Information About *Dow Corning*® 736 Heat Resistant Sealant

Type
One-part silicone

Physical Form
Nonslumping paste

Cure
Cures at room temperature by reaction with moisture in the air

Special Properties
Performs at temperatures ranging from -85 to 500°F (-65 to 260°C) for continuous operation and to 600°F (316°C) for intermittent exposure

Primary Uses
Bonding, sealing, potting, encapsulating and protective coating operations where parts must perform at high temperatures

DESCRIPTION

Dow Corning® 736 Heat Resistant Sealant is a one-part, nonslumping paste that cures to a rubbery solid at room temperature on exposure to water vapor in the air. This silicone product is formulated to perform at temperatures ranging from -85 to 500°F (-65 to 260°C) for continuous operation and to 600°F (316°C) for intermittent exposure. It can be used for numerous sealing and bonding applications.

USES

The high temperature properties of this sealant make it ideally suited for:

- Sealing and encapsulating heating elements in appliances
- Aerospace gasketing
- Moving oven belts
- Industrial ovens
- Bag filters on smoke stacks
- Other critical bonding, sealing, potting, encapsulating and protective coatings where parts must perform at high temperatures

LIMITATIONS

Dow Corning 736 Heat Resistant Sealant is not recommended:

- For continuous underwater immersion where adhesion or structural bonding is required
- On concrete, brick, mortar or other masonry surfaces
- On surfaces to be painted; paints do not adhere well to sealant (paint before applying sealant)
- On materials such as impregnated woods or oil-based caulks that bleed oils
- In totally confined areas; atmospheric moisture is required for cure
- On *Teflon*®[1]-coated materials, polyethylene, polypropylene or methylmethacrylate (*Plexiglas*®[2]); sealant will not adhere well
- On or near sensitive metals such as copper, brass, zinc, carbon steel, galvanized iron or magnesium; these metals may be corroded, especially in confined cure conditions, due to the acetic acid released during the cure

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

[1]Registered trademark of E.I. du Pont de Nemours Co.
[2]Registered trademark of Pittsburgh Plate Glass.

TYPICAL PROPERTIES

These values are not intended for use in preparing specifications.

As Supplied	
Color	Red
Flow/Slump	Nil
Extrusion Rate (1/8-inch orifice, 90 psi), g/min	390
Specific Gravity	1.035
Cure Characteristics - exposed to air, 25°C (77°F) and 50 percent RH	
Skin-Over Time, minutes	6
Tack-Free Time, minutes	17
Cure Time (1/8-inch thickness), hours	24
As Cured - after 72 hours at 25°C (77°F) and 50 percent RH	
Durometer Hardness, Shore A, points	26
Tensile Strength, psi	350
Elongation, percent	603
Unprimed Adhesion[1]	Good

[1]Optimum adhesion is obtained in seven to ten days curing time. Use *Dow Corning*® 1200 Prime Coat or *Dow Corning*® P5200 Adhesion Promoter if increased adhesion is required.

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.

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AUTHORIZATIONS

- When fully cured and washed, complies with FDA Regulation 21 CFR 177.2600, subject to end-use compliance with any applicable total extractives limitations
- Listed by the National Sanitation Foundation under Standard 51 for direct contact with food
- Recognized by Underwriters Laboratories for service to 302°F (150°C) where elongation is not essential (UL Plastics section QMFZ2, File # E-40195)
- Designed to meet the requirements of MIL-A-46106A, Amendment 2, Type I

HOW TO USE

Application

Dow Corning 736 Heat Resistant Sealant is supplied ready to use. Under pressure, it flows readily from its container. The paste-like consistency makes it easy to work; a spatula or wooden paddle can be used for tooling the surface.

Tack-Free Time

The cure progresses inward from the surface when exposed to humidified air. At 77°F (25°C) and 50 percent relative humidity, the sealant forms a tack-free skin within 15 minutes. Tooling is not practical after the skin begins forming and should be completed within five minutes after application – even though this may require alternate periods of applying and tooling. If masking tape is used to mark off an area, it should be removed immediately after tooling.

Cure Time

Cure time is affected by relative humidity, degree of confinement and cross-sectional thickness of the sealant. Sections up to 1/8-inch thick become rubbery solids in about 24 hours at 77°F (25°C) and 50 percent relative humidity. Less moisture content reduces the time required slightly. In 24 hours, sections up to 1/8-inch thick cure to a rubber.

Confined Cure

In applications where *Dow Corning* 736 Heat Resistant Sealant may be partially or totally confined during cure, the time required for proper cure is generally lengthened by the degree of confinement. It is possible, with absolute confinement, that cure will not be completed. Metal-to-metal bonds should not overlap more than one inch. Every application involving confinement during cure should be thoroughly tested before use. Curing time increases with the thickness of the sealant.

NOTE: The odor given off during cure is due to the liberation of acetic acid. This odor disappears as the cure progresses and is not detectable after the cure is complete.

Bonding

1. Thoroughly clean and degrease metal and plastic surfaces using *Dow Corning*® brand OS (Ozone Safe) Fluids or another suitable solvent. Rubber surfaces should be roughened with sandpaper, then wiped with *Dow Corning* OS Fluids or another suitable solvent. Follow all precautions given on the solvent container label.
2. For stronger, more uniform bonds, apply a thin film of *Dow Corning*® 1200 Prime Coat or *Dow Corning*® P5200 Adhesion Promoter to all surfaces except rubber and silicone rubber. Allow to air-dry for 30 to 45 minutes at room temperature. (Full instructions are provided with the prime coat.)

   Note: *Dow Corning* 1200 Prime Coat or *Dow Corning* P5200 Adhesion Promoter are flammable and are not suitable for use in food-contact

applications. Keep away from heat, sparks and open flames. Use only with adequate ventilation.

3. Apply *Dow Corning* 736 Heat Resistant Sealant to the prepared surface in a uniform thickness. In those cases where the sealant is to be used between two surfaces, put the second surface in place, using enough pressure to displace the air but not the sealant.
4. Let the unit stand undisturbed at room temperature until cured.

Sealing
Using *Dow Corning* 736 Heat Resistant Sealant in sealing applications follows approximately the same step-by-step procedures as outlined for bonding applications. After preparing the surfaces and priming where required, the sealant is applied by forcing it into the joint or seam to obtain full contact between the sealant and the surface.

SHIPPING LIMITATIONS
None.

STORAGE AND SHELF LIFE
When stored in its original, unopened container below 90°F (32°C), *Dow Corning* 736 Heat Resistant Sealant has a shelf life of 10 months from date of manufacture.

PACKAGING
Dow Corning 736 Heat Resistant Sealant is supplied in 3-fl oz (90-mL) collapsible tubes, 10.1-fl oz (300-mL) plastic cartridges, 10.3-fl oz (305-mL) collapsible tubes, 4.5-gal (17-L) pails and 52-gal (196.8-L) drums.

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.

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