



## Technical Data Sheet

# DOWSIL™ 734 Flowable Sealant

Flowable silicone adhesive sealant

### Features & Benefits

- One-part adhesive/sealant
- Cures at room temperature when exposed to moisture in the air
- Acetoxy cure system
- Flowable and self-leveling
- Easy to apply
- Cures to a tough, flexible rubber
- Fast tack-free time
- Good adhesion to many substrates
- Stable and flexible from -65°C (-85°F) to +180°C (+356°F)
- Excellent dielectric properties
- Complies with MIL-A-46106

### Applications

- General industrial sealing and bonding applications requiring a flowable product.
- Particularly suitable for sealing assemblies with fine joints as well as cable entries and connectors, to ensure that they remain water tight.
- Due to its good adhesion to other silicone rubbers, ideally suited for making field repairs on existing equipment where a part of an existing silicone encapsulant has been removed.

### Typical Properties

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

| CTM <sup>1</sup>   | ASTM <sup>1</sup> | Property  | Unit    | Result          |
|--------------------|-------------------|---|---------|-----------------|
| <b>As supplied</b> |                   |   |         |                 |
| 0176               |                   | Appearance  |         | Flowable liquid |
|                    |                   | Colors  |         | Clear, white    |
| 0050               | D1084             | Viscosity at 25°C (77°F)                            | mPa.s   | 45,000          |
| 0098               |                   | Skin-over time                                      | minutes | 7               |
| 0095               |                   | Tack-free time                                      | minutes | 13              |
| 0208               |                   | Non-volatile content after 24 hours at 70°C (158°F) | %       | 95              |

1. CTM: Corporate Test Method, copies of CTMs are available on request.  
ASTM: American Society for Testing and Materials.

## Typical Properties (Cont.)

| CTM   | ASTM  | Property                      | Unit   | Result             |
|---|-------|-------------------------------|--------|--------------------|
| <b>Mechanical properties, cured 7 days in air at 25°C (77°F) and 50% relative humidity</b>      |       |                               |        |                    |
| 0022  | D792  | Specific gravity              |        | 1.03               |
| 0099  | D2240 | Durometer hardness, Shore A   |        | 27                 |
| 0137A   | D412  | Tensile strength              | MPa    | 1.5                |
| 0137A   | D412  | Elongation at break           | %      | 315                |
| 0159A   | D624  | Tear strength – die B         | kN/m   | 3.0                |
| 0057  |       | Brittle point                 | °C     | -65                |
|   |       |                               | °F     | -85                |
| <b>Electrical properties, after 7 days cure in air at 25°C (77°F) and 50% relative humidity</b> |       |                               |        |                    |
| 0114  | D149  | Dielectric strength           | kV/mm  | 17                 |
| 0249  | D257  | Volume resistivity            | Ohm.cm | 1x10 <sup>15</sup> |
| 0112  | D150  | Permittivity at 100 Hz        |        | 2.7                |
| 0112  | D150  | Permittivity at 100 kHz       |        | 2.7                |
| 0112  | D150  | Dissipation factor at 100 Hz  |        | 0.00034            |
| 0112  | D150  | Dissipation factor at 100 kHz |        | 0.00019            |

### How to Use

#### Substrate Preparation

All surfaces must be clean and dry. Degrease and wash off any contaminants that could impair adhesion. Suitable solvents include isopropyl alcohol, acetone or methyl ethyl ketone.

Unprimed adhesion may be obtained on many substrates such as glass, metals and most common engineering plastics. Substrates to which good adhesion is normally not obtained include PTFE, polyethylene, polypropylene and related materials.

For maximum adhesion, the use of DOWSIL™ 1200 OS Primer is recommended. After solvent cleaning, a thin coat of DOWSIL™ 1200 OS Primer is applied by dipping, brushing or spraying. Allow primer to dry for 15 to 90 minutes at room temperature and a relative humidity of 50% or higher.

### How to Apply

Apply DOWSIL™ 734 Flowable Sealant to the prepared surfaces in a uniform thickness of 0.25 to 0.75 mm. If the adhesive is to be used to bond two surfaces, apply it only to one surface and allow it to establish a uniform contact before putting the other surface in place. When placing the second, use enough pressure to spread the adhesive and displace any trapped air.

On exposure to moisture, the freshly applied material will "skin-over" in about 7 minutes at room temperature and 50% relative humidity. Any tooling should be completed before this skin forms.

## **How to Apply (Cont.)**

### **Cure Time**

After skin formation, cure continues inward from the surface. In 24 hours (at room temperature and 50% relative humidity) DOWSIL™ 734 Flowable Sealant will cure to a depth of about 3 mm. Very deep sections, especially when access to atmospheric moisture is restricted, will take longer to cure completely. Cure time is extended at lower humidity levels.

Before handling and packaging bonded components, users are advised to wait a sufficiently long time to ensure that the integrity of the adhesive seal is not affected. This will depend on many factors and should be determined by the user for each specific application.

### **Compatibility**

DOWSIL™ 734 Flowable Sealant releases a small amount of acetic acid during cure. This may cause corrosion on some metallic parts or substrates, especially in direct contact or when the cure is carried out in a totally enclosed configuration which would not allow cure by-products to escape.

## **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 DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

## **Usable Life and Storage**

Product should be stored at or below 32°C (90°F) in original, unopened containers.

As DOWSIL™ 734 Flowable Sealant cures by reaction with moisture in air, keep the container tightly sealed when not in use. A plug of used material may form in the tip of a tube or cartridge during storage. This is easily removed and does not affect the remaining contents.

## **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, [dow.com](http://dow.com) or consult your local Dow representative.

## **Disposal Considerations**

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

## **Product Stewardship**

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

## **Customer Notice**

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

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