Technical Data Sheet

LOCTITE® AA 3341™

known as LOCTITE® 3341™ May 2024

PRODUCT DESCRIPTION

LOCTITE® AA 3341™ provides the following product characteristics:

Technology	Acrylic
Chemical Type	Acrylated urethane
Appearance (uncured)	Transparent light yellow liquid
Fluorescence	Positive under UV light
Components	One component – requires no mixing
Viscosity	Low
Flexibility	Enhances load bearing & shock absorbing characteristics of the bond area.
Cure	Ultraviolet (UV)/ visible light
Application	Bonding or Potting
Specific Benefits	Production - high speed curing

LOCTITE® AA 3341™ is designed primarily for bonding heavily plasticized PVC. This product has shown good adhesion to other thermoplastics, such as polycarbonate and ABS. Suitable for use in the assembly of **disposable medical devices**.

ISO-10993

LOCTITE® AA 3341™ has been tested to Henkel's test protocols based on ISO-10993 biocompatibility standards, as a means to assist in the selection of products for use in the medical device industry.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	1.09
Viscosity, Brookfield RVT, @25°C, mPa·s (cP) Spindle 1, Speed 10 rpm	525

TYPICAL CURING PERFORMANCE

LOCTITE® AA 3341™ can be cured by exposure to UV and/or visible light of sufficient intensity. To obtain full cure on surfaces exposed to air, radiation @ 220 to 260 nm is also required. The speed and depth of cure will depend upon the UV intensity and spectral distribution of the light source, the exposure time and the light transmittance of the substrates.

Stress Cracking

Liquid adhesive is applied to a polycarbonate bar 6.4 cm by 13 mm by 3 mm which is then flexed to induce a known stress level.

Stress cracking, ASTM D 3929, minutes:

12 N/mm^2 stress on bar	15

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/cm^2, measured @ 405 nm,	5
100 mW/cm^2, measured @ 365 nm,	5

UV Fixture Time, Glass microscope slides, seconds:

Black light, Zeta® 7500 light source:

6 mW/cm^2, measured @ 365 nm,	10

UV Fixture Time, Glass microscope slides, seconds:

Zeta® 7400 light source, Metal Halide bulb (Indium):

30 mW/cm^2, measured @ 400 nm,	5
50 mW/cm^2, measured @ 400 nm,	5

Electrodes, V Bulb:

30 mW/cm^2, measured @ 365 nm,	5
50 mW/cm^2, measured @ 365 nm,	5

Electrodes, H Bulb:

30 mW/cm^2, measured @ 365 nm,	5
50 mW/cm^2, measured @ 365 nm,	5

Electrodes, D Bulb:

30 mW/cm^2, measured @ 365 nm,	25
50 mW/cm^2, measured @ 365 nm,	15

Medium Pressure Hg Arc bulb, Zeta® 7200 light source:

50 mW/cm^2, measured @ 365 nm,	15
100 mW/cm^2, measured @ 365 nm,	15

Tack Free Time

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

Tack Free Time, seconds:

LED flood light, CL42:

100 mW/cm², measured @ 405 nm,	15
1000 mW/cm², measured @ 405 nm,	5
100 mW/cm², measured @ 365 nm,	8
1000 mW/cm², measured @ 365 nm,	5

Zeta® 7400 light source, Metal Halide bulb (Indium):

30 mW/cm^2, measured @ 400 nm,	85
50 mW/cm^2, measured @ 400 nm,	75

Electrodes, V Bulb:

30 mW/cm^2, measured @ 365 nm,	8
50 mW/cm^2, measured @ 365 nm,	8
100 mW/cm^2, measured @ 365 nm,	8

Electrodes, H Bulb:

30 mW/cm^2, measured @ 365 nm,	8
50 mW/cm^2, measured @ 365 nm,	8
100 mW/cm^2, measured @ 365 nm,	5

Electrodes, D Bulb:

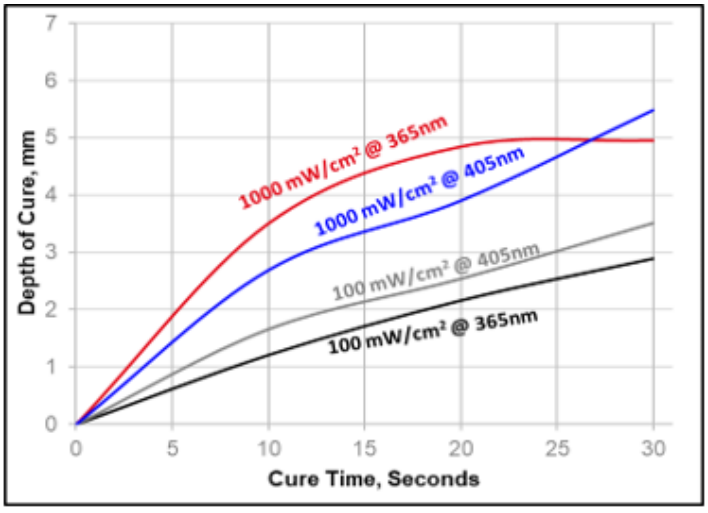
50 mW/cm^2, measured @ 365 nm,	25
100 mW/cm^2, measured @ 365 nm,	15

Medium Pressure Hg Arc bulb, Zeta® 7200 light source:

50 mW/cm^2, measured @ 365 nm,	15
100 mW/cm^2, measured @ 365 nm,	15

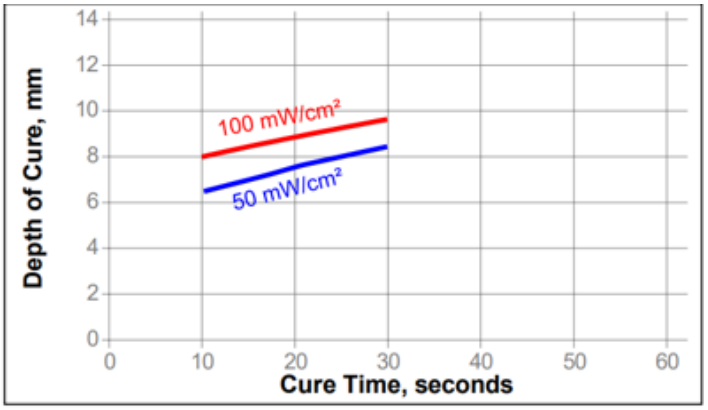
Depth of Cure vs. Irradiance (LED)
The graph below shows the increase in depth of cure with time at various light intensities as measured from the thickness of the cured product formed.

Curing System: LED flood light, CL42

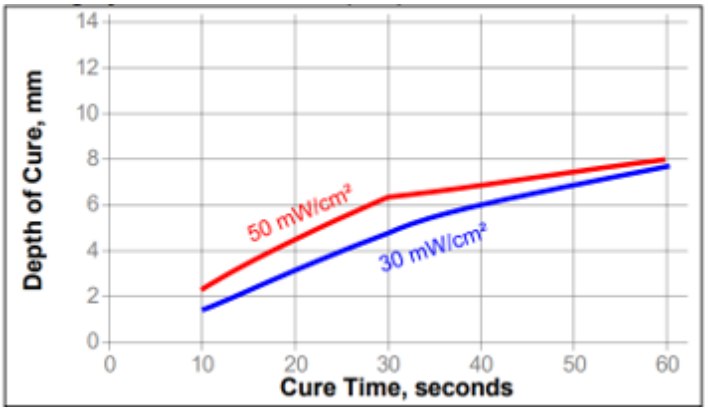


Depth of Cure vs. Irradiance (365 nm)
The graph below shows the increase in depth of cure with time. At 30 mW/cm^2 – 100 mW/cm^2 as measured from the thickness of the cured product formed in a 9.5 nm trough.

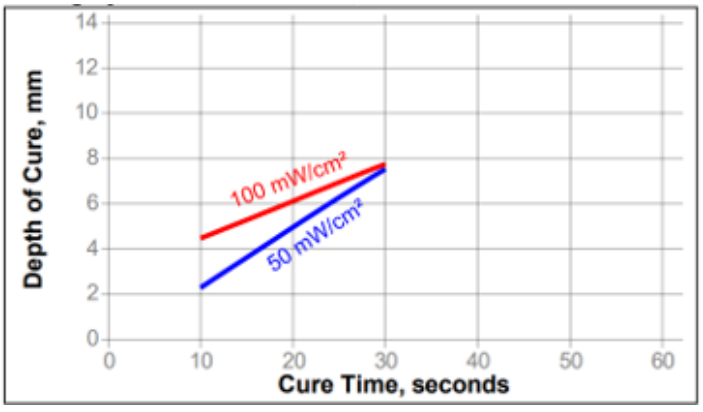
Curing System: Electrodeless, V bulb



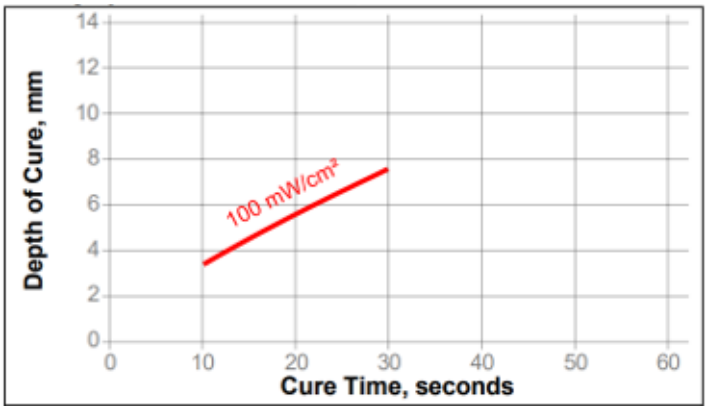
Curing System: Metal Halide (Iron)



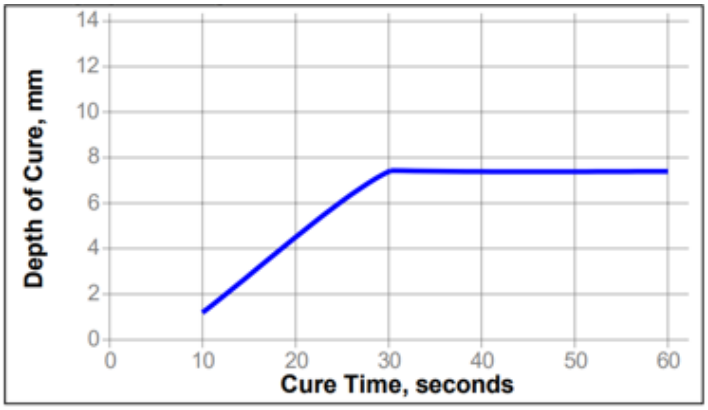
Curing System: Electrodeless, H bulb



Curing System: Electrodeless, D bulb



Curing System: Hg Arc



TYPICAL PERFORMANCE OF CURED MATERIAL

Cured @ 30 mW/cm², measured @ 400 nm, for 30 seconds using an indium doped metal halide light source

Physical Properties

Shore Hardness, ISO 868, Durometer D		27
Refractive Index		1.5
Water Absorption, ISO 62, %:		
2 hours in boiling water		3.64
Elongation, at break, ISO 527-3, %		220
UV Depth of Cure, mm:		4.0
Tensile Modulus, ISO-527-3	N/mm² (psi)	25 (3,600)
Tensile Strength, at break, ISO 527-2	N/mm² (psi)	15 (2,200)

Electrical Properties:

Surface Resistivity, IEC 60093, Ω·cm	2.30×10^{15}
Volume Resistivity, IEC 60093, Ω·cm	9.62×10^{14}
Dielectric Breakdown Strength, kV/mm	31.5
Dielectric Constant / Dissipation Factor	
Open ended coaxial probe:	
@ 5 GHz	3.15 / 0.08
@ 10 GHz	3.1 / 0.063
@ 20 GHz	3.01 / 0.053
@ 30 GHz	2.98 / 0.046
@ 40 GHz	2.96 / 0.043
@ 50 GHz	2.93 / 0.044

Adhesive Properties

Cured @ 30 mW/cm², measured @ 400 nm, for 30 seconds using an indium doped metal halide light source

Block Shear Strength, ISO 13445:

Polycarbonate to PVC	N/mm² (psi)	6.2 (899)

TYPICAL ENVIRONMENTAL RESISTANCE

Cured @ 30 mW/cm², measured @ 400 nm, for 30 seconds using an indium doped metal halide light source

Block Shear Strength, ISO 13445:

Polycarbonate to PVC

0.5 mm gap

Chemical/Solvent Resistance

Aged under conditions indicated and tested @ 23 °C.

		% of initial strength		
Environment	°C	2 h	24 h	170 h
Air	71	-- --	-- --	100
Air	93	-- --	-- --	100
Boiling water	100	95	-- --	-- --
Water Immersion	49	-- --	-- --	40
Water Immersion	87	-- --	-- --	20
Isopropanol immersion	22	-- --	75	-- --
Heat/ humidity 95% RH	38	-- --	-- --	60

Effects of Sterilization

In general, products similiar in composition to LOCTITE® AA 3341™ subjected to standard sterilization methods, such as EtO and Gamma Radiation (25 to 50 kiloGrays cumulative) show excellent bond strength retention.

LOCTITE® AA 3341™ 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 application 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 Technical Service Center or Customer Service 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

Disclaimer
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. Any liability in respect of the information in the Technical data sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Belgium NV, Henkel Electronic Materials NV, Henkel Nederland BV, Henkel Technologies France SAS and Henkel France SA please additionally note the following:
In case Henkel would be nevertheless held liable, on whatever legal ground, Henkel's liability will in no event exceed the amount of the concerned delivery.

In case products are delivered by Henkel Colombiana, S.A.S. the following disclaimer is applicable:
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. 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.Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Corporation, or Henkel Canada Corporation, the following disclaimer is applicable:
The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

Trademark usage
Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office.

Reference 1.7