

Microelectronics Adhesives

Dow Corning[®] DA 6524

One-part, gray, thixotropic, electrically conductive elastomeric adhesive with self-priming adhesion

FEATURES

- Low Modulus
- Flexible elastomer
- Excellent adhesion
- Thermal stability
- One-part for easy dispensing

BENEFITS

- Low stress on thermally mismatched interfaces
- Excellent electrical conductivity

POTENTIAL USES

- Electrode of Crystal Oscillators
- Ceramic filter
- Electrical grounding
- Capacitor attach
- Die attach

TYPICAL PROPERTIES

Specification Writers: Please contact your local Dow Corning sales office or your Global Dow Corning Connection before writing specifications on this product.

Property	Unit	Value
Viscosity	cP	28000
	mPa-sec	28000
	Pa-sec	28
Thixotropy	NA	2.6
Specific Gravity (Uncured)	-	3.7
Working Time - Viscosity Rise, 24 hrs @ 35°C	%	113
Heat Cure Time @ 150°C	minutes	60
Durometer Shore A (JIS)	-	83
Unprimed Adhesion - Lap Shear (Al)	psi	250
	MPa	1.7
	N/cm ²	170
Volume Resistivity	ohm*cm	3.0E-03

DESCRIPTION

Dow Corning silicone microelectronics adhesive products are designed to meet key criteria in the micro- and optoelectronic packaging industry, including high purity, moisture resistance and thermal and electrical stability. Dow Corning silicone microelectronics adhesive products deliver outstanding stress relief and high-temperature stability, with excellent primerless adhesion to a wide range of substrate materials and components. These products are ideally suited for microelectronic devices requiring low-modulus materials, for lead-free solder reflow temperatures (260°C), or other high-reliability applications. With both wet dispensed and pre-cured film product forms available these materials meet a wide range of needs for device packaging applications. Dow Corning silicone microelectronics adhesive products are supplied as convenient, one-part materials, with specific formulations developed for electrical conductivity, electrical insulation or thermal conductivity, all of which cure via heat without byproducts.

PREPARING SURFACES

All surfaces should be thoroughly cleaned and/or degreased with solvents such as Dow Corning® brand OS Fluids, naphtha, mineral spirits, or methyl ethyl ketone (MEK). 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 to remove residues that may be left behind by other cleaning methods. On some surfaces, different cleaning techniques will give better results than others. Users should determine the best techniques for their 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, 100 percent cohesive failure of the adhesive in a lap shear or similar adhesive strength is needed. This ensures 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.

COMPATIBILITY

Certain materials, chemicals, curing agents and plasticizers can inhibit the cure of addition cure adhesives. Most notable of these include: Organotin and other organometallic compounds, Silicone rubber containing organotin catalyst, Sulfur, polysulfides, polysulfones or other sulfur containing materials, unsaturated hydrocarbon plasticizers, and some solder flux residues. If a substrate or material is questionable with respect to potentially causing inhibition of cure, it is recommended that a small scale compatibility test be run to ascertain suitability in a given application. The presence of liquid or uncured product at the interface between the questionable substrate and the cured gel indicates incompatibility and inhibition of cure.

REPAIRABILITY

Removal of Dow Corning electronic materials to allow for failure analysis can be assisted with Dow Corning® brand OS Fluids. Additional information regarding these products is available from Dow Corning.

PACKAGING

Storage and Handling of Syringes
Transportation typically takes 2-4 days and is shipped using blue ice with a temperature recorder. The recorder should not exceed 10°C at any time during the shipment and should be stored at the recommended condition, -10 to -25°C, immediately upon arrival. Repeated freezing and thawing should be avoided. To prepare a syringe of material for use, please follow the following directions

in order. Allow the syringe to sit at least one hour at room temperature on its side and without opening the plastic bag. Upon opening the bag, remove the syringe dust cap right away. The tip plug should be removed just prior to placing the syringe in the dispenser. Air pressure from 10-30 psi should be used.

STORAGE AND SHELF LIFE

Shelf life is indicated by the "Use By" date found on the product label. For best results, Dow Corning lid seal adhesives should be stored at or below the maximum specified storage temperature. Special precautions must be taken to prevent moisture from contacting these materials. 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. Any special storage and handling instructions will be printed on the product containers.

HEALTH AND ENVIRONMENTAL INFORMATION

To support customers in their product safety needs, Dow Corning has an extensive Product Stewardship organization and a team of Product Safety and Regulatory Compliance (PS&RC) specialists available in each area. For further information, please see our website, www.dowcorning.com, or consult your local Dow Corning representative.

LIMITATIONS

These products are neither tested nor represented as suitable for medical or pharmaceutical uses.

LIMITED WARRANTY INFORMATION PLEASE READ CAREFULLY

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this

information should not be used in substitution for customer's tests to ensure that Dow Corning's products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent. Dow Corning's sole warranty is that the product will meet the Dow Corning sales specifications in effect at the time of shipment. Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted. DOW CORNING SPECIFICALLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY. DOW CORNING DISCLAIMS LIABILITY FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

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