

Information About Dow Corning® 748 Noncorrosive Sealant

Type
One-component silicone rubber

Physical Form,
– **As Supplied**
Nonslumping paste
– **As Cured**
Tough, rubbery solid

Special Properties
Can be used in corrosion-sensitive electrical and electronic equipment with no adverse effect; easy handling; UL listed; complies with FDA regulation CFR 177.2600 covering indirect food contact

Primary Use
General-purpose bonding and sealing applications where low odor and noncorrosive properties are required

DESCRIPTION

Dow Corning® 748 Noncorrosive Sealant is a one-component, ready-to-use, nonslumping silicone material that reacts with moisture in the air to cure to a tough, rubbery solid. As a general-purpose adhesive/sealant, it features:

- **Compliance with FDA Regulation CFR 177.2600 covering indirect food contact**
- A noncorrosive cure mechanism that produces no corrosive by-products; can be used in corrosion-sensitive electrical and electronic equipment (on copper and other sensitive metals) with no adverse effect
- Easy handling with no mixing, heating or solvent hazards; easy repair by cutting away old material and replacing with fresh material

- A service-temperature range from -67 to 350°F (-55 to 177°C) for extended periods, and up to 400°F (204°C) for shorter times
- Resistance to harsh environments such as ozone, corona, moisture and weathering

USES

Dow Corning 748 Noncorrosive Sealant is a durable, general-purpose sealant and adhesive for use in a wide range of bonding and sealing applications.

LIMITATIONS

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

TYPICAL PROPERTIES

These values are not intended for use in preparing specifications.

As Supplied¹

Consistency	Nonslumping paste
Extrusion Rate, 1/8-inch nozzle at 90 psi, grams/minute	150
Skin-Over Time, minutes	15
Tack-Free Time, minutes	30
Cure Time, 1/8-inch, hours	36
Full Cure, 1/8-inch, days	7
Corrosion Properties	Noncorrosive

As Cured – Physical²

Color	Off-white
Specific Gravity at 77°F (25°C)	1.33
Peel Strength ³ , ppi (kN/M)	25 (4.4)
ASTM D 2240 Durometer Hardness, Shore A	35
ASTM D 412 Tensile Strength, psi (MPa)	275
ASTM D 412 Elongation, percent	350

As Cured – Electrical

ASTM D 149 Dielectric Strength, volts per mil	475
ASTM D 257 Volume Resistivity, ohm-cm	7.7 x 10 ¹⁴
ASTM D 150 Dielectric Constant at 77°F (25°C),	
100 Hz	3.30
100 kHz	3.21
ASTM D 150 Dissipation Factor at 77°F (25°C),	
100 Hz	8.7 x 10 ⁻³
100 kHz	2.8 x 10 ⁻³

¹At 77°F (25°C) and 50% RH.

²After 7 days at 77°F (25°C) and 50% RH.

³1/4-inch steel strip to aluminum.

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.



AUTHORIZATIONS

FDA Status

When fully cured and washed, *Dow Corning* 748 Noncorrosive Sealant meets the requirements of FDA Regulation No. 21 CFR 177.2600, subject to end-user compliance with any applicable total extractives limitations.

UL Status

Dow Corning 748 Noncorrosive Sealant is recognized by Underwriters Laboratories Inc. for service to 356°F (105°C) where elongation is not essential. It also meets UL 94 Flame Class, 94 HB. UL File No. E 40195 (N).

Noncorrosive/MIL-A-46146

Dow Corning 748 Noncorrosive Sealant complies with the noncorrosive requirements of MIL-A-46146 and can be supplied to this portion of the specification upon request.

HOW TO USE

Dow Corning 748 Noncorrosive Sealant forms a bond to most clean surfaces of metals, glass, silicone or organic resins,

and vulcanized silicone rubber. A primer is recommended on some plastics such as acrylic; use *Dow Corning*[®] 1205 Prime Coat.

Application

Apply *Dow Corning* 748 Noncorrosive Sealant to the prepared surface in a uniform thickness. 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.

Best adhesion is obtained with a 15-mil-thick glue line; metal-to-metal bonds should not overlap more than one inch.

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* 748 Noncorrosive Sealant will skin over in about 15 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 less than 30 minutes.

Cure Time

Curing continues inward from the surface. In 24 hours (at room temperature and about 50 percent relative humidity), *Dow Corning* 748 Noncorrosive Sealant will cure to a depth of 75 mils. In 72 hours, it will cure to about a ¼-inch thickness with a durometer hardness of about 20. Sections ½-inch deep can take up to two weeks for complete cure.

The relative humidity must be at least 20 percent to effect cure in the times stated. Less moisture will extend the cure time.

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 748 Noncorrosive 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 748 Noncorrosive Sealant* has a shelf life of 24 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 748 Noncorrosive Sealant is supplied in 3-fl oz (90-mL) tubes, 10.7-fl oz (316-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 SERVICE, OR BY CALLING (517) 496-6000.

LIMITED WARRANTY – PLEASE READ CAREFULLY

Dow Corning believes that the information in this publication is an accurate description of the typical characteristics and/or uses of the

product or products, but it is your responsibility to thoroughly test the product in your specific application to determine its performance, efficacy and safety. Suggestions of uses should not be taken as inducements to infringe any particular patent.

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