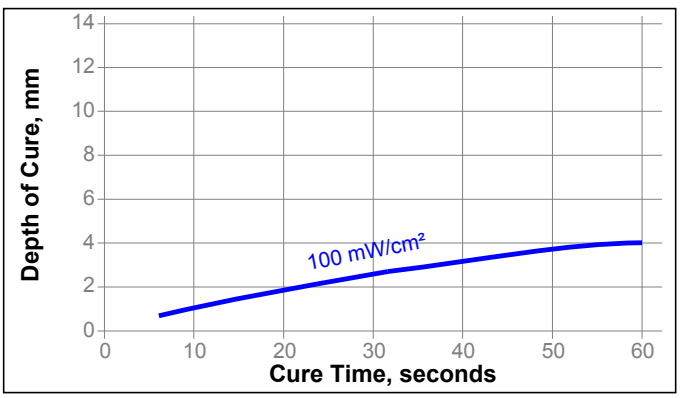
Fixture Time

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

UV Fixture Time, Glass, seconds:	
10 mW/cm² , measured @ 365 nm	15 to 25
100 mW/cm² , measured @ 365 nm	5 to 15
6 mW/cm² , measured @ 365 nm	20 to 60[LMS]

Depth of Cure vs. Irradiance (365 nm)

The graph below shows the increase in depth of cure with time at 100mW/cm² as measured from the thickness of the cured pellet formed in a 15mm diameter PTFE die.



TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties

Coefficient of Thermal Expansion, ISO 11359-2, K^{-1}	100×10^{-6}
Coefficient of Thermal Conductivity, ISO 8302, W/(m·K)	0.1
Shore Hardness, ISO 868, Durometer D	70
UV Depth of Cure, mm:	
100 mW/cm² , measured @ 365 nm	≥2.5[LMS]

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

Cured @ 100 mW/cm² , measured @ 365 nm, for 20 seconds plus 24 hours @ 22 °C

Tensile Strength, ISO 6922:		
Steel pin (grit blasted) to Glass	N/mm²	≥7
	(psi)	(≥1,015)

TYPICAL ENVIRONMENTAL RESISTANCE

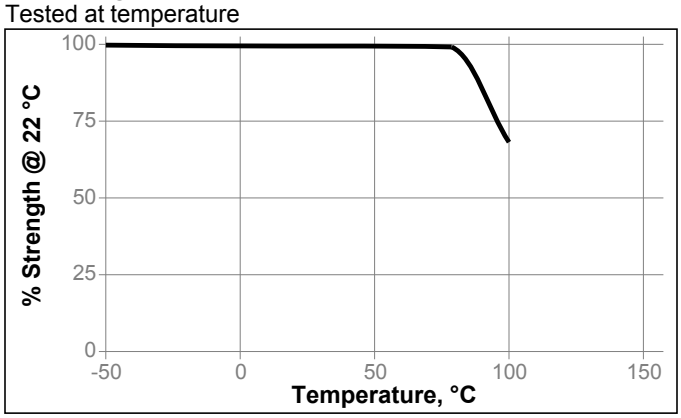
Cured @ 100 mW/cm² , measured @ 365 nm, for 30 seconds plus 1 week @ 22 °C

Tensile Strength, ISO 6922:

Steel pin (grit blasted) to Glass

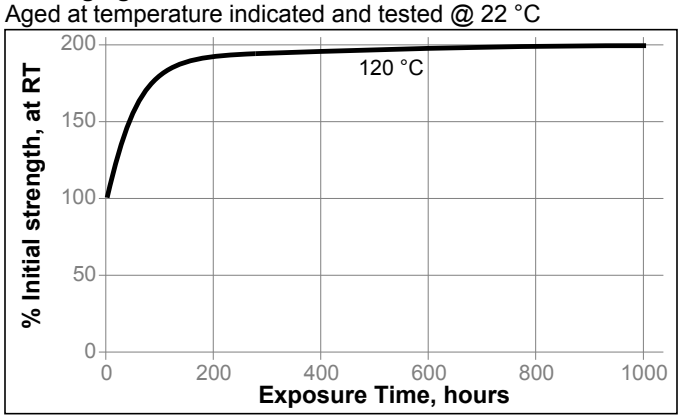
Hot Strength

Tested at temperature



Heat Aging

Aged at temperature indicated and tested @ 22 °C



Chemical/Solvent Resistance

Aged under conditions indicated and tested @ 22 °C.

		% of initial strength		
Environment	**°C**	**100 h**	**500 h**	**1000 h**
Heat/humidity 90% RH	40	80	80	60
Gasoline	22	95	95	95
Freon TA	22	100	100	100
Industrial methylated spirits	22	100	100	100

Effects of Sterilization

In general, products similiar in composition to LOCTITE® AA 3345™ subjected to standard sterilization methods, such as EtO and Gamma Radiation (25 to 50 kiloGrays cumulative) show excellent bond strength retention. LOCTITE® AA 3345™ maintains bond strength after 1 cycle of steam autoclave. It is recommended that customers test specific parts after subjecting them to the preferred sterilization method. Consult with Loctite® for a product recommendation if your device will see more than 3 sterilization cycles.

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 bondline situation is 5 mW/cm² 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/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]

LMS dated April 23, 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

(°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

Reference 1.4