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[1]	ASTM[1]	Property	Unit	Result
		As supplied		
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.

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Typical Properties (Cont.)

CTM	ASTM	Property	Unit	Result
		Mechanical properties, cured 7 days in air at 25°C (77°F) and 50% relative humidity		
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
		Electrical properties, after 7 days cure in air at 25°C (77°F) and 50% relative humidity		
0114	D149	Dielectric strength	kV/mm	17
0249	D257	Volume resistivity	Ohm.cm	$1x10^{15}$
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.

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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 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.

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