

# Silicone Sealants

## Dow Corning® 738 Electrical Sealant

### FEATURES

- A noncorrosive cure mechanism that produces no exothermic heat or corrosive by-products; can be used in corrosion-sensitive electrical and electronic equipment (on copper and other sensitive metals) with no adverse effect; can be used in work areas where sealant curing odors would be objectionable
- Easy handling with no mixing, heating, or solvent hazards; easy repair by cutting away old material and replacing with fresh material
- Good dielectric properties
- Continuous use range from -80 to 356°F (-62 to 180°C)

### COMPOSITION

- One-part RTV silicone rubber
- Supplied as a nonslumping paste; cures to a tough, rubbery solid

### Durable adhesive/sealant for general-purpose bonding and sealing applications

### USES

Dow Corning® 738 Electrical Sealant is a durable, general-purpose sealant and adhesive for use in a wide range of bonding and sealing applications, especially where Military Specification MIL-46146 is required.

### TYPICAL PROPERTIES

These values are not intended for use in preparing specifications.

Method	Test	Unit	Result
<b>As Supplied<sup>1</sup></b>			
	Consistency		Nonslumping paste
CTM <sup>2</sup> 0364	Extrusion Rate, 1/8-inch nozzle at 90 psi	grams/minute	550
CTM 0098	Skin-Over Time	minutes	20
CTM 0095	Tack-Free Time	hours	2
	Cure Depth, 24 hours	inches	0.070
	Corrosion Properties		Noncorrosive
<b>As Cured – Physical<sup>3</sup></b>			
	Color		White
CTM 0097	Specific Gravity at 77°F (25°C)		1.03
CTM 0099	Durometer Hardness, Shore A		35
CTM 0137A	Tensile Strength	psi (MPa)	385 (2.6)
CTM 0137A	Elongation	percent	535
<b>As Cured – Electrical</b>			
CTM 0114	Dielectric Strength	volts/mil	468

<sup>1</sup>At 77°F (25°C) and 50% RH.

<sup>2</sup>CTMs (Corporate Test Methods) correspond to standard ASTM tests in most instances.

<sup>3</sup>After 7 days at 77°F (25°C) and 50% RH.

**Specification Writers: Please obtain a copy of the Dow Corning Sales Specification for this product and use it as a basis for your specifications. It may be obtained from any Dow Corning Sales Office, or from Dow Corning Customer Service in Midland, MI. Call (517) 496-6000.**

### DESCRIPTION

Dow Corning 738 Electrical Sealant is a one-component, ready-to-use, non-slumping silicone material that reacts with moisture in the air to cure to a tough, rubbery solid.

Dow Corning 738 Electrical Sealant is not recommended for use:

- Under water
- On surfaces to be painted
- In totally confined spaces (atmospheric moisture is required for cure)

### LIMITATIONS

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

### LISTINGS/SPECIFICATIONS

- UL listed for service to 356°F (180°C) where elongation is not essential

- Complies with the noncorrosive requirements of MIL-A-46146 Type I

## HOW TO USE

*Dow Corning* 738 Electrical Sealant forms a bond to most clean surfaces of metals, glass, silicone or organic resins, and vulcanized silicone rubber; however, bond strength may be inconsistent unless a primer is used. For best results, prime the surfaces (except silicone rubber) with *Dow Corning*® 1200 Prime Coat or *Dow Corning*® P5200 Adhesion Promoter in the following manner:

- Clean and degrease all metal or plastic surfaces, then rinse (except acetate plastic) with *Dow Corning*® OS Fluids. Rubber surfaces should be roughened with sandpaper and wiped with acetone.
- Apply a thin film of primer and allow to air-dry for 30 to 45 minutes at room temperature.
- Silicone rubber surfaces do not require priming; however, they should be thoroughly rinsed with acetone.

## Application

Apply *Dow Corning* 738 Electrical Sealant to the prepared surface in a uniform thickness of 10 to 30 mils. If this adhesive/sealant is to be used between two surfaces, apply to one surface and allow it to establish uniform contact before putting the other surface in place. When placing the second surface, use enough pressure to displace the adhesive/sealant.

Let the unit stand undisturbed at room temperature until it cures sufficiently. The odor given off during cure is due to the liberation of an alcohol. The odor will disappear when the cure is complete.

## Tack-Free Time and Tooling

On exposure to moisture in the air, the surface of *Dow Corning* 738

Electrical Sealant will skin over in about 20 minutes at room temperature with 50 percent relative humidity. Any tooling should be completed before this skin forms. The surface is easily tooled with a spatula, and will be tack-free in about two hours.

## Cure Time

Curing continues inward from the surface. In 24 hours (at room temperature and about 50 percent relative humidity), *Dow Corning* 738 Electrical Sealant will cure to a depth of 70 mils.

If both bonded members are impermeable to moisture, as in the case of two metal plates, cure time will depend on the thickness of *Dow Corning* 738 Electrical Sealant and the area under the joint. The larger the unexposed bond area, the longer the cure time required. For shorter cure time and maximum bond strength, keep the area enclosed by a joint to a minimum. For best results, a metal-to-metal bond should not overlap more than one inch.

## STORAGE AND SHELF LIFE

When stored at or below 90°F (32°C), *Dow Corning* 738 Electrical Sealant has a shelf life of 7 months from date of manufacture.

Since this material cures by reaction with moisture in the air, keep the container tightly sealed when not in use. A plug of cured material may form in the tip of the tube during storage, but is easily removed and does not affect the remaining contents.

## SHIPPING LIMITATIONS

None.

## PACKAGING

*Dow Corning* 738 Electrical Sealant is supplied in 3-fl oz (90-mL) tubes, 10.1-fl oz (300-mL) cartridges and 4.5-gal (17-L) pails.

## SAFE HANDLING INFORMATION

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED. BEFORE HANDLING, READ PRODUCT AND MATERIAL SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE MATERIAL SAFETY DATA SHEET IS AVAILABLE FROM YOUR DOW CORNING REPRESENTATIVE, OR DISTRIBUTOR, OR BY WRITING TO DOW CORNING CUSTOMER SERVICES, OR BY CALLING (517) 496-6000.

## 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.

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. Unless Dow Corning provides you with a specific, duly signed endorsement of fitness for use, Dow Corning disclaims liability for any incidental or consequential damages. Suggestions of use shall not be taken as inducements to infringe any patent.