



Technical Data Sheet

DOWSIL™ EA-1236 Adhesive

Two-part, room temperature cure adhesive

Features & Benefits

- Fast room temperature cure, no ovens required
- Good adhesion to various substrates
- Faster in-line processing at room temperature
- Performs well under typical automotive test conditions (150°C, 85°C/85% RH, water exposure)
- Process flexibility: mild heat accelerates cure

Composition

- Condensation cure mechanism
- Tin catalyzed
- Two-part

Applications

DOWSIL™ EA-1236 Adhesive is suitable for:

- Sealing lids and housings
- Parts fixing on circuit board

Typical Properties

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

Property	Unit	Result
Color (Base)		White
Color (Catalyst)		Black
One or Two-part		Two
Viscosity @ 0.5 s ⁻¹ (Base)	cP	180,000
	mPa.s	180,000
	Pa-sec	180
Viscosity @ 5 s ⁻¹ (Base)	cP	160,000
	mPa.s	160,000
	Pa-sec	160
Texture Analyzer, Gramm Force, (Catalyst)	g	27
Specific Gravity (Base)		1.31
Specific Gravity (Catalyst)		1.05
Mix Ratio (Base: Catalyst), by Weight		100 to 14

Typical Properties (Cont.)

Property	Unit	Result
Specific Gravity (Cured) ¹		1.28
Working Time, Snap	minutes	6
Tack Free Time	minutes	10
Tensile Strength ¹	psi	320
	MPa	2.2
	kg/cm ²	22
Elongation ¹	%	300
Durometer Shore A ¹		36
Dielectric Strength ¹	Volts/mil	381
	kV/mm	15
Volume Resistivity ¹	Ohm-cm	2.3 E+12

1. Properties of cured material were measured after 7 days cure at room temperature

Description

Dow two-part RTV adhesives cure rapidly at room temperature after mixing thereby offering the processing speed benefits of heat (addition) cure adhesive with the capital and energy cost savings of moisture-curing RTV adhesives. Good strength is attained within an hour but full physical properties such as full adhesion are not reached for several days. These adhesives contain their own source of moisture so cure progresses evenly throughout the material and deep-section or confined space cures are possible.

However, some cure situation limitations may exist - refer to the "Reversion" section of this datasheet for additional information. Working time is only a few minutes so these adhesives are best suited for fast-processing of PCB system assembly components. Dow adhesives retain their original physical and electrical properties over a broad range of operating conditions which enhance the reliability of and service life of PCB system assemblies.

Mixing and De-airing

Upon standing, some filler may settle to the bottom of the liquid containers after several weeks. To ensure a uniform product mix, the material in each container should be thoroughly mixed prior to use. Automated airless dispense equipment can be used to reduce or avoid the need to de-air. If de-airing is required to reduce voids in the cured elastomer, consider a vacuum de-air schedule of > 28 inches Hg for 10 minutes or until bubbling subsides.

Reversion

When two-part condensation curing materials with organotin catalysts are cured in confinement (especially in deep section) and are later subjected to high heat conditions, they can potentially revert from a cured elastomer to a flowable polymer. Although this condition is unusual, parts using two-part condensation cure adhesives should be thoroughly tested in accelerated temperature conditions for this potential limitation.

Usable Life and Storage

For best results, Dow RTV adhesives should be stored at or below the storage temperature listed on the product label. Special precautions must be taken to prevent moisture from contacting these materials. Containers should be kept tightly closed with 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.

Preparing Surfaces

All surfaces should be thoroughly cleaned and/or degreased with Dow OS fluids, naphtha, mineral spirits, methyl ethyl ketone (MEK) or other suitable solvent. Solvents such as acetone or isopropyl alcohol (IPA) do not tend to remove oils well, and any oils remaining on the surface may interfere with adhesion. Light surface abrasion is recommended whenever possible, because it promotes good cleaning and increases the surface area for bonding. A final surface wipe with acetone or IPA is also useful. Some cleaning techniques may provide better results than others; users should determine the best techniques for their particular applications.

Substrate Testing

Due to the wide variety of substrate types and differences in substrate surface conditions, general statements on adhesion and bond strength are impossible. To ensure maximum bond strength on a particular substrate, cohesive failure of the product in a lap shear or similar test is needed to ensure compatibility of the adhesive with the substrate being considered. Also, this test can be used to determine minimum cure time or to detect the presence of surface contaminants such as mold release agents, oils, greases and oxide films.

Adhesion

Dow silicone adhesives are specially formulated to provide unprimed adhesion to many reactive metals, ceramics and glass, as well as to selected laminates, resins and plastics. However, good adhesion cannot be expected on non-reactive metal substrates or non-reactive plastic surfaces such as Teflon, polyethylene or polypropylene. Special surface treatments such as chemical etching or plasma treatment can sometimes provide a reactive surface and promote adhesion to these types of substrates. Dow primers can be used to increase the chemical activity on difficult substrates. Poor adhesion may be experienced on plastic or rubber substrates that are highly plasticized, because the mobile plasticizers act as release agents. Small-scale laboratory evaluation of all substrates is recommended before production trials are made.

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.

Solvent Exposure

The silicone adhesive discussed in this literature is intended only to survive splash or intermittent exposures. It is not suited for continuous solvent or fuel exposure. Testing should be done to confirm performance of the adhesives under these conditions.

Packaging Information

Multiple packaging sizes are available for this product.

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.

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.

For more information about our materials and capabilities, visit **consumer.dow.com**.

To discuss how we could work together to meet your specific needs, go to **consumer.dow.com** for a contact close to your location. Dow has customer service teams, science and technology centers, application support teams, sales offices, and manufacturing sites around the globe.

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