Laboratory Data Sheet

LOCTITE AA 3952

May 2024

PRODUCT DESCRIPTION

LOCTITE AA 3952 provides the following product characteristics:

Technology	Acrylic
Chemical Type	UV Acrylic
Appearance (uncured)	Transparent clear/yellow/green
Appearance (cured)	Clear
Fluorescence	Positive under UV light
Viscosity	Thin, low viscosity
Cure	Ultraviolet (UV)/ visible light
Application	Bonding
Specific Benefits	High adhesion to TPE Low viscosity Fluorescence Good dielectric loss charateristics

LOCTITE AA 3952 is a low viscosity light cure acrylic that cures in the presence of UV and visible light. This product is designed to bond low polarity flexible materials like thermoplastic elastomers, such as TPE-S, TPO and PEBAX.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 23˚C	0.99
Viscosity @ 25°C, mPa·s (cP)	
Cone & Plate @ 50 s-1	200-1,000

TYPICAL CURING PERFORMANCE

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:	
LOCTITE® CL30 LED, 365nm	
6 mW/cm², measured @ 365 nm	<5

UV Fixture Time, Glass microscope slides, seconds:	
LOCTITE® CL30 LED, 405nm	
100 mW/cm², measured @ 405 nm	<5

Tack Free Time

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

Tack Free Time, seconds:	
LOCTITE® CL30 LED, 405nm	
800 mW/cm²	120

Depth of Cure

The data below shows the depth of cure with 1 W/cm² as measured from the thickness of the cured product formed in an aluminum weighing dish.

LOCTITE® CL30 LED, 405nm	
1 W/cm² for 10s	6.9mm

TYPICAL PERFORMANCE OF CURED MATERIAL

Cured @ 800 mW/cm², measured @ 405 nm, for 30 seconds using a LOCTITE CL30 LED, 405nm.

Physical Properties:

Shore Hardness, ISO 868, Durometer D		62
Elongation, at break. ISO 527-3, %		90
Tensile Strength, ISO 527-2	N/mm²	16.5
	(psi)	(2,400)
Tensile Modulus, ISO 527-2	N/mm²	507
	(psi)	(73,500)
Linear Shrinkage, ASTM D 792, %		1.21
Volume Shrinkage, ASTM D 792, %		3.58

Adhesive Properties

Cured @ 800 mW/cm², measured @ 405 nm, for 30 seconds using a LOCTITE® CL30 LED, 405nm.

Lap Shear Strength, ISO 4587:		
Polycarbonate	N/mm²	3.1
	(psi)	(450)
Teknor Apex MD-12372 (TPE-S)	N/mm²	0.76
to Polycarbonate	(psi)	(110)
Teknor Apex MD-50278 (TPE-S)	N/mm²	1.30
to Polycarbonate	(psi)	(190)
Teknor Apex MD-53263 (TPE-S)	N/mm²	0.78
to Polycarbonate	(psi)	(115)
Versaflex G2705N (TPE-S)	N/mm²	0.49
to Polycarbonate	(psi)	(70)

Block Shear Strength, ISO 13445:		
Polycarbonate	N/mm²	9.1
	(psi)	(1320)

Electrical Properties

Cured @ 800 mW/cm², measured @ 405 nm, for 30 seconds using a LOCTITE® CL30 LED, 405nm.

IEC 60243-1, kV/mm	
Dielectric Constant/ Dissipation factor, IEC 60250:	
@5KHz	2.43/ 0.0095
@10KHz	2.47/ 0.0083
@50KHz	2.45/ 0.0096

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TYPICAL ENVIRONMENTAL RESISTANCE

Cured @ 800 mW/cm², measured @ 405 nm, for 30 seconds using a LOCTITE CL30 LED, 405nm.

Heat Aging

Aged @ 60°C and tested @ 23 °C	**4 weeks**
Lap Shear Strength, ISO 4587:	
Teknor Apex MD-12372 (TPE-S) to Polycarbonate	20%
Teknor Apex MD-50278 (TPE-S) to Polycarbonate	90%
Teknor Apex MD-53263 (TPE-S) to Polycarbonate	75%
Versaflex G2705N (TPE-S) to Polycarbonate	50%

Chemical/Solvent Resistance

Aged @ 40°C/98% and tested @ 23 °C	**4 weeks**
Lap Shear Strength, ISO 4587:	
Teknor Apex MD-12372 (TPE-S) to Polycarbonate	20%
Teknor Apex MD-50278 (TPE-S) to Polycarbonate	140%
Teknor Apex MD-53263 (TPE-S) to Polycarbonate	60%
Versaflex G2705N (TPE-S) to Polycarbonate	40%

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. 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 also be indicated on the product container labelling.
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 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 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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