



Technical Data Sheet

DOWSIL™ Smoke Seal 800SL

Fire-rated one-part self-leveling, silicone sealant for interior and exterior linear joints in floors

Features & Benefits

- One-part low modulus sealant
- Cures at room temperature when exposed to moisture in air
- Neutral cure, halogen-free
- Easy to apply: flowable and self-leveling; no tooling required
- Excellent unprimed adhesion to many substrates
- Excellent weathering characteristics, including resistance to ozone, UV radiation and temperature extremes
- Long service life
- Stable and flexible from -50°C to +180°C
- Non-corrosive to metals
- Fire reaction tested according to EN1716 and EN11925; classified E according to EN13501-1
- Fire resistance tested for linear joints according to UL2079; classified up to three hours FT depending on the joint configuration
- Fire resistance tested for linear joints according to EN1366-4; classified up to 240 minutes in integrity (E) and insulation (I) according to EN13501-2 depending on the joint configuration
- Tested according to EN15651-4

Applications

- The fire and smoke sealing of floor to floor and floor to wall linear joints in fire rated floors

Typical Properties

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

Test	Property	Unit	Result
	Colors		Black
ASTM ¹ 0050	Viscosity	mPa.s	28,000
ASTM 0097B	Density	g/cm ³	1.3
ASTM 0098	Skin Over Time (23°C, 50% RH)	minutes	25

1. ASTM: American Society for Testing and Materials.

Typical Properties (Cont.)

Test	Property	Unit	Result
ASTM 0137A	Tensile Strength ²	MPa	0.7
ASTM 0137A	Elongation at Break ²	%	300
ASTM 0137A	Modulus at 100% ²	MPa	0.21
ASTM D2240	Hardness, Durometer	Shore A	19
	Application Temperature	°C	+5 to 40
	Service Temperature	°C	-50 to +180
EN13501-1 ³	Fire Reaction Rating	NA	Class E
UL 2079	Fire Resistance Rating ⁴	hours	Up to 3 hours FT
EN13501-2	Fire Resistance Rating ⁴	min	Up to EI240
ISO ⁵ 11600	Joint Movement Capability	%	+/- 25
	Volume of Solids	%	> 95
	VOC	g/L	36
	Shelf Life	months	12

2. 2 mm thick dumbbell cured @ 7 days in air at 23°C, 50% RH (ASTM D412)
3. EN: European Norm
4. Depending on joint detailing
5. ISO: International Standardization Organization

Description

DOWSIL™ Smoke Seal 800SL is a self-leveling, one-part, fire-rated sealant for use without a primer on many common non-porous building substrates. This unique low modulus sealant possesses excellent fire sealing properties, adhesive strength, and high movement capabilities, making it ideal to perform as smoke seal to prevent spread of smoke between floors in case of fire.

How to Use

System Design UL 2079 (Floor to Floor Connections)

Smoke Sealer: DOWSIL™ Smoke Seal 800SL

Rigid floor: thickness ≥ 114 mm

Mineral Wool:

- Density: minimum 100 kg/m³
- Minimum depth: 100 mm
- Minimum compression: 33%

How to Use (Cont.)

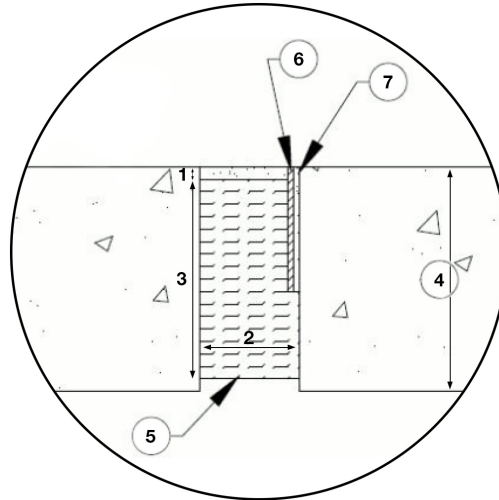


Figure 1: Typical System Design UL 2079 for DOWSIL™ Smoke Seal 800SL Sealant.

Legend

1. DOWSIL™ Smoke Seal 800SL joint depth
2. Joint width
3. Backing (mineral wool) thickness
4. Fire rated supporting construction thickness
5. Fire side
6. Optional metal plate
7. Optional sealant (1.6 mm of DOWSIL™ 795 Silicone)

Table 1: Fire rating with various substrates (UL2079).

Max Seal Width	Min Seal Depth	System	Fire Rating
50 mm	6 mm	Concrete to concrete	3 hrs
50 mm	6 mm	Concrete to GI sheet	2 hrs
50 mm	6 mm	Concrete to aluminum sheet	2 hrs
150 mm	6 mm	Concrete to concrete	3 hrs
150 mm	6 mm	Concrete to GI sheet	2 hrs
150 mm	6 mm	Concrete to aluminum sheet	2 hrs

System Design EN1366-4 (Floor to Floor and Floor to Wall Connections)

Smoke Sealer: DOWSIL™ Smoke Seal 800SL

Application side: non exposed

Rigid floor: thickness ≥ 150 mm

Mineral Wool:

- Density: minimum 45 kg/m³
- Minimum depth: 100 mm
- Minimum compression: 10%

How to Use (Cont.)

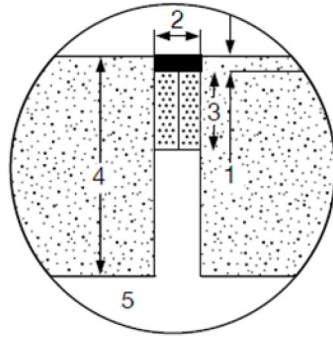


Figure 2: Typical linear joint system design EN1366-4 for DOWSIL™ Smoke Seal 800SL Sealant.

Legend

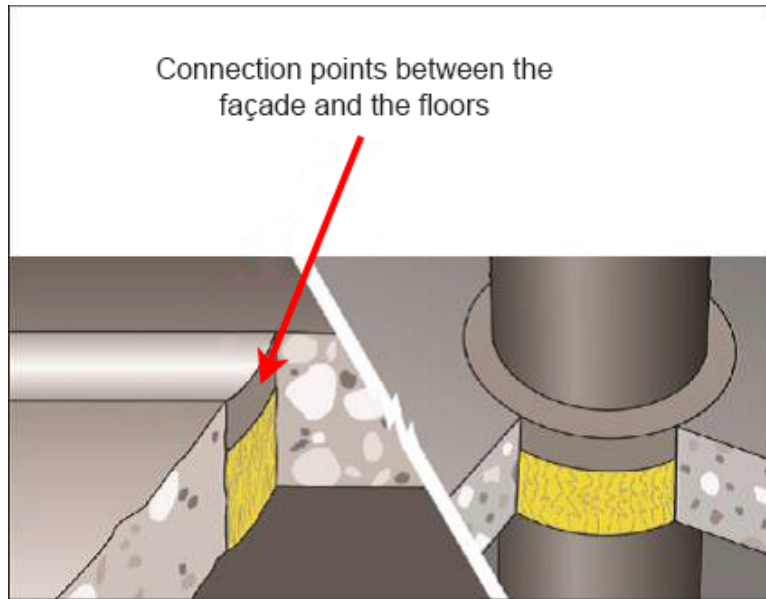
1. Joint depth
2. Joint width
3. Backing material depth (mineral wool)
4. Supporting wall construction thickness
5. Fire side

When designing joints using DOWSIL™ Smoke Seal 800SL Sealant, the minimum width should be 6 mm.

Table 2: Fire rating with various substrates (tested according to EN1366-4, classified according to EN13501-2).

Max Shear Movement	Seal Width	Min Seal Depth	EI Fire Class	E Fire class
NA	6–50 mm	≥ 2 mm	EI 240	E 240
NA	50–150 mm	≥ 10 mm	EI 120	E 240
≤ 10%	6–50 mm	≥ 2 mm	EI 180	E 240
≤ 25%	6–20 mm	≥ 6 mm	EI 240	E 240
≤ 25%	6–20 mm	≥ 10 mm	EI 120	E 240
≤ 25%	50–150 mm	≥ 10 mm	EI 180	E 240

How to Use (Cont.)



Attainment of specific fire ratings is dependent on the joint configuration. Detailed information is given in Table 2. Interpolation within the tested range between the maximum and the minimum nominal joint width is permitted provided the overall seal depth including the backing material is equal or higher. Further rules defining the extended application process of the test results are available. Please consult your local Dow representative for assistance with specific design requirements.

Substrate Preparation

Cleaning

It is essential that DOWSIL™ Smoke Seal 800SL is applied to sound, clean and dry surfaces so that maximum bond strength is achieved. All dust and debris should be removed prior to application of the product or its primer. Ensure that all surfaces are clean, dry, sound and free from frost. Clean all joints of release agents, water repellents, laitance, dust, dirt, old sealants and other contaminants which could impair adhesion. Metallic substrates should be degreased, grit blasted/washed to remove any contaminants that could impair adhesion. Suitable solvents like isopropyl alcohol, acetone or DOWSIL™ R-40 Universal Cleaner can be used to clean the metallic substrates¹.

¹When using any solvent, always provide adequate ventilation. Avoid heat, sparks and open flames. Observe and follow all precautions listed on solvent container label or Product Safety Data Sheet as recommended by the solvent manufacturer and applicable federal, state, and local regulations.

New Concrete Floors

New concrete, or cementitious substrates, should be at least 7–28 days old and have a moisture content not exceeding 5%. Laitance deposits on new concrete are best removed by light grit blasting or grinding.

Old Concrete Floors

Existing concrete floors which require refurbishment must be prepared to ensure a strong adhesive bond between DOWSIL™ Smoke Seal 800SL and the existing floor.

Substrate Preparation (Cont.)

Old Concrete Floors (Cont.)

Mechanical cleaning methods are strongly recommended particularly where heavy contamination by oil and grease has occurred or existing coatings are present. To ensure adhesion, all contaminants should be removed. Proprietary chemical degreaser may be used on small areas of light contamination only.

For further advice on cleaning specific substrates please contact the technical services department.

Adhesion

DOWSIL™ Smoke Seal 800 SL Sealant has excellent adhesion to most common construction substrates. Cement or concrete should be primed with DOWSIL™ P Primer for optimum adhesion.

Dow will carry out specific adhesion and compatibility testing on individual substrates to ensure that correct recommendations can be made. If there is any doubt concerning any aspect of the use of DOWSIL™ Smoke Seal 800 SL Sealant, users are strongly advised to contact technical services department.

Back-up Materials

Mineral wool has been evaluated as backer material in various joint designs. Depending on the required fire rating and the joint/penetration design, the most suitable system can be selected by referring to the rating tables (see Table 1 and Table 2). For further advice on alternative back up materials, please contact the technical services department.

Masking

Prior to starting the work, areas adjacent to the joints should be masked with tape to prevent contamination of the substrates and to ensure a neat sealant line. Masking tape should be removed immediately after tooling.

Application

DOWSIL™ Smoke Seal 800 Self leveling Sealant should not be applied to surfaces that are below 5°C (41°F) as it is impossible to guarantee a dry, frost-free surface at these temperatures.

DOWSIL™ Smoke Seal 800SL must be poured on to the prepared substrate. The material is self leveling but it can also be spread evenly and slowly to the required thickness using a trowel/wide scraper. For cavities, DOWSIL™ Smoke Seal 800SL can be poured directly as required.

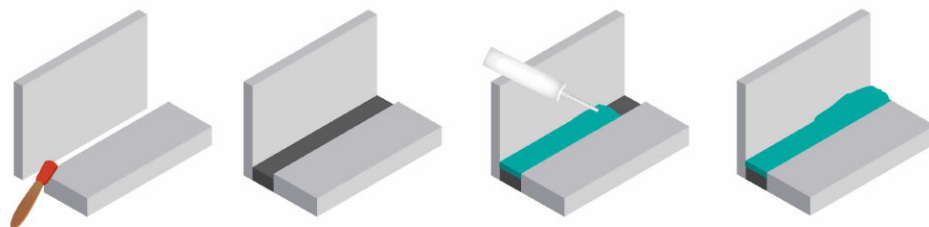


Figure 3: Typical installation of linear joints in floor to floor or floor to wall connections for DOWSIL™ Smoke Seal 800 SL. From left to right: Clean opening, insert backing material, apply DOWSIL™ Smokeseal 800 SL sealant, no tooling is required.

Substrate Preparation (Cont.)

Clean-up

Excess sealant should be cleaned off tools and non-porous surfaces whilst in an uncured state using a suitable solvent, such as DOWSIL™ R-40 Universal Cleaner¹. Sealant adhering to porous surfaces should be left until just cured and then removed by abrasion or other mechanical means.

¹When using any solvent, always provide adequate ventilation. Avoid heat, sparks and open flames. Observe and follow all precautions listed on solvent container label or Product Safety Data Sheet as recommended by the solvent manufacturer and applicable federal, state, and local regulations.

Typical Cure

Cure rate at 23°C and 50% RH:

- Tack-free time: < 1 hour
- Thorough cure 9 mm depth: 7 days

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

When stored at or below 30°C in the original container, DOWSIL™ Smoke Seal 800SL has a shelf life of 12 months from date of manufacture. Refer to product packaging for “Use By” date.

Packaging Information

DOWSIL™ Smoke Seal 800SL is available in 22 kg and 10 kg pails. Consult your local distributor to confirm the packing available in your region.

Limitations

DOWSIL™ Smoke Seal 800SL is not recommended for:

- Application in confined areas without proper ventilation
- Joints under constant water submersion

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.

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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