

# UVLED82



## UV LED Adhesive

UVLED82 is a 1-part, low-viscosity, UV-curable adhesive formulated for rapid cure upon exposure to UV light. The adhesive is specially formulated to cure using both broadband and LED light sources such as 365, 385, 395 and 405 nm.

This product is ideal for edge bonding chips and other circuit components when high throughput is needed. The low viscosity coupled with depth of cure enables encapsulation of parts up to a thickness of 5 mm (1/5"). The adhesive contains a secondary cure mechanism that allows for curing in shadowed areas.

## Features & Benefits

- Bonds strongly to metal, glass and many plastics
- Cures with LED exposure (365–405 nm)
- Can cure up to 5 mm thick, ideal for encapsulation
- Secondary moisture cure
- Low viscosity, easily wets out horizontal surfaces

## Cure Instructions

The product only cures upon UV exposure. Cure the adhesive at one of these options:

Light Source	Irradiance (W/cm <sup>2</sup> )	Dosage (J/cm <sup>2</sup> )	Exposure Time (s)
Broadband, 320–500 nm	5	25	5
LED, 365 nm	2	50	25
LED, 395 nm	2	50	25
LED, 405 nm	5	50	10

## Storage and Handling

Store between 4 and 40 °C in a dry area, away from sunlight (see SDS). To maximize shelf life, recap product firmly when not in use.



## Available Packaging

Part #	Packaging	Net Vol.	Net Wt.
UVLED82-30ML	Cartridge	30 mL	3.2 g
UVLED82-300ML	Cartridge	300 mL	32.1 g
UVLED82-1L	Can	945 mL	1.01 kg
UVLED82-3.78L	Can	3.78 L	4.05 kg

## Dispensing Accessories

The cartridges are compatible with caulking guns that are readily available for purchase at local hardware stores.

## Liquid Properties

Density	1.1 g/mL	ASTM D1475
Viscosity @ 25 °C	1 180 cP	Brookfield Engineering labs Inc. IPCTM-65- Method 2.4.24.4
Shelf Life	1 y	—

## Cured Properties

Color	Clear, yellow green	—
Density	1.1 g/mL	Hydrostatic Weighing
Service Temperature Range	-80–135 °C	—
Intermittent Temperature	155 °C	—
Breakdown Voltage @ 3.175 mm	44 900 V	ASTM D149
Dielectric Strength @ 3.175 mm	360 V/mil	
Resistivity	$3.0 \times 10^{13} \Omega \cdot \text{cm}$	ASTM D257
Hardness	77 D	ASTM D2240
Tensile Strength	30 N/mm <sup>2</sup>	ASTM D638
Lap Shear	6.2 N/mm <sup>2</sup> (Polycarbonate)	ASTM D1002
Glass Transition Temperature ( $T_g$ )	42 °C	ASTM E1545
Coefficient of Thermal Expansion (CTE)	74 ppm/°C (Prior $T_g$ ) 191 ppm/°C (After $T_g$ )	ASTM E831
Thermal Conductivity @ 25 °C	0.2 W/(m·K)	ASTM E1461
Specific Heat Capacity @ 25 °C	1.9 J/(g·K)	
Thermal Diffusivity @ 25 °C	0.1 mm <sup>2</sup> /s	

## Application Instructions

Read the product SDS for more detailed instructions before using this product.

## Recommended Preparation

Clean the substrate with Isopropyl Alcohol, MG #824, so the surface is free of oils, dust, and other residues.

## Cartridge

1. Cut the end of the cartridge tip and screw the tip on the cartridge.
2. Insert the cartridge in a caulking gun.
3. Dispense the adhesive evenly to both surfaces.
4. To stop the flow, pull back on the plunger.
5. Clean nozzle to prevent contamination and material buildup.
6. Replace the cap on the cartridge.

**Disclaimer:** This information is believed to be accurate. It is intended for professional end-users who have the skills required to evaluate and use the data properly. M.G. Chemicals Ltd. does not guarantee the accuracy of the data and assumes no liability in connection with damages incurred while using it.