



Technical Data Sheet

DOWSIL™ SE 5006 Sealant

Neutral (alcohol type), one-part silicone sealant, JIS A5758 G-F-25HM (SR-1-9030) specified sealant for fire-retarding doors.

Features & Benefits

- DOWSIL™ SE 5006 Sealant is a one-part alcohol type fire-retarding door specified silicone sealing material
- Meets JIS A 5758 durability classification 9030
- Excellent durability and weatherability
- Excellent adhesion properties across a wide range of substrates such as various kinds of metals, glass, tiles, and porcelain
- Less odor than oxime type
- Resists surface cracking caused by movement after curing
- Excellent adhesion to plastics and varnished aluminum
- Ease of use; one-part composition eliminates mixing

Composition

- One-part type
- Neutral cure (alcohol type)
- RTV sealant

Applications

- Fire prevention equipment joint seal
- Fire prevention compartment joint seal
- Fire-retarding door joint seal

※ In specific cases, performance certification is required

Typical Properties

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

Test ¹	Property	Unit	Result
	Appearance		Paste
	Flowability		No
JIS A 1439	Tack-free	minutes	10
	Non volatile content	%	97.5

1. JIS: Japanese Industrial Standard.

Density, hardness, tensile strength, and elongation are measured based on JIS K6249, cure condition: 23 ± 2C°/50%RH x 7 days.

Typical Properties (Cont.)

Test	Property	Unit	Result
JIS K 6249	Density		1.48
JIS K 6249	Tensile strength	N/mm ²	2.6
JIS K 6249	Elongation	%	665
JIS K 7193	Spontaneous ignition temperature	°C	480
JIS K 7201-2	Oxygen index	%	30.5

Evaluation Results Based on JIS A 5758

Properties	Condition	Unit	Evaluation result	Specification
Slump (length)	5 ± 2°C	mm	0	3 or less
	50 ± 2°C		0	
Slump (breadth)	5 ± 2°C	mm	0	3 or less
	50 ± 2°C		0	
Elastic recovery	23 ± 2°C	%	97	70 or more
Tensile properties (100% modulus) glass	23 ± 2°C	N/mm ²	0.7	above 0.4
	-20 ± 2°C		0.7	above 0.6
Tensile properties (100% modulus) aluminum	23 ± 2°C	N/mm ²	0.7	above 0.4
	-20 ± 2°C		0.7	above 0.6
Adhesion properties at maintained extension glass	23 ± 2°C		Pass	No failure
	-20 ± 2°C		Pass	No failure
Adhesion properties at maintained extension aluminum	23 ± 2°C		Pass	No failure
	-20 ± 2°C		Pass	No failure
Adhesion properties after exposure compression, heat and tensile, cooling aluminum	23 ± 2°C		Pass	No failure
Adhesion properties after artificial light exposure glass	23 ± 2°C		Pass	No failure
Adhesion properties after immersion in water at maintained extension glass	23 ± 2°C		Pass	No failure
Adhesion properties after immersion in water at maintained extension aluminum	23 ± 2°C		Pass	No failure
Change in volume (loss)		%	4	10 or less
Durability classification	23 ± 2°C	%	9030	Pass

Heat Generation Test for Fire-Retarding Door Sealing Materials

Fire-Retarding Door Specified Sealing Material

Material heat generation test which was noticed by Construction Ministry Notice No. 1828 (obsoleted) was conducted. Curtainwall Fire Window's Association then registered the sealing material which satisfied ignition time and temperature-time area criteria, and has JSIA sealing performance property, and is specified by JSIA as fire-retarding door sealing material.

Heat Generation Test Condition

Material heat generation test based on Construction Ministry Notice No. 1828 (obsoleted) was conducted by Tsukuba Building Research Test Center for Better Living.

- Heating furnace: heating furnace for sealing material
- Test tray and supporting holder: stainless holder and stainless tray for testing sample
- Test time: 10 minutes
- Decision criteria (Pass): ignition time is longer than 100 seconds, and temperature-time area is lower than 50 under the condition of heating at 500°C

Heat Generation Temperature Test Results

Property		Unit	1	2	3
Ignition time		seconds	111.0	115.3	117.4
	Average			114	
Temperature-time area		°C minutes	28.63	1.05	13.14
	Average			14.3	
Maximum temperature at each measured point	1	°C	727	697	713
	2	°C	784	611	832
	3	°C	725	702	715
	4	°C	728	688	718
	5	°C	747	726	732
Combustion time		seconds	longer than 489.0	longer than 484.7	longer than 482.6
Heat loss		g	3.0	3.1	3.6
Weight loss ratio		%	26.1	27.7	31.9
Decision			Pass		

Joint Configuration

Please refer to "Construction Sealant Handbook" which was published by Japan Sealant Industry Association ("JSIA") for the detail of joint configuration of a sealing material of fire-retarding door.

Joint Design

The joint design must conform to "JASS8 (Construction standard of Architect Institute of Japan)" and "Technological indicator concerning watertight design and construction of the outside wall joint".

Heat Generation Test for Fire-Retarding Door Sealing Materials (Cont.)

Primer

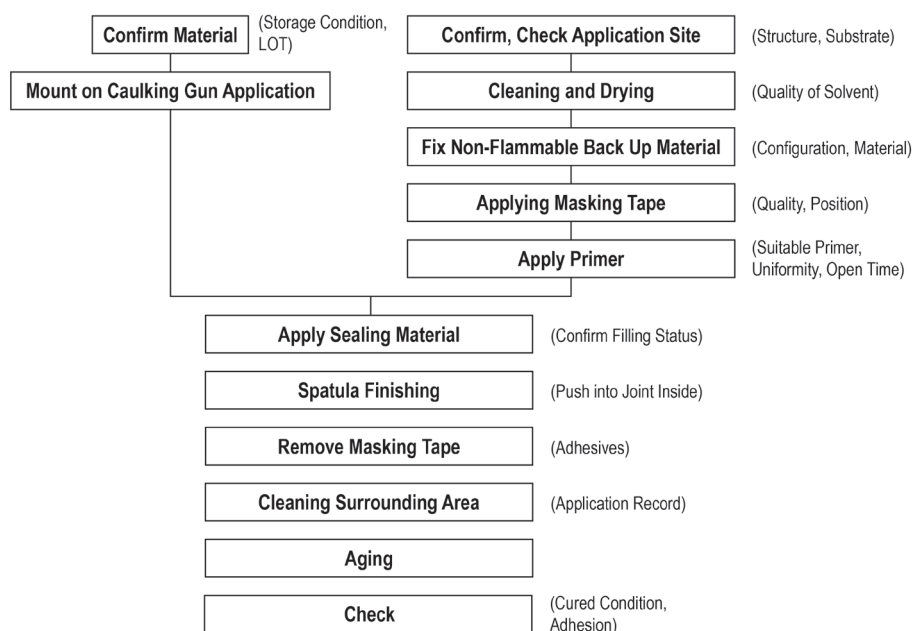
Setting of Joint Depth

Discoloration or internal cracking defect may occur if joint depth setting is inadequate. Joint design is recommended in the allowable range which is explained in “JASS8 (Construction Standard of Architect Institute of Japan).

Substrate	Primer
Glass, Metal, Varnished Metal	DOWSIL™ Primer-D3(RF)
Concrete	DOWSIL™ Primer-B

Application Procedure and Application Management Guideline

The application procedure is basically the same as typical sealing materials. Please make sure to use non-flammable back up material.



Approvals / Specifications

- JIS A5758 G-F-25HM(SR-1)
- JSIA F☆☆☆☆
- JSIA Fire-retarding door specified sealing material

Colors

DOWSIL™ SE 5006 Sealant is available in black, gray, light-gray2, white, and dark-brown.

How to Use

- Make sure to use non-flammable back up material for fire prevention equipment (fire-retarding door).
- Filling of back up material: please consider size tolerance etc., confirm filling status and use suitable configuration specified non-flammable back up material.
- In case of fire-retarding door joint filling, please pay attention to gun movement speed and discharge rate of sealing material.
- Use the nozzle which can fill sealant material inside the joint, joint bottom, and corners.

How to Use (Cont.)

- Crossing portion of joints should fill one joint, then fill the other to squeeze out at crossing point.
- In case of temporary stop filling, keep on a slant.
- In case of continuation of filling, clean continuous portion with solvent, dry and then apply (apply primer when necessary).
- Stop field work operation when experiencing rainfall, snowfall, or strong winds. Regarding restart, check dew condensation and dirt pick up carefully. Discuss with relevant people.
- Keep samples of field application and utilize for monitoring afterwards.
- Avoid high temperature, direct sunlight, and rainfall when storing fire-retarding door sealing materials.

Primer

Please use a primer on glass, metal, and porous material to achieve the highest quality of adhesion. In addition, to confirm adhesion properties, please conduct a test on the substrate in use. Typical primers used are as follows.

- Glass, metal, varnished metal: DOWSIL™ Primer- D3(RF)
- Concrete: DOWSIL™ Primer -B

Handling Precautions

- The surface of the substrate should be clean and dry before applying sealant.
- Protect uncured sealant from rain; surface roughness or undercure might occur if rain drops within one day after sealant application.
- Surface wrinkle or internal cracking defect may occur if joint moves significantly during sealant curing.
- Contamination may occur when stone joints and slate joints are in use for outside wall. Please contact a Dow Sales Engineer prior to application when appearance is important.
- When using an air gun to apply, pressure should be controlled below 0.3 Mpa. Higher pressure may cause squeezing of sealant or breaking of cartridge.
- Change in sealant quality (poor adhesion, discoloration, softening) may be observed if the sealant comes in contact with back-up material or tarpaulin made from EPT (EPDM) or CR. Prior testing is recommended.
- Applying uncured or curing stage oxime sealant may cause the uncured sealant to discolor.
- Applying uncured or curing stage oxime sealant to DOWSIL™ SE 5006 Sealant may cause the uncured sealant to discolor.
- Bubbling and cracking may occur if the sealant is applied to a substrate during the summer when surface temperatures may be extreme (particularly with dark color substrates).
- Internal cracking and discoloration may occur when the construction joint is too deep. When considering joint depth (D) and width (W), please refer to the profile coefficient $D/W \leq 1.0$. It is important to allow the sealant a sufficient number of days to fully cure. Please use the interconnected cell sponge as a back-up material for suitable curing.
- The sealant is not suitable for use in areas with continuous exposure to high temperatures (highest temperature limit: 120°C).

**Handling
Precautions
(Cont.)**

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**

Please store DOWSIL™ SE 5006 Sealant in a cool and dry place, away from direct sunlight. The sealant has a shelf life of 12 months from the date of manufacture. Refer to product packaging for "Date of manufacture".

**Packaging
Information**

DOWSIL™ SE 5006 Sealant is supplied in 330 ml plastic cartridges.

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.

- As this sealing material is not a non-flammable material, please do not use the sealant to come into contact with flames.
- Insufficient ventilation may cause irritation to the eyes or may be harmful by inhalation. Please use under proper ventilation condition.
- Primer contains flammable solvent (Fire Service Act hazardous materials Class 4), do not allow contact with flames.
- For skin contact of uncured sealant, please wipe off immediately, then wash well with plenty of water and soap.
- In case of eye contact, please flush immediately with water, and get medical attention.
- Product safety information required for safe use is not included in this document. Before handling, read product and material safety data sheet (MSDS) and package or container labels for safe use and notes of hazardous information.

**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.

dow.com

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