Technical Data Sheet

LOCTITE® AA 3526™

Known as LOCTITE® 3526™
January 2015

PRODUCT DESCRIPTION

LOCTITE® AA 3526™ provides the following product characteristics:

Technology	Acrylic
Chemical Type	Modified acrylic
Appearance (uncured)	Transparent, pale straw to amber liquid[LMS]
Fluorescence	Positive under UV light[LMS]
Components	One component - requires no mixing
Viscosity	Medium
Cure	Ultraviolet (UV)/ visible light
Secondary Cure	Heat
Cure Benefit	Production - high speed curing
Application	Bonding

LOCTITE® AA 3526™ cures rapidly to form flexible, transparent bonds when exposed to ultraviolet light and/or visible light of sufficient irradiance and has shown excellent adhesion to a wide variety of substrates including glass, many plastics and most metals. The secondary cure system permits cure of product in shadowed areas.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	1.06
Refractive Index, ASTM D542	1.49
Flash Point - See SDS	
Viscosity, Brookfield - RVT, 25 °C, mPa·s (cP):	
Spindle 6, speed 20 rpm,	11,000 to 24,000[LMS]

TYPICAL CURING PERFORMANCE

LOCTITE® AA 3526™ can be cured by exposure to UV and/or visible light radiation or heat . The speed and depth of cure will depend on the UV intensity measured at the product surface.

Heat Cure

This product may be cured with heat. The bond area should be heated to 121°C and maintained at that temperature for 15 minutes.

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:

Black light, Zeta® 7500 light source:	
6 mW/cm² , measured @ 365 nm	≤5[LMS]

Tack Free Time

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

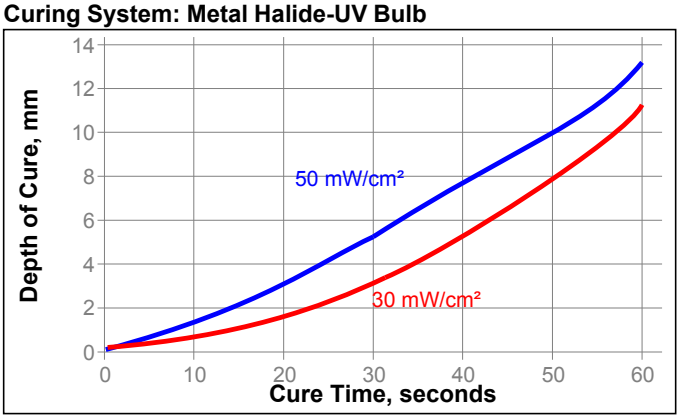
Tack Free Time, seconds:

Metal halide, UV bulb:	
30 mW/cm² , measured @ 365 nm	≤60
50 mW/cm² , measured @ 365 nm	≤45
Metal halide, V bulb:	
30 mW/cm² , measured @ 365 nm	≤150
50 mW/cm² , measured @ 365 nm	≤60
Hg Arc light source:	
50 mW/cm² , measured @ 365 nm	≤10
100 mW/cm² , measured @ 365 nm	≤5
Electrodeless, D bulb:	
50 mW/cm² , measured @ 365 nm	≤20
100 mW/cm² , measured @ 365 nm	≤10
Electrodeless, V bulb:	
50 mW/cm² , measured @ 365 nm	≤20
100 mW/cm² , measured @ 365 nm	≤10

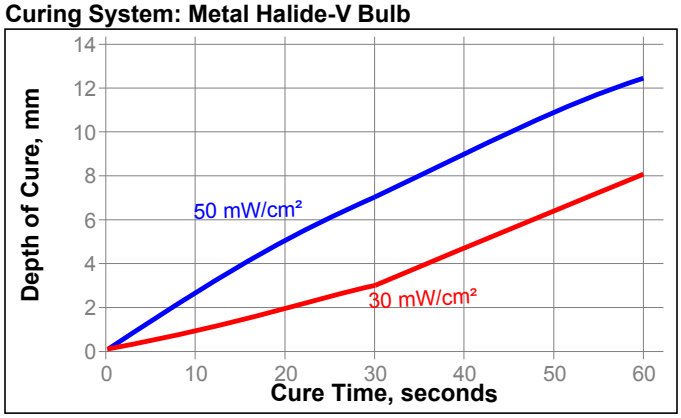
Depth of Cure

The following graphs show the effect of light source, light intensity and exposure time on depth of cure for LOCTITE® AA 3526™

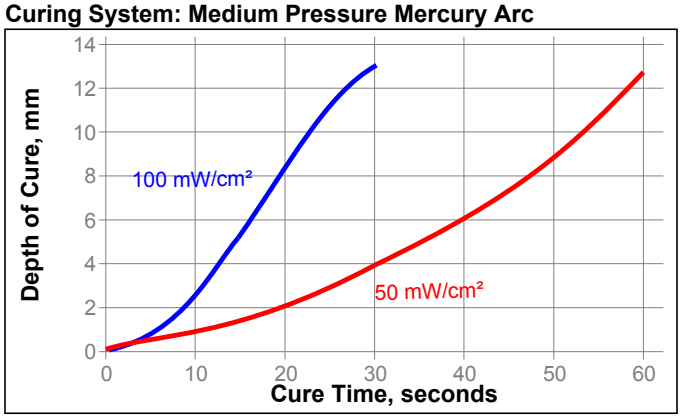
Curing System: Metal Halide-UV Bulb



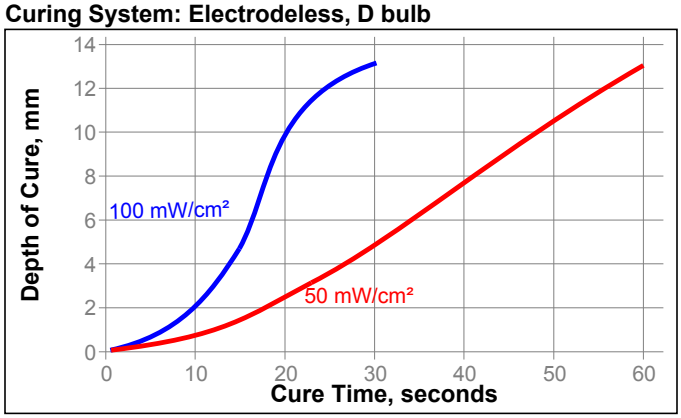
Curing System: Metal Halide-V Bulb



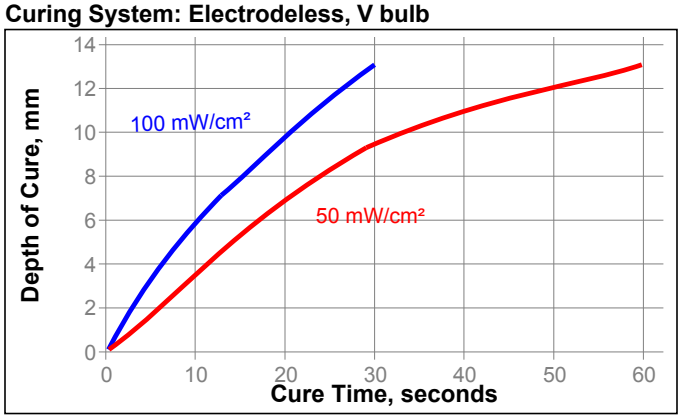
Curing System: Medium Pressure Mercury Arc



Curing System: Electrodeless, D bulb



Curing System: Electrodeless, V bulb



TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties:

Coefficient of Thermal Expansion, ISO 11359-2, K^{-1}		418×10^{-6}
Glass Transition Temperature, ASTM E 228, °C:		
(Tg) by TMA		36
Refractive Index		1.51
Water Absorption, ISO 62, %		5.6
Shore Hardness, ISO 868, Durometer D		62
Elongation, at break, ISO 527-3, %		185
Tensile Modulus, ISO 527-3	N/mm² (psi)	290 (42,000)
Tensile Strength, at break, ISO 527-3	N/mm² (psi)	23 (3,330)

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

Cured @ 30 mW/cm² , measured @ 365 nm, for 15 seconds using a Zeta® 7400 light source

Torsional Shear Strength, ASTM D 3658:

Aluminum hex button to Glass	N·m (lb·ft)	≥70[LMS] (≥51.6)

Cured @ 30 mW/cm² , measured @ 365 nm, for 30 seconds using a UV metal halide bulb

Block Shear Strength, ISO 13445:

Steel to Glass	N/mm² (psi)	10.6 (1,530)
Aluminum to Glass	N/mm² (psi)	9.1 (1,320)
Polycarbonate to Glass	N/mm² (psi)	4.1 (600)
PVC to Glass	N/mm² (psi)	5.1 (730)
ABS to Glass	N/mm² (psi)	1.5 (220)
G-10 Epoxyglass to Glass	N/mm² (psi)	6.7 (980)

Cured for 15 minutes @ 121 °C

Block Shear Strength, ISO 13445:

Steel to Glass	N/mm² (psi)	15.8 (2,300)
Aluminum to Glass	N/mm² (psi)	12.8 (1,860)

Lap Shear Strength, ISO 4587:

Steel	N/mm² (psi)	18.8 (2,720)
Aluminum	N/mm² (psi)	17.6 (2,550)

TYPICAL ENVIRONMENTAL RESISTANCE

Cured @ 30 mW/cm² , measured @ 365 nm, for 30 seconds using a UV metal halide bulb

Block Shear Strength, ISO 13445:

Steel to Glass

Chemical/Solvent Resistance

Aged under conditions indicated and tested @ 22 °C.

		% of initial strength	
Environment	**°C**	**300 h**	**500 h**
Air	121	85	85
Air	150	40	45
Motor oil (10W30)	22	85	95
Unleaded gasoline	22	110	90
Condensing Humidity	50	80	25

		% of initial strength		
Environment	**°C**	**2 h**	**24 h**	**170 h**
Isopropanol	22	------	80	------
Boiling water	100	110	------	------
Water	49	------	------	90

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. Full cure is estimated to be four to five times the fixture time.
6. For dry curing of exposed surfaces, mercury arc (Zeta® 7200) or Electrodeless system, D or H bulbs are recommended.
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 December 6, 2000. 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

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Reference 1.1