

# DOW CORNING® Firestop 700 Silicone Sealant

## FEATURES

- Meets BS 476 Part 22
- Excellent unprimed adhesion to most porous and non-porous construction substrates
- Non-slump
- Joint movement capability  $\pm 50\%$
- Neutral cure
- Halogen-free
- Conforms to ISO 11600-F&G-25LM

## BENEFITS

- A fire rating of up to 4 hours can be achieved
- Widely tested to many European specifications
- Tack-free in 1.5 hours
- Excellent weathering characteristics, including resistance to ozone, UV radiation and temperature extremes
- Long service life

## One-part silicone rubber

## APPLICATIONS

- Sealing of expansion joints and pipe and cable penetrations in fire rated structures.
- For the provision of fire rated systems where expansion joints or penetration seals are required in curtain walling, building facades or partition walls.

## TYPICAL PROPERTIES

Specification writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales representative prior to writing specifications on this product.

Test method	Property	Unit	Value
	<b>As supplied</b>		
	Slump	mm	Max. 1
	Working time	minutes	15
	Application temperature	°C	+5 to +40
		°F	+41 to +104
	Tack-free time (23°C or 73.4°F, 50% R.H.)	hours	1.5
	Cure rate (23°C or 73.4°F, 50% R.H.)	mm	after 1 day: 2
	Joint movement capability	%	$\pm 25$

## DESCRIPTION

DOW CORNING Firestop 700 Silicone Sealant is a low modulus, one-part, neutral curing, fire-rated silicone sealant. It has excellent unprimed adhesion to a range of common construction substrates including stone, steel, masonry, brick, wood, etc. It is ideal for weather-sealing of curtain walling, building facades and expansion joints where a fire rating is required. It is also suitable for use in penetration sealing systems where pipes and cables pass through fire rated structures.

## TECHNICAL SPECIFICATIONS AND STANDARDS

DOW CORNING Firestop 700 Sealant has been tested to BS 476 Part 22/1987 in expansion joint configurations, Fulmer Yarsley Test Report No. J82973/1 and SGS Test Report No. J86464/1. It also has been tested to BS.476 Part 22/1987 (ISO 834) in pipe and cable penetration systems, Fulmer Yarsley Test Report No. J82973/2. It meets ISO 11600-F&G-25LM. DOW CORNING Firestop 700 Silicone Sealant has been tested and approved for use according to the following European standards:  
- Centre Scientifique du Bâtiment (CSTB) Test:MI. One hour fire rating

on pipe and power cable penetrations. Report No. 88.27492.

It meets the requirements of DIN 4102 as a class B1 material and SNJF category 1 sealants.

It meets the requirements of DIN 18545, T2 and Class E of DIN 18540, T2, ISO 11600-F&G-25LM.

## FIRE RATINGS

Fire test data is available illustrating that DOW CORNING Firestop 700 Sealant can achieve up to a 4 hour fire rating at specified joint and penetration configurations.

The test data provides a good indication of the expected performance of the sealant in fire situations. Users should satisfy themselves that specific applications for which DOW CORNING Firestop 700 Sealant is proposed are suitable and testing of a particular system may be required.

To achieve any specific fire rating, all substrates being used in the system must have at least an equivalent fire rating.

## SUBSTRATE PREPARATION

### Cleaning

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. Metal surfaces should be cleaned and degreased by wiping with a suitable solvent using an oil- and lint-free cloth. For further advice on cleaning specific substrates please contact Dow Corning's Technical Services Department.

Note: When 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.

DOW CORNING Firestop 700 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.

## Adhesion

DOW CORNING Firestop 700 Sealant has excellent adhesion to most common construction substrates. If in doubt, or if unusual substrates are involved, please contact Dow Corning's Technical Services Department.

Cement or concrete should be primed with DOW CORNING® P Primer for optimum adhesion.

Dow Corning 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 DOW CORNING Firestop 700 Sealant, users are strongly advised to contact Dow Corning's Technical Services Department.

## Back-up materials

Backer materials have been evaluated in various joint designs, these being closed-cell polyethylene foam backer rod, ceramic fiber and mineral wool. In penetration sealing applications, mineral wool has been evaluated. Depending on the fire rating required and the joint/penetration design, the most suitable system can be selected by referring to the rating tables (see Table 1).

## Masking

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.

## Finishing

The joint should be tooled within 5 minutes of application to ensure good contact between the sealant and the substrate. Tooling of the sealant also gives a smooth, professional finish.

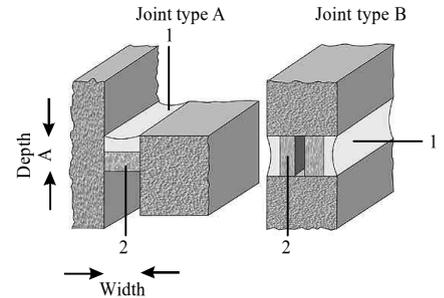
## Clean-up

Excess sealant should be cleaned off tools and non-porous surfaces whilst in an uncured state using a suitable

solvent, such as DOW CORNING® R40. Sealant adhering to porous surfaces should be left until just cured and then removed by abrasion or other mechanical means.

## JOINT DESIGN

Figure 1: Typical joint configurations.



### Legend

- 1 DOW CORNING® Firestop 700 Silicone Sealant
- 2 Backing material

When designing joints using DOW CORNING Firestop 700 Sealant, the minimum width should be 6mm. For joints between 6-12mm wide, a seal depth of 10mm is recommended.

Attainment of specific fire ratings is dependent on the joint configuration. Detailed information is given in Table 2.

Expansion joint types that have been tested are shown in Figure 1. The type of joint selected will depend on fire requirements for the project and aesthetics of the building.

For additional information or assistance, please contact Dow Corning's Technical Services Department.

## PENETRATION DESIGN

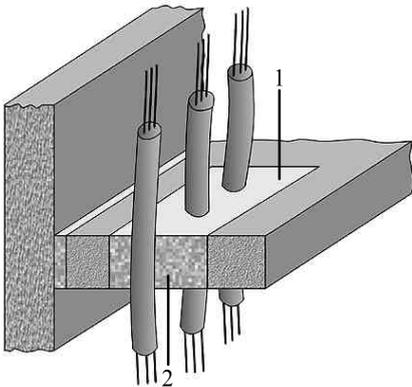
DOW CORNING Firestop 700 Sealant has been developed for use in small penetration seal applications where it should be used in conjunction with specified backing material. DOW CORNING Firestop 700 Sealant can also be used

in conjunction with other Firestop products such as DOW CORNING® Firestop 800 Self-Levelling Silicone Sealant. Please consult the relevant data sheets for further information. For larger penetrations, DOW CORNING® Firestop 3-6548 Silicone RTV Foam should be used.

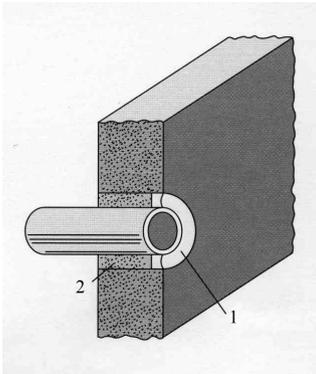
Attainment of specific fire ratings is dependent on the joint configuration. Detailed information is given in the Fire rating Tables 3,4 and 5.

**Figure 2: Typical service penetration.**

**Cable penetration**



**Figure 3: Pipe penetration.**



**Legend**

- 1 DOW CORNING® Firestop 700 Silicone Sealant
- 2 Backing material

**TECHNICAL SERVICES**

Consult Dow Corning's Technical Services departments for further advice on specific applications: Dow Corning S.A.

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**HANDLING PRECAUTIONS**

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED. 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 FROM YOUR LOCAL DOW CORNING SALES REPRESENTATIVE.

**USABLE LIFE AND STORAGE**

When stored in cool, dry conditions below 30°C (86°F) in the original unopened containers, DOW CORNING Firestop 700 Sealant has a usable life of 12 months from the date of production.

**PACKAGING**

DOW CORNING Firestop 700 Sealant is available in 310ml cartridges packed in boxes of 12 and 20 liter pails.

**LIMITATIONS**

DOW CORNING Firestop 700 Sealant should not be used against substrates that bleed oils, plasticisers or solvent. Consult Dow Corning's Technical Service Department for further advice in specific applications. DOW CORNING Firestop 700 Sealant is not intended for use as the structural seal in any application.

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 Corning has an extensive Product Stewardship organization and a team of Health, Environment and Regulatory Affairs specialists available in each area.

For further information, please consult your local Dow Corning representative.

**WARRANTY INFORMATION - PLEASE READ CAREFULLY**

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that Dow Corning's products are safe, effective, and fully satisfactory for the intended end use. Dow Corning's sole warranty is that the product will meet the Dow Corning sales specifications in effect at the time of shipment. Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted. Dow Corning specifically disclaims any other express or implied warranty of fitness for a particular purpose or merchantability. Unless Dow Corning provides you with a specific, duly signed endorsement of fitness for use, Dow Corning disclaims liability for any incidental or consequential damages. Suggestions of use shall not be taken as inducements to infringe any patent.

**Table 1: Estimating sealant requirements****Linear meters per 310ml cartridge**

<i>Width</i>		<i>6mm</i>	<i>10mm</i>	<i>15mm</i>	<i>20mm</i>	<i>25mm</i>
Depth	10mm	5.2	3.1	2.1	1.0	-
	15mm	-	2.1	1.4	1.0	0.8
	20mm	-	1.6	1.0	0.8	0.6

**Table 2: Fire rating Test Reports J82973/1 and J86464/1**

<i>Width</i>	<i>Depth</i>	<i>Backer</i>	<i>Joint configuration</i>	<i>Rating</i>	<i>Sealant position</i>
6mm	x 10mm	25mm CF	A	2 hours	NFS
10mm	x 10mm	PE	A	1 hour	NFS
10mm	x 10mm	25mm MW	A	2 hours	NFS
10mm	x 10mm (Double joint)	PE	B	3 hours	FS + NFS
10mm	x 10mm (Double joint)	25mm MW	B	4 hours	FS + NFS
10mm	x 15mm	25mm MW	A	3 hours	NFS
10mm	x 20mm	25mm CF	A	4 hours	NFS
15mm	x 10mm	25mm MW	A	2 hours	NFS
15mm	x 15mm	25mm CF	A	3 hours	NFS
15mm	x 15mm (Double joint)	25mm CF	B	4 hours	FS + NFS
15mm	x 20mm	25mm CF	A	4 hours	NFS
20mm	x 10mm	25mm MW	A	2 hours	NFS
20mm	x 15mm	25mm CF	A	3 hours	NFS
20mm	x 20mm	PE	A	2 hours	NFS
20mm	x 20mm	25mm CF	A	4 hours	NFS
20mm	x 20mm (Double joint)	PE	B	4 hours	FS + NFS
25mm	x 15mm	25mm CF	A	3 hours	NFS
25mm	x 20mm	25mm CF	A	4 hours	NFS
10mm	x 10mm	PE	A	2 hours	FS
10mm	x 10mm	25mm MW	A	2 hours	FS
20mm	x 10mm	PE	A	1 hour	FS
25mm	x 10mm	25mm MW	A	2 hours	FS
25mm	x 20mm	PE	A	2 hours	FS

**Table 3: Fire rating Test Report J82973/2**

<i>Penetration size</i>	<i>Services</i>	<i>Penetration design</i>	<i>Insulating rating</i>	<i>Integrity rating</i>
150mm	x 150mm	100mm Ø steel pipe	10mm FS 700 + 75mm Mineral Wool	1 hour 4 hours
150mm	x 150mm	25mm Ø steel pipe	10mm FS 700 + 75mm Mineral Wool	2.5 hours 4 hours
150mm	x 150mm	25mm Ø cable	20mm FS 700 + 25mm Mineral Wool	1 hour 2 hours
150mm	x 150mm	25mm Ø steel pipe	20mm FS 700 + 75mm Mineral Wool	4 hours 4 hours
150mm	x 150mm	1x25mm cable, 4x12.5mm cable	10mm FS 700 + 75mm Mineral Wool	1.5 hours 4 hours
150mm	x 150mm	1x25mm cable, 4x12.5mm cable	20mm FS 700 + 75mm Mineral Wool	4 hours 4 hours
150mm	x 150mm	None	10mm FS 700 + 75mm Mineral Wool	1.5 hours 4 hours
150mm	x 150mm	None	20mm FS 700 + 50mm Mineral Wool	1.5 hours 4 hours
50mm	Ø	25mm cable	20mm FS 700 + 25mm Mineral Wool	4 hours 4 hours
50mm	Ø	None	20mm FS 700 + 25mm Mineral Wool	4 hours 4 hours

**Table 4: Fire rating Test Report 86K40074B**

<i>Substrate</i>	<i>Penetration size</i>	<i>Penetrant</i>	<i>DOW CORNING Firestop 700 Sealant depth</i>	<i>Backing material</i>	<i>DOW CORNING Firestop 700 Sealant position</i>	<i>Fire rating</i>
Gypsum board lightweight wall	Sleeve 160mm Ø, galvanised steel 0,8mm thick	Two cables EKKJ 3x10x10mm <sup>2</sup> 1KV Cu Core	12mm	114mm CF	NFS	60 minutes
Gypsum board lightweight wall	Sleeve 160mm Ø, galvanised steel 0,8mm thick	Two cables EKKJ 3x10x10mm <sup>2</sup> 1KV Cu Core	2 x 12mm	102mm CF	FS + NFS	60 minutes
Gypsum board lightweight wall	450mm Ø, galvanised steel 0,8mm thick	Ventilation Duct 400mm Ø	2 x 12mm	98mm CF	FS + NFS	60 minutes
Gypsum board to concrete	300mm wide joint	None	12mm	110mm	FS or NFS	60 minutes
Concrete floor	400x400mm	48.3mm Ø Mild steel pipe 2.6mm thick	12mm	138mm CF	NFS	60 minutes

**Legend**

FS: Fireside of test furnace.

NFS: Non-fireside of test furnace.

CF: Ceramic fiber, aluminum silicate blanket of 128kg/m<sup>3</sup> nominal density.

MW: Mineral wool of 100kg/m<sup>3</sup> nominal density.

PE: Closed-cell polyethylene foam of 35kg/m<sup>3</sup> nominal density.

Ø: Outside diameter.

**Table 5: Fire rating Test Report 86.27492**

<i>Substrate</i>	<i>Penetration size</i>	<i>Penetrant</i>	<i>DOW CORNING Firestop 700 Sealant depth</i>	<i>Backing material</i>	<i>DOW CORNING Firestop 700 Sealant position</i>	<i>Fire rating</i>
Concrete	333mm x 200mm 2 x type	Cables 2 x type 88-448/88 Cu 1 x type 88-224/4 Cu	12mm	110mm CF	NFS	60 minutes insulation. >120 integrity
Concrete	333mm x 200mm	Cables 1 x type 88-448/88 Cu 1 x type 88-224/4 Cu	12mm	110mm CF	NFS	60 minutes insulation. >120 integrity
Concrete	200mm Ø	NB80 Mild steel pipe 60mm Ø	12mm	110mm CF	NFS	60 minutes insulation. >120 integrity

