

LOCTITE® AA 3311™

April 2026

Product description

LOCTITE® AA 3311™ provides the following product characteristics:

Technology	Acrylic
Chemical type	Acrylated urethane
Appearance (uncured)	Transparent liquid
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
Specific benefits	Production - high speed curing

LOCTITE® AA 3311™ is primarily designed for bonding rigid or flexible PVC to polycarbonate, while not inducing stress cracking under typical molded stress levels. It enables easy assembly of components with close fitting tolerances (i.e. joining polycarbonate to flexible PVC tubing), and is recommended for applications involving small gaps less than 0.25mm. It has also shown excellent adhesion to a wide variety of substrates including glass, many plastics and most metals. Suitable for use in the assembly of **disposable medical devices**.

ISO-10993

LOCTITE® AA 3311™ 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

Aluminium alclad @ 25°C	1.1
Viscosity, Brookfield - RVT, 25°C, mPa·s (cP)	
Spindle 1, Speed 20 rpm	300

Typical curing performance

LOCTITE® AA 3311™ 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 medical grade 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:

7 N/mm ² stress on bar	15
12 N/mm ² stress on bar	4

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:

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

UV Fixture time, Glass microscope slides, seconds:

Black light, Zeta® 7500 light source:

6 mW/cm ² , measured @ 365nm	15
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UV Fixture time, Polycarbonate, seconds:

Metal halide bulb (doped):

30 mW/cm ² , measured @ 365nm	5
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Electrodeless, H & V bulbs:

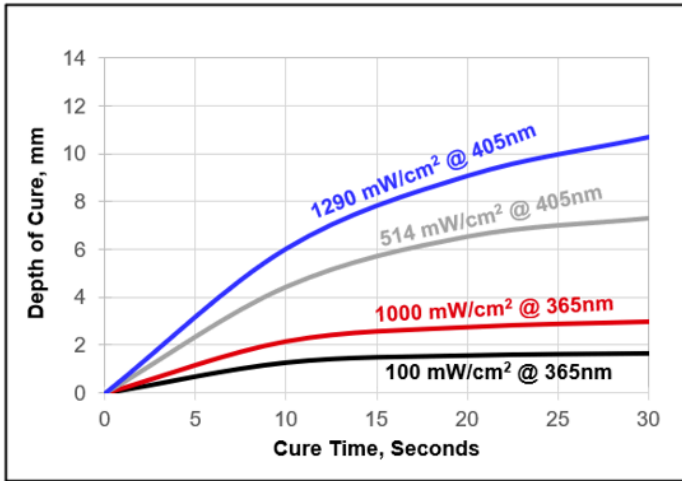
50 mW/cm ² , measured @ 365nm	5
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Electrodeless, D bulb:

50 mW/cm ² , measured @ 365nm	5
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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.



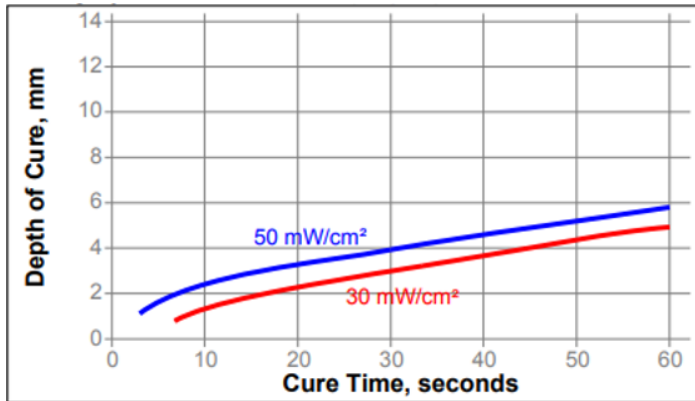
Depth of cure vs. irradiance (365 nm)

The graph below shows the increase in depth of cure with time at 30 mW/cm² – 100 mW/cm² as measured from the thickness of the cured product formed in a 9.5mm diameter PTFE die.

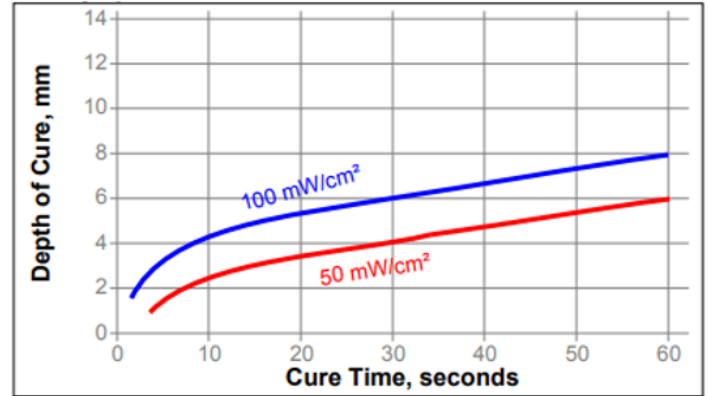
Note:

When exposed to a V Bulb at irradiances of 50 and 100 mW/cm² for 30 seconds, a depth of cure greater than 13 mm was achieved. The performance for medium pressure Hg will be similar to Electrodeless system, H bulb.

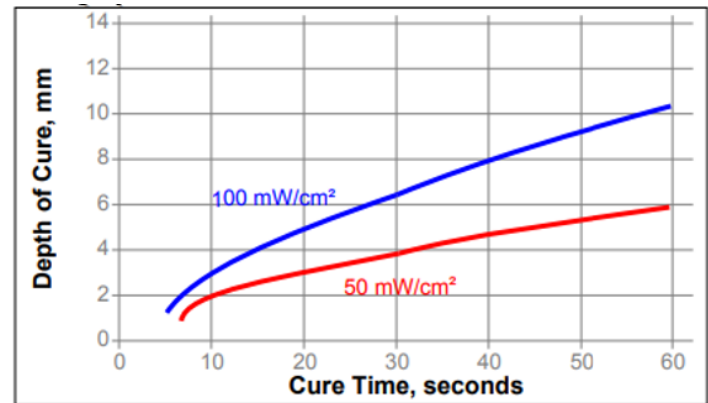
Curing system: metal halide (doped)



Curing System: Electrodeless, D bulb



Curing System: Electrodeless, H bulb



Typical properties of cured material

Cured @ 30 mW/cm², measured @ 365 nm, for 80 seconds using a glass filtered metal halide light source.

Physical properties

Shore Hardness, ISO 868, Durometer D	64
Refractive index	1.5
Water Absorption, ISO 62, %	5.36
2 hours in boiling water	
Elongation, at break, ISO 527-3, %	265
Tensile strength at break, ISO 527-3	N/mm² 23 (psi) (3,300)
Tensile modulus, ISO 527-3	N/mm² 669 (psi) (97,000)

Electrical properties:

Dielectric constant/dissipation factor, IEC 60250:	
100Hz	4.56 / 0.05
1kHz	4.41 / 0.02
1MHz	4.02 / 0.03
Dielectric breakdown strength, kV/mm	31
Surface resistivity, IEC 60093, Ω	1.0×10 ¹⁵
Volume resistivity, IEC 60093, Ω·cm	8.4×10 ¹⁴



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