

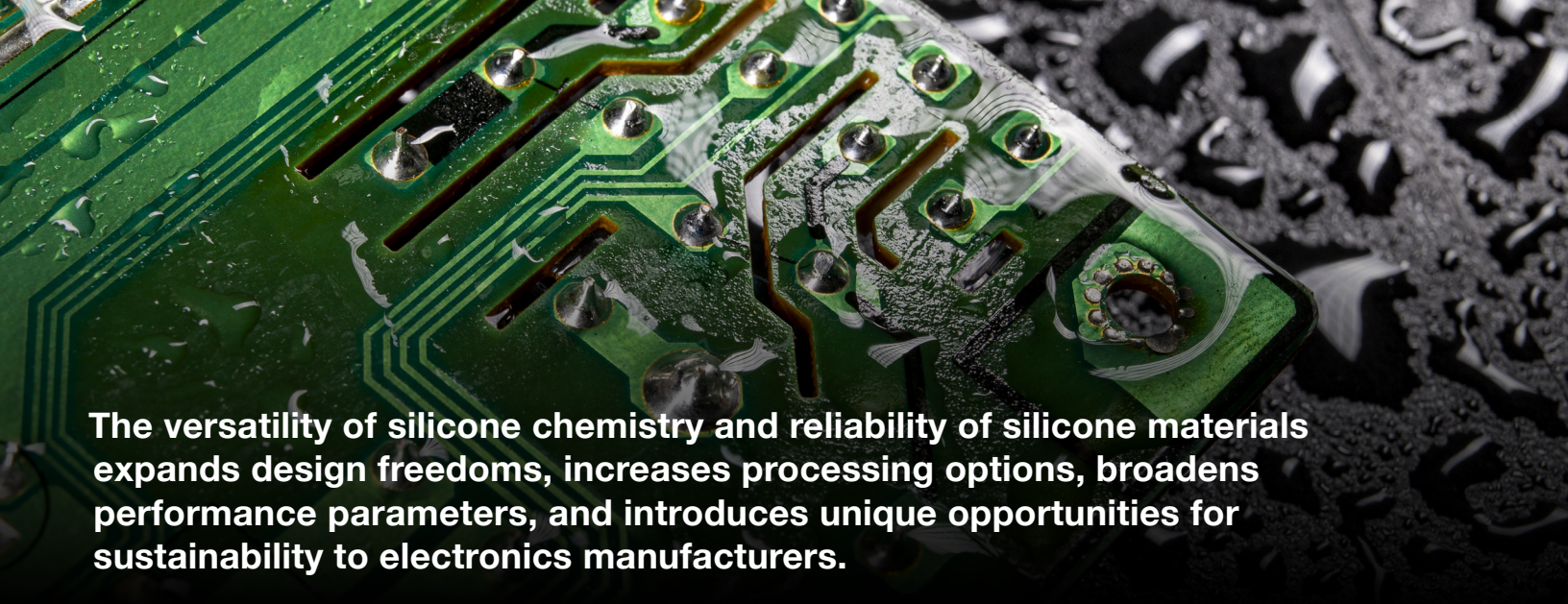
# Protection at lightning speed

**DOWSIL™ CC-8000 Series UV and  
Dual Moisture Cure Conformal Coatings**

**DOW**

®





The versatility of silicone chemistry and reliability of silicone materials expands design freedoms, increases processing options, broadens performance parameters, and introduces unique opportunities for sustainability to electronics manufacturers.

## New innovative UV, LED, and dual moisture-cure conformal coatings – designed for high-volume production

We're inspired by technology and committed to a sustainable future.

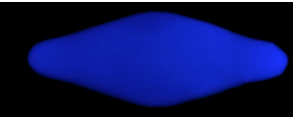


- No solvents — creating a better work environment and requiring a smaller equipment footprint
- No need for heat-cure ovens — reducing building, equipment, and energy costs
- Various viscosities and application methods, allowing for targeted placement and reduced waste

At Dow, we're working to create and deliver products sustainably, through our materials science expertise and collaboration with our customers. We're constantly innovating how we source, engineer, manufacture, and deliver our material solutions.

## A high-speed, higher level of protection

DOWSIL™ CC-8000 Series UV and Dual Moisture Cure Conformal Coatings are exceptional silicone coatings that cure in seconds with broad spectrum UV or LED light, and span the range of low-to-high viscosities, enabling strong protection in a wide range of applications. This family of products is robust enough to protect even the most sensitive

electronics components and is solventless — enabling an eco-friendly environment for workers. The primary UV or LED cure dramatically improves throughput, and saves energy as compared with heat-cure materials or time compared to room-temperature cure materials.

Product	Application	Light cure	Viscosity	
DOWSIL™ CC-8030 Conformal Coating	Spray	UV or LED	Low	
DOWSIL™ CC-8033 Conformal Coating	Spray or needle dispense	UV or LED	Medium	
DOWSIL™ CC-8036 Conformal Coating	Needle dispense	UV or LED	High	

# Meeting the demanding trends in electronics

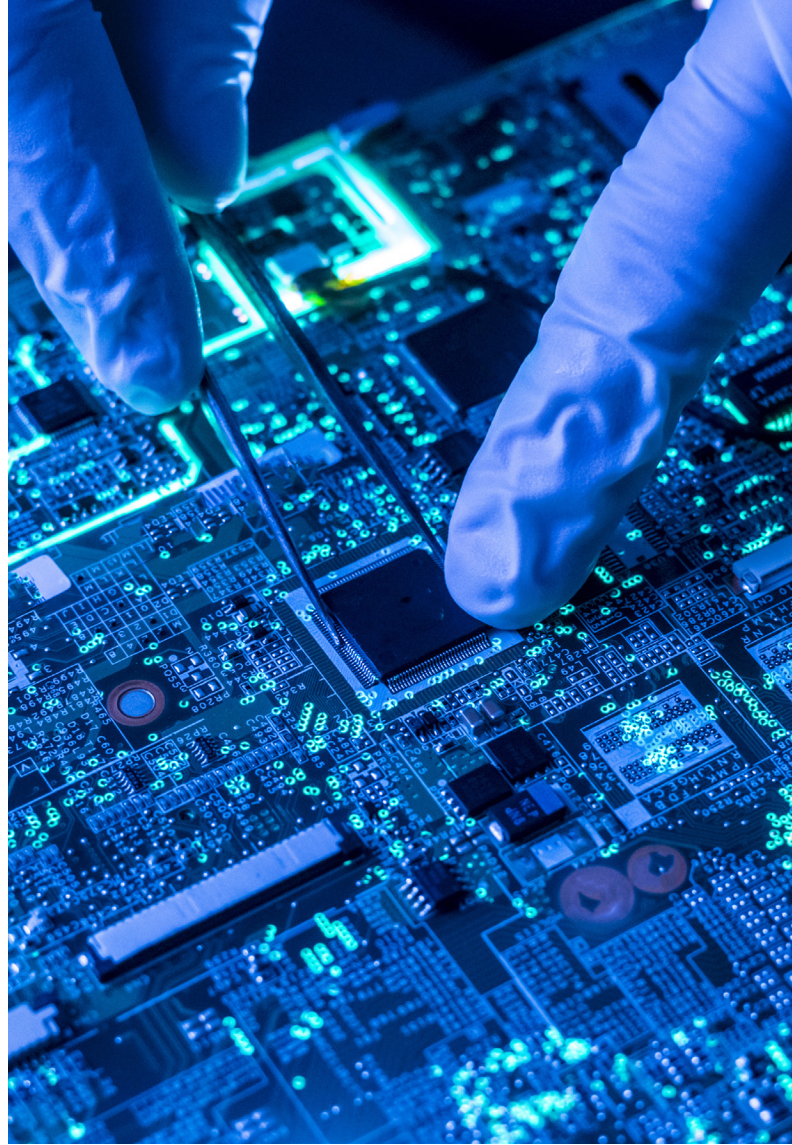
Environmental, health, and safety concerns, higher throughput, lower processing costs, flammability ratings, and a greater component level of environmental protection are the trending needs for electronics components.

## Features

- Fast UV or LED cure
- Secondary moisture cure for shadowed areas
- Sprayable and/or needle dispense
- Solvent free
- UV indicator for inspection
- Good adhesion
- Wets out surface
- UL V-0 flammability rating

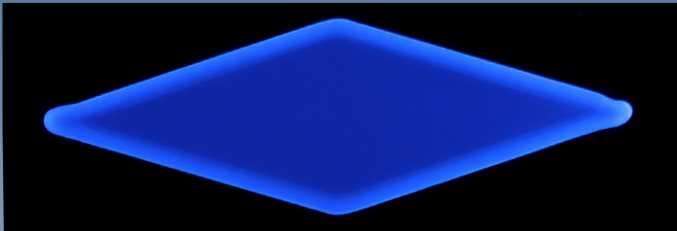
## We've got you covered

DOWSIL™ CC-8000 Series Conformal Coatings not only improve reliability in humid environments, but offer a wider operational temperature range from -40 to 150°C. These unique conformal coatings protect PCBs and other electronic components against environmental particles, moisture, and contaminants, reducing short circuits and corrosion of conductors and solder joints. In addition, they provide good dielectric properties (insulation, moisture resistance, and breakdown voltage). DOWSIL™ CC-8000 Series Conformal Coatings are designed for spray or dispense application in a single layer — from microns to millimeters thick — and can be applied in multi-layers for even thicker coating requirements. Combining the materials in this series can be leveraged for dam and fill applications.

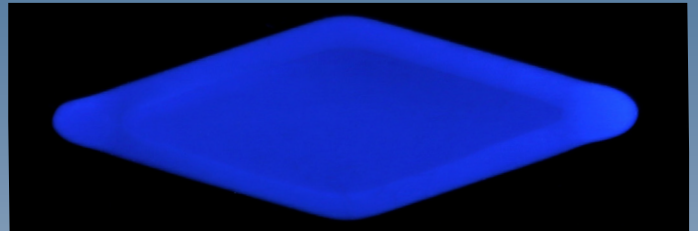


### Dam and fill: UV or LED and moisture cure / dual cure

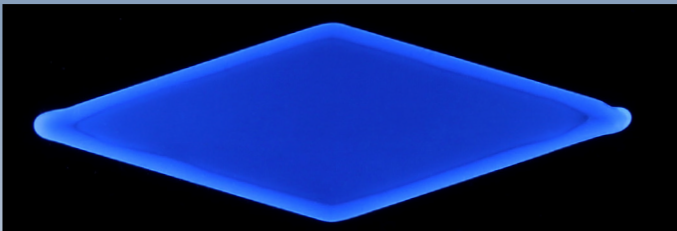
Dam: DOWSIL™ CC-8036 Coating | Fill: DOWSIL™ CC-8030 Coating



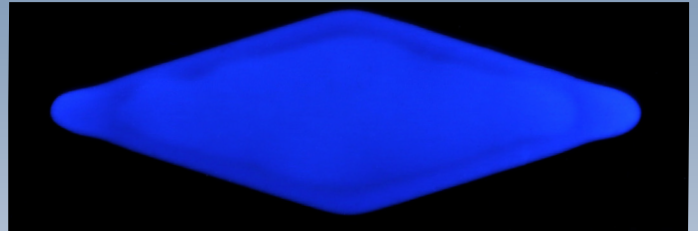
Dam: DOWSIL™ CC-8033 Coating | Fill: DOWSIL™ CC-8030 Coating



Dam: DOWSIL™ CC-8036 Coating | Fill: DOWSIL™ CC-8033 Coating

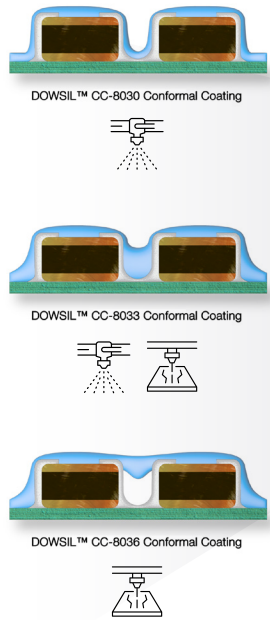


Dam: DOWSIL™ CC-8033 Coating | Fill: DOWSIL™ CC-8033 Coating

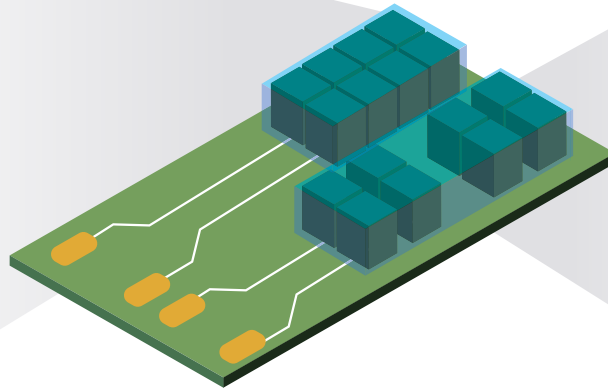
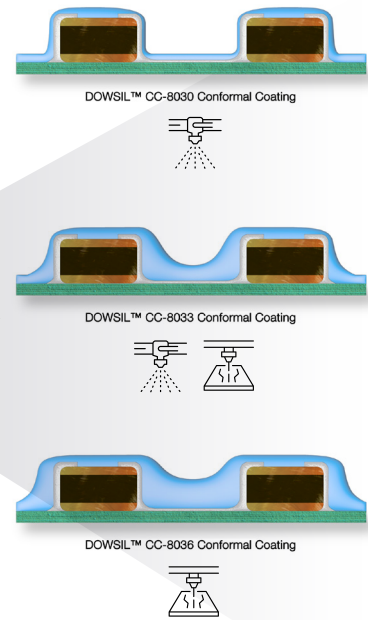


# Coated PCB cutaway showing coverage on different board configurations

## Component tight configuration

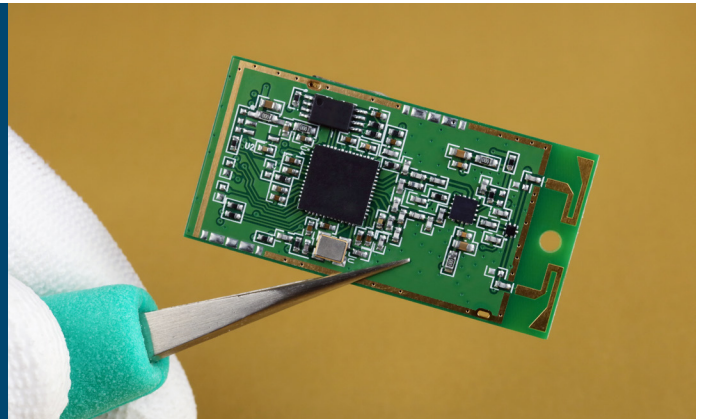


## Component open configuration



## Lightning-fast cure puts production light years ahead

DOWSIL™ CC-8000 Series Conformal Coatings cure in seconds under LED or broad-spectrum UV radiation (UV A, UV B and UV C), preferably mercury vapor lamp (H-type) system, and they are tack free after less than 10 seconds @ 300 mW/cm<sup>2</sup> with no oxygen inhibition.



## LED UV-Cure for 365 nm\*

Dosage (mJ/cm <sup>2</sup> )	DOWSIL™ CC-8030 Coating	DOWSIL™ CC-8033 Coating	DOWSIL™ CC-8036 Coating
	Cure depth (mm)		
16650	3	3.4	2.3
22900	3.3	4.2	3.5
27360	3.7	5.2	4.5
41680	3.9	5.8	5.2
64680	4	6.2	6.2

## Broadspectrum UV-Cure\*†

Dosage (mJ/cm <sup>2</sup> )	DOWSIL™ CC-8030 Coating	DOWSIL™ CC-8033 Coating	DOWSIL™ CC-8036 Coating
	Cure depth (mm)		
700	1.5	0.9	1.2
1300	2.0	2.7	2.1
2000	2.4	3.4	3.6
4100	3.2	5.5	6.7

\*These are typical properties, not to be construed as specifications

† Cure using a mercury vapor lamp

## DOWSIL™ CC-8000 Series Conformal Coatings Property Comparisons

Properties	DOWSIL™ CC-8030 Conformal Coating	DOWSIL™ CC-8033 Conformal Coating	DOWSIL™ CC-8036 Conformal Coating
Formulation	One part, solventless		
Appearance	Translucent	Translucent, opaque	Translucent, opaque
Thixotropic	High flowability	Medium flowability	Low flowability
Dispense	Spray	Spray or needle	Needle
Viscosity (cP)	520	15,000	60,000
Cure	UV/LED Cure and moisture cure, Tack free within seconds		
UV-Cure depth	3+ mm @ 2J/cm <sup>2</sup>		
Hardness	A30		
Elongation (%)	85	105	125
Tensile strength (psi)	120	150	170
Operating temperature	-40 to 150°C		
UL94	V-0	V-0	V-0 Pending
Dielectric K 100 Hz	2.93	2.66	2.62
Dielectric K 100 kHz	2.93	2.66	2.63
Dissipation factor 100 Hz	0.0033	0.0054	0.0013
Dissipation factor 100 kHz	0.0019	0.0018	0.0016
Dielectric strength (kV/mm)	14.2	16.6	17.5
Volume resistivity	5.80E+13	1.10E+13	2.70E+13
Specific gravity	0.96-1.00	0.96-1.05	0.96-1.10
UV Indicator	Present		
Adhesion	FR4		

These are typical properties, not to be construed as specifications

### Choose the viscosity you need

DOWSIL™ CC-8000 Series Conformal Coatings come in a range of viscosities to help you meet all of your processing and application demands. Ideal for stability in harsh conditions, this award-winning product family provides excellent protection in highly humid environments and against contamination, and excellent flame retardancy and electrical properties. Offered in low-, medium-, and high-modulus options, these coatings are suitable for the most sensitive electronic components in varied applications.

#### Low viscosity for high-speed production

Our low-viscosity silicone coatings support high-speed production methods, including manual or automated spraying, flow, or jetting techniques. These faster flowing materials are also suitable options when you want your coating to flow through vias or under chips.

#### Medium and higher viscosity for greater control

Offering incrementally higher viscosities DOWSIL™ CC-8000 Series Conformal Coatings provide options to increase control over the speed and distance of flow, to prevent their spread into “keep out” areas. Our higher-viscosity coating also enables thicker coating layers in one pass.

## Stability, protection, and increased throughput

### Better for the environment, your components, and your bottom line

DOWSIL™ CC-8000 Series UV and Dual Moisture Cure Conformal Coatings reduce work-in-progress. These one-part, translucent, UV and moisture dual curable coatings provide lightning-fast cure without ovens, enabling high throughput and lower energy costs, and are specifically designed for automated spray or dispense processing for high-volume production. These innovative coatings also contribute to sustainability as they are solventless, and require less energy consumption than coatings processed with heat curing.





## Learn more

We bring more than just an industry-leading portfolio of advanced silicone-based materials. We bring proven process and application expertise, a network of technical experts, a reliable global supply base, and world-class customer service.

To find out how we can support your applications, visit [dow.com/electronics](https://www.dow.com/electronics).



Images: 272928306, 68495631248, 70085971982, 67057779519, 291220312

NOTICE: No freedom from infringement of any patent owned by Dow or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other government enactments. The product shown in this literature may not be available for sale and/or available in all geographies where Dow is represented. The claims made may not have been approved for use in all countries. Dow assumes no obligation or liability for the information in this document. References to "Dow" or the "Company" mean the Dow legal entity selling the products to Customer unless otherwise expressly noted. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.

®™ Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

© 2024 The Dow Chemical Company. All rights reserved.

2000024825-7680

Form No. 11-4312-01-0524 S2D