Technical Data Sheet

LOCTITE® WT 3001

August 2025

Product description

LOCTITE® WT 3001 provides the following product characteristics:

Technology	Acrylic
Chemical type	Acrylated urethane
Appearance (uncured)	Transparent, light-yellow, liquid
Fluorescence	Red under UV light
Cure	Ultraviolet (UV) / visible light
Cure benefit	Production - high speed curing
Application	Flexible bonding
Specific benefits	• Fast LED 405nm curing • Jettable • IBOA free • High humidity resistance

LOCTITE® WT 3001 is an IBOA free, low viscosity light cure adhesive designed for wearable medical device applications. It provides adhesion to rigid substrates such as polycarbonate, ABS, PVC and FR4. The low viscosity formula enables good jetting capability and suitable for typical dispensing techniques. Suitable for use in the assembly of **disposable medical devices.**

ISO-10993

LOCTITE® WT 3001 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	~1.1
Viscosity, Physica Cone & Plate, @ 25°C, mPa.s (cP)	
Shear rate 20s^{-1}	200

Stress cracking

Liquid adhesive is applied to a medical grade polycarbonate bar 2.54 cm by 10.16 cm by 3.175 mm which is then flexed to induce a known stress level.

Stress cracking, ASTM D 3929, minutes:	
6.9 N/mm^2 (1,000 psi) stress	>15
13.8 N/mm^2 (2,000 psi) stress	> 5 < 10
20.7 N/mm^2 (3,000 psi) stress	> 1 < 5

TYPICAL CURING PERFORMANCE

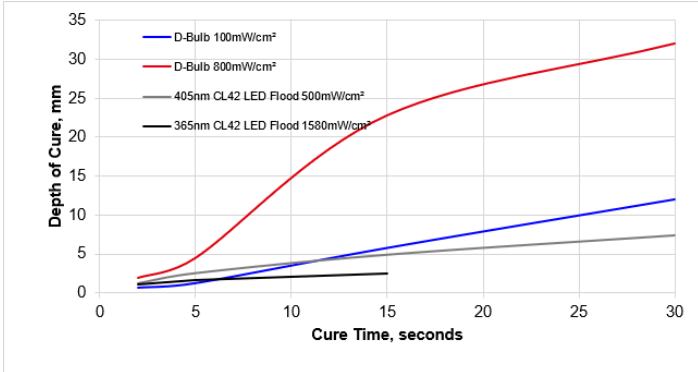
Fixture time

Fixture time is defined as the time to develop a shear strength of 0.1 N/mm^2 (14.5 psi).

UV Fixture time, Glass microscope slides, seconds:	
405nm CL42 LED Flood @ 30mW/cm^2	≤ 5

Depth of cure

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.



TYPICAL PROPERTIES OF CURED MATERIAL

Cured @ 1 W/cm^2, measured @ 405 nm, for 60 seconds using a LOCTITE® CL42 LED Flood, 405nm.

Physical properties

Linear shrinkage, ASTM D 792, %		3.2
Shore Hardness, ISO 868, Durometer D		76
Elongation at break, ISO 527-3, %		18
Tensile modulus, ISO 527-3	N/mm^2 (psi)	1,470 (212,600)
Tensile strength at break, ISO 527-3	N/mm^2 (psi)	41 (5,940)
Water absorption, ISO 62, %:		
2 hours in water @ 100°C		8.1
Re-Dry weight, soluble matter lost		0.7
Glass transition temperature, ASTM D5418, °C		63
Glass transition temperature, ISO 11359-2, °C		48
Coefficient of thermal expansion, ISO 11359-2		
Pre Tg		88x10^{-6}
Post Tg		202x10^{-6}
Refractive index, ASTM D542		1.5

Electrical properties

Dielectric strength, ASTM-D149-97a, kV/mm	10.4

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive properties

Cured @ 1 W/cm^2, measured @ 405nm, for 10 seconds using a LOCTITE® CL42 LED Flood, 405nm.

Block shear strength, ISO 13445

Acrylic	N/mm^2 (psi)	1.7 (240)
Polypropylene (plasma treated)	N/mm^2 (psi)	1.5 (220)
HDPE (plasma treated)	N/mm^2 (psi)	3.4 (490)
Polycarbonate (PC)	N/mm^2 (psi)	23.2 (3,360)

Lap shear strength, ISO 4587

PC to plasticized PVC	N/mm^2 (psi)	1.9 (270)
PC to plasticized PVC (heat aged *)	N/mm^2 (psi)	1.9 (270)
PC to TPU**	N/mm^2 (psi)	2.1 (310)
PC to stainless steel	N/mm^2 (psi)	2.8 (410)
PC to FR4	N/mm^2 (psi)	7.6 (1,100)
Glass**	N/mm^2 (psi)	2.5 (360)

*Aged for 12 days at 65°C to test for plasticizer leaching effects
**Substrate failure

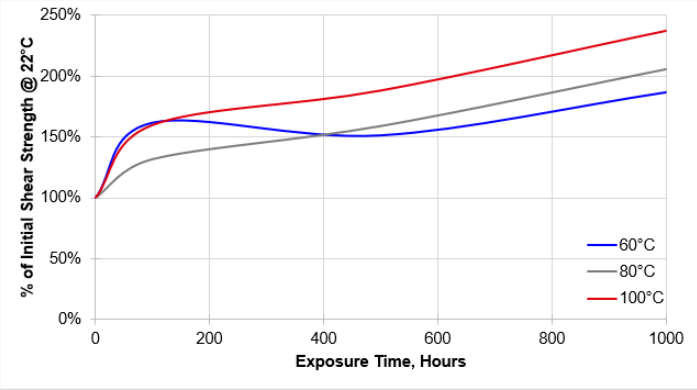
TYPICAL ENVIRONMENTAL RESISTANCE

Heat aging

Cured @ 1 W/cm^2, measured @ 405nm, for 10 seconds using a LOCTITE® CL42 LED Flood, 405nm.

PC to PC Block shear strength, ISO 13445

Aged at temperature indicated and tested @ 22 °C.



Chemical/solvent resistance

Cured @ 1 W/cm^2, measured @ 405nm, for 10 seconds using a LOCTITE® CL42 LED Flood, 405nm.

PC to PC Block shear strength, ISO 13445

Environment	°C	hours	% of initial strength
Dilute bleach (40:1)	22	2	115
Dilute bleach (40:1)	22	24	94
Water	100	2	96
Isopropanol	22	24	104
Humidity 95%RH	40	168	75
Sebum	24	72	45
Sebum	24	168	50
Sebum	24	336	44
Sun lotion	24	72	90
Sun lotion	24	168	62
Sun lotion	24	336	57

Sterilization resistance

Cured @ 1 W/cm^2, measured @ 405nm, for 10 seconds using a LOCTITE® CL42 LED Flood, 405nm.

PC to PC Block shear strength, ISO 13445

Treatment	% of initial strength
Ethylene Oxide, 1 cycle	119
Ethylene Oxide, 2 cycles	95
Gamma, >50 Kilo gray	171
Autoclave, 1 cycle	9
Autoclave, 5 cycle	0

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
The product is classified as flammable and must be stored in an appropriate storage area in compliance with relevant regulations. Do not store near oxidizing agents or combustible materials. Store product in the unopened container in a dry and well air ventilation location. Storage information may also be indicated on the product container labelling.

Optimal storage: 8 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 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 Henkel 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

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Reference 1

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