Technical Data Sheet

DOWSIL™ 1-2620 Dispersion RTV Elastoplastic Conformal Coating

FEATURES & BENEFITS

- Cures to tough, resilient, abrasion resistant surface
- Solvent-borne resin coating
- Room temp cure with optional heat acceleration after solvent flash-off
- UV indicator for inspection
- UL V-0 flammability rating
- Mil Spec 46058C tested
- Room temperature cure, no ovens required
- Mild heat acceleration (after solvent flash-off) can speed in-line processing
- Good adhesion allows use with many low-solid (no clean) and no-lead solders
- Low Viscosity enhances flow and fill in narrow gaps and spaces
- UV indicator allows for automated inspection

COMPOSITION

- Silicone resin solution in solvent

One-part, transparent low viscosity conformal coating with firm, abrasion resistant surface after cure

APPLICATIONS

DOWSIL™ 1-2620 Dispersion RTV Elastoplastic Conformal Coating is suitable for:

- Protective coating for rigid and flexible circuit boards
- Ideally suited for printed circuit boards (PCB) applications

TYPICAL PROPERTIES

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

Property	Unit	Result
One or Two-part		One
Color		Transparent-Yellow
Viscosity	cP mPa-sec Pa-sec	150 150 0.1
Specific Gravity (Uncured)		1
Specific Gravity (Cured)		1.11
Tack-Free Time at 25°C	minutes	5
Tack-Free Time at 60°C/15% RH	minutes	2
Durometer Shore A		80
Dielectric Strength	volts/mil kV/mm	550 22
Volume Resistivity	ohm*cm	4.6E13
Dielectric Constant at 100 Hz		2.69
Dielectric Constant at 100 kHz		2.68
Dissipation Factor at 100 hz		0.002
Dissipation Factor at 100 kHz		0.0003
Agency Listing		IPC-CC-830B,UL746E
UL Flammability Classification	NA	94 V-0
Mil Specification	NA	MIL-I-46058C Amend. 7
NVC - Forced Draft Volatility	%	59

DESCRIPTION
RTV elastoplastic conformal coatings have firm, dry surfaces for better handling and abrasion resistance after cure. Various viscosity versions facilitate different application methods. They require atmospheric moisture to cure (no ovens) and their cure rates can be accelerated by mild heat. They are supplied in solvent, with low-VOC versions available and have Mil spec, IPC-CC-830 and UL recognition. Conformal coatings are materials applied in thin layers onto printed circuits or other substrates.

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 Dow RTV conformal coatings 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 RTV cure coatings, adhesion typically lags behind cure and may take up to 72 hours to build in some coatings. Dow conformal coatings are formulated to provide adhesion to most common electronic substrates and materials. It is recommended that the coatings 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.

USABLE LIFE AND STORAGE
Special precautions must be taken to prevent moisture from contacting Dow RTV conformal coatings. 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.

In some cases depending on storage, there may be a hazy appearance noticed in the containers when first opened, even though they are considered clear conformal coatings. It is normal for this to occur especially if the container has been sitting stagnant for several days or weeks. This is due to the solubility of the phenyl resin in the solvent and how long the container has been sitting in storage. The coating should cure to a clear consistency regardless of this initial appearance. Mild agitation can reconstitute the material so it is consistent in appearance and viscosity. Care should be taken if the Low VOC versions are in bladder bags. A gentle rolling of the pail should correct the problem and redistribute the solvent. This should be performed 24 hours before use, so any induced bubbles from the manual agitation or rolling process have a chance to dissipate.

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 both 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. Dow conformal coatings offer excellent repairability because they 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. Heat cure coatings can be repaired with RTV coatings, but heat cure coatings may not work well when used to repair RTV coatings.

PACKAGING INFORMATION
Multiple packaging sizes are available for this product.

UNRESTRICTED – May be shared with anyone
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