



Technical Data Sheet

DOWSIL™ Glass & Metal Silicone Sealant

High Performance, One Part, Neutral Cured Silicone Sealant

Features & Benefits

- One-part room temperature cured silicone sealant
- Good weathering resistance after cured
- Keep flexibility at -40°C~150°C after cured
- Good adhesion to various construction substrates, such as glass, aluminum, ceramic, and some surface coating materials

Applications

DOWSIL™ Glass & Metal Silicone Sealant is a high-performance neutral cured sealant. Its typical applications include:

- Glass window and door adhesion and sealing
- Residential and industrial frame plate adhesion and sealing
- Indoor and outdoor breaking and shop-window decoration

Typical Properties

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

Test ¹	Property	Unit	Result	
	Color		Translucent	Black, White, Grey
Uncured – 23°C, 50% R.H.				
GB/T13477.6-2002	Flow	mm	< 3	< 3
GB/T13477.5-2002	Tack-Free Time	min	15	8.2
GB/T13477.4-2002	Extrusion Rate ²	g/cm ³	242	324
Cured 7 days – 23°C, 50% R.H.				
ASTM D2240	Hardness	Shore A	22	38
ASTM D412	Tensile Strength	MPa	1.35	1.30
ASTM D412	Elongation at Break	%	419	503

1. GB: National Standard
ASTM: American Society for Testing and Materials.
2. Extrusion rate: Test 3.2 mm caliber under 0.62 MPa

Description

DOWSIL Glass & Metal Silicone Sealant is a neutral cured high performance sealant, characterized by good weathering resistance and flexibility and formed waterproof sealing layer after cured. It is widely used for glass glazing and sealing in residence and simple plant, such as the sealing of glass window, and decoration of framework, plate, indoor and outdoor glass breaking, and shop show-windows.

How To Use

Step 1

Correct Joint Design:

Correct joint design minimizes stresses on the sealant, enables optimum sealant movement capability, facilitates sealant application and minimizes the potential for sealant splitting and voiding by enabling cure by-products to exit from the joint.

Guidelines are:

1. Minimum joint width of 6 mm
2. Minimum joints depth of 6 mm
3. For larger joints the width of the joint should be greater than the sealant depth, recommended the ratio of joint width to depth is 2:1.
4. Avoid 3 sided adhesion: Apply backer rod or bond breaker tape in the base of the joint to ensure the sealant is only bonded to the sides of the joint and is free to move to its full capacity under joint movement (refer Figure 1).

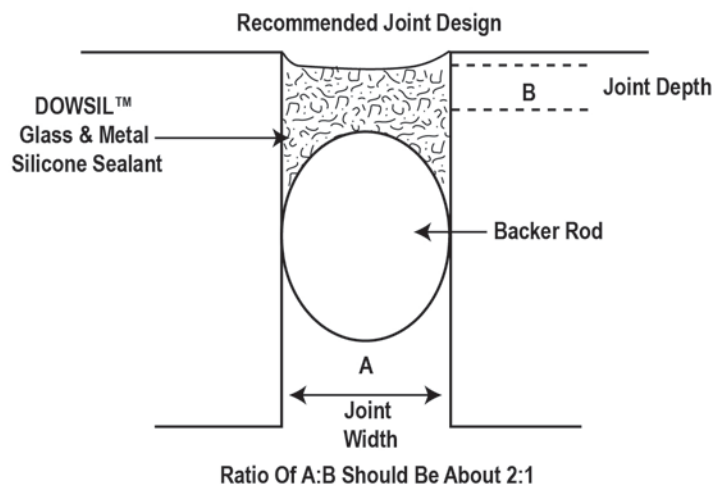


Figure 1.

Step 2

Clean All Joint Surfaces:

Substrate surfaces must be completely clean, dry and sound. Completely remove any loose debris and/or old sealant.

Step 3

Install Backing Material:

Backer rod (e.g. closed cell polyethylene type or open cell polyurethane foam type) or similar material (e.g. low tack polyethylene tape for shallow joints) can be used in the base of the joint to control sealant depth and avoid 3 sided adhesion by prevention adhesion to the base of the joint.

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DOWSIL™ Glass & Metal Silicone Sealant

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Step 4

Mask Adjacent Surfaces With Masking Tape:

Masking will ensure a clean, neat appearance and reduce clean up by protecting surrounding areas from excess sealant.

Step 5

Applying Sealant:

1. Cut tip off the cartridge.
2. Cut nozzle at 45° angle to the desired shape and size.
3. Screw nozzle onto cartridge.
4. Place cartridge in caulking gun. Air-operated or hand-operated caulking guns can be used.
5. Apply sealant into the base of the joint so that it completely fills the joint, wetting both sides. Do not simply lay a bead on the surface as the sealant will not penetrate the joint under its own weight.

Step 6

Tool Joint And Remove Masking Tape:

- Tool the surface of the joint immediately after sealant application to provide a smooth even finish and to ensure the sealant wets the sides of the joint.
- Tooling should be completed in one continuous stroke before the sealant forms a skin (i.e.: within the working time). A tool with a convex profile is recommended to keep the sealant within the joint. When sealing horizontal joints tool the sealant to that any liquids (e.g. rain water, cleaning solutions) do not collect and pool on top of the sealant.
- Do not use soap or water as tooling aids.
- Remove masking tape immediately after tooling and before the sealant skins.
- After a skin has formed, do not disturb the joint for 48 hours.
- Avoid contact with various cleaning agents or solvents whilst sealant is curing.
- Uncured sealant can best be cleaned from tools using commercial solvents such as xylene, toluene or methyl ethyl ketone. Cured sealant is not soluble and must be trimmed with a blade, avoid undercutting the seal.

Usage Rate Table

The table below provides a guide to the linear meters per cartridge for various joint sizes.

NOTE: Actual sealant usage will vary depending on such factors as joint geometry, backer rod placement, tooling and wastage at the job site.

		JOINT WIDTH (mm)					
JOINT DEPTH (mm)	6	8	10	12	15	20	25
6	8.3	6.2	5.0	4.1	3.3	2.5	2.0
8	N/O	4.6	3.7	3.2	2.5	1.8	1.5
10	N/O	N/O	3.0	2.5	2.0	1.5	1.2
12	N/O	N/O	N/O	2.0	1.6	1.2	1.0

Handling Precautions

Test it before use. The user is responsible to conduct property test before using to confirm the sealant produces satisfied results. Especially for the surface which is difficult to adhesion and coated substrates, the cohesiveness should be tested. Be careful the application temperature. When the substrates surface is over than 50°C, it is easy to cause fast-cure or bubbles. When the substrates temperature is lower than 5°C, it is easy to slow-cure. And also, a layer of indiscernible fog is formed on the surface of substrates, which affects the cohesive, so it should be wiped with a piece of dry cloth or heat blow drier. Keep environment well-ventilated and avoid inhaling too much volatile gas generated during cure.

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Usable Life And Storage

Stored properly in a dry and well-ventilated place below 30°C. Usable life is 18 months in original package. More information refer to package.

Packaging Information

- 300 ml cartridge, 24 cartridges per carton

Limitations

If you need advanced sealant used for curtain wall construction, please contact your local Dow representative. This product is not suitable for the following purposes:

- Curtain wall glazing
- Continuous water immersion
- Materials that bleed plasticizers or solvents or release by-products that may inhibit its cure, affect adhesion or discolor the sealant
- Unventilated places

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, www.consumer.dow.com or consult your local Dow representative.

<http://www.consumer.dow.com>

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