



Technical Data Sheet

DOWSIL™ CI-2001 White Reflective Coating

DOWSIL™ CI-2001 is a highly reflective optical coating enhancing light output and efficiency with good resistance to environmental aging. It cures at room temperature to a tough, resilient and non-tacky surface.

Features & Benefits

- Cures to a resilient, highly reflective surface
- UL flammability rating recognized
- Room temperature cure, no ovens required
- Mild heat acceleration (after solvent flash-off) can speed in-line processing
- Low viscosity enhances flow and fills in narrow gaps and spaces

Composition

- Silicone solvent-borne resin in reduced solvent
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Applications

- White reflective coating for light reflectors, lightboxes, mixing chambers, backlight units, light engine units, PCB and Al surfaces used in assembly of LED lamp and luminaries.

Typical Properties

Specification Writers: These values are not intended for use in preparing specifications.

Property	Unit	Result
One or Two-part		One
Color		White
Reflectance at 3mil	%	94
Reflectance at 5mil	%	96
Viscosity	cP	1500
	mPa-sec	1500
	Pa-sec	1.5
Specific Gravity (Uncured)		1
Specific Gravity (Cured)		1.14
Tack-Free Time at 25°C	minutes	10
Tack-Free Time at 60°C/15% RH	minutes	2
Durometer Shore A		80
Durometer Shore D		25
Dielectric Strength	volts/mil	620
	kV/mm	25

Typical Properties (Cont.)

Property	Unit	Result
Volume Resistivity	ohm*cm	1.0E+15
Dielectric Constant at 100 Hz		3.86
Dielectric Constant at 100 kHz		3.61
Dissipation Factor at 100 hz		0.004
Dissipation Factor at 100 kHz		0.005
UL Flammability Classification at 3mil		V0
NVC - Forced Draft Volatility	%	45

Description

DOWSIL™ CI-2001 White Reflective Coating is applied onto various substrates or printed circuit boards to provide a high reflective surface. DOWSIL™ CI-2001 White Reflective Coating cures to a firm, dry surface for better handling. It requires atmospheric moisture to cure (no ovens) and its cure rate can be accelerated by mild heat. It is supplied in low-VOC, and has UL 94-V0 rating at 3 mil coating thickness on FR-4.

Application Methods

- Spray
- Brush
- Flow
- Automated pattern coating

Processing/Curing

The time required to reach a tack-free state can be reduced with heat. When using heat for this purpose, allow adequate time for the solvent to evaporate prior to exposing to elevated temperatures in an air circulating oven. A typical cure schedule for 3 mil (75 micron) coatings is 10 minutes at room temperature, followed by 10 minutes at 60°C. If the coating blisters or contains bubbles, allow additional time at room temperature for the solvent to flash off prior to oven cure.

Pot Life and Cure Rate

The pot life of DOWSIL™ CI-2001 White Reflective Coating is dependent on the application method chosen. To extend pot life, minimize exposure to moisture by using dry air or dry nitrogen blanketing whenever possible.

Adhesion

With DOWSIL™ CI-2001 White Reflective Coating, adhesion typically lags behind cure and may take up to 48 hours to build. DOWSIL™ CI-2001 White Reflective Coating is formulated to provide adhesion to most common electronic substrates and materials. It is recommended that the coating be applied to clean and dry substrates prior to application. On certain difficult, low-surface energy surfaces, adhesion may be improved by priming or by special surface treatment such as chemical or plasma etching. Proper substrate compatibility testing is always recommended to insure adequate adhesion for the specific application.

**Useful
Temperature
Ranges**

For most uses, silicone adhesives should be operational over a temperature range of -45 to 200°C (-49 to 392°F) for long periods of time. However, at the low- and high temperature ends of the spectrum, behavior of the materials and performance in particular applications can become more complex and require additional considerations. For low-temperature performance, thermal cycling to conditions such as -55°C (-67°F) may be possible, but performance should be verified for your parts or assemblies. Factors that may influence performance are configuration and stress sensitivity of components, cooling rates and hold times, and prior temperature history. At the high-temperature end, the durability of the cured silicone elastomer is time and temperature dependent. As expected, the higher the temperature, the shorter the time the material will remain useable.

Repairability

In the manufacture of PCB system assemblies, it is often desirable to salvage or reclaim damaged or defective units. DOWSIL™ CI-2001 White Reflective Coating offers excellent reparability because it can be removed from substrates and circuitry by scraping or cutting, or by using solvents or stripping agents. If only one circuit component is to be replaced, a soldering iron may be applied directly through the coating to remove the component. Proper ventilation of any fume should be employed. After the circuit board has been repaired, the area should be cleaned by brushing or by using solvent, then dried and recoated.

**Handling
Precautions**

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT CONSUMER.DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

**Usable Life and
Storage**

Special precautions must be taken to prevent moisture from contacting DOWSIL™ CI-2001 White Reflective Coating. Containers should be kept tightly closed and head or air space minimized. Partially filled containers should be purged with dry air or other gases, such as nitrogen. The product should be stored in its original packaging with the cover tightly attached to avoid any contamination. Store in accordance with any special instructions listed on the product label. The product should be used by its Use Before date as indicated on the product label.

**Packaging
Information**

Multiple packaging sizes are available for this product. Please contact your local distributor or Dow representative for information on packaging size and availability.

Limitations

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

**Health And
Environmental
Information**

To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

For further information, please see our website, consumer.dow.com or consult your local Dow representative.

How Can We Help You Today?

Tell us about your performance, design and manufacturing challenges. Let us put our silicon-based materials expertise, application knowledge and processing experience to work for you.

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