

Flamex S

constructive solutions

One-part low modulus neutral cure fire rated silicone sealant

Uses

For fire protection of curtain walling, building façades, expansion joints and penetration seals, where pipes and cables pass through fire rated structures.

Advantages

- Tested to BS 476 Part 22:1987 (ISO 834)
- Up to a 4 hour fire rating in specified joint and penetration configurations
- Excellent adhesion
- 50% MAF allowing structural movement
- Meets BS 5889 Type A
- Prevents the passage of smoke through joints in fire conditions
- Acts as an acoustic sealant

Standards compliance

Flamex S has been tested to the following standards:

BS 476 Part 22: 1987 (ISO 834) in expansion joints achieving up to a 4 hour fire rating (fire rating table A).

BS 476 Part 22: 1987 (ISO 834) in pipe and cable penetration systems achieving up to a 4 hour fire rating (fire rating table B).

ISO 834 achieving over 1 hour (A - 60) fire resistance in joints, pipe and power cable penetrations (fire rating table C).

Centre Scientifique que du Bâtiment (CSTB) Test achieving 1 hour fire rating in pipe and power cable penetrations (fire rating table D).

Description

Flamex S is a fire rated silicone sealant which cures quickly and gives excellent adhesion to most building materials. The minimum width for joints when using Flamex S should be 6 mm. For joints between 6 and 12 mm wide a seal depth of 10 mm is recommended.

Attainment of a specific fire rating is dependent on the joint configuration. For detailed information see fire rating table A.

Attainment of a specific fire rating is dependent on penetration configurations. For detailed information see fire rating tables B, C and D.

Properties

Form:	Thixotropic paste
Colour:	White/Grey

Movement accommodation factor(MAF):	50% butt joints 100% lap joints
Physical or chemical cure:	Chemical cure
Skimming time (23°C at 50% RH):	2 hours
Cure rate (23°C at 50% RH):	2 mm per day
Application temperature:	5°C to 30°C
Typical Shore 'A' hardness:	20

Fire ratings

The fire rating tables give times for insulation and integrity ratings, These are defined as:

Insulation: The ability to restrict excessive heat transfer through the joint, preventing ignition from conduction on the cold side.

Integrity: The ability to remain intact during the test, thereby withstanding the pressures and stresses developed during a fire situation.

Fire rating table A
Method: BS 476 Part 22: 1987

Joint size width x depth	Joint configuration	Integrity mins	Insulation mins
Polyethylene backed seal single sided - on fire side of test furnace			
10 x 10 mm	A	120	n/a
15 x 10 mm	A	90	30
20 x 10 mm	A	60	30
25 x 20 mm	A	120	60

Polyethylene backed seal single sided - on non-fire side of test furnace			
10 x 10 mm	A	240	240
15 x 15 mm	A	240	240
20 x 20 mm	A	240	240
25 x 25 mm	A	240	240

Polyethylene backed seal double sided			
10 x 10 mm	B	240	240
15 x 10 mm	B	240	240
25 x 20 mm	B	240	240

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Rock fibre backed seal

single sided - on fire side of test furnace

25 x 10 mm	A	120	30
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Rock fibre backed seal

single sided - on non-fire side of test furnace

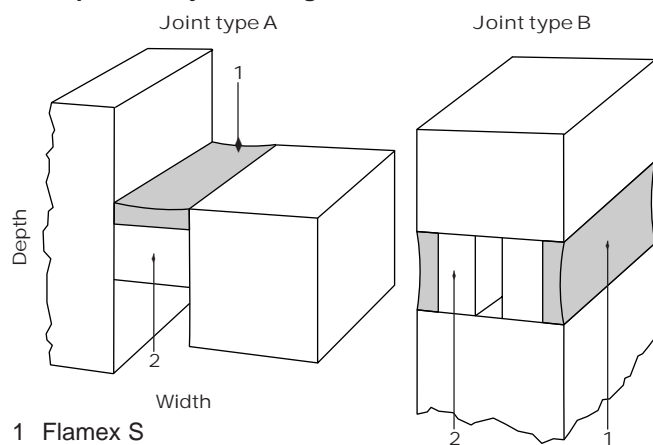
25 x 10 mm	A	240	240
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Rock fibre backed seal

double sided

25 x 10 mm	A	240	240
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Example of test joint configurations



Fire rating table B
Method: BS 476 Part 22 : 1987

Services	Insulation rating	Integrity rating
10 mm Flamex S and 75 mm mineral wool		
150 x 150 mm penetration		
100 mm diameter steel pipe	1 hr	4 hrs
25 mm diameter cable	2.5 hrs	4 hrs
1 x 25 mm cable; 4 x 12.5 mm cable	1.5 hrs	4 hrs
None	1.5 hrs	4 hrs
20 mm Flamex S and 25 mm mineral wool		
150 x 150 mm penetration		
25 mm diameter cable	1 hr	2 hrs
20 mm Flamex S and 75 mm mineral wool		
150 x 150 mm penetration		
25 mm diameter steel pipe	4 hrs	4 hrs
1 x 25 mm cable; 4 x 12.5 mm cable	4 hrs	4 hrs
20 mm Flamex S and 50 mm mineral wool		
150 x 150 mm penetration		
None	1.5 hrs	4 hrs

20 mm Flamex S and 25 mm mineral wool

25 mm cable	4 hrs	4 hrs
None	4 hrs	4 hrs

Fire rating table C
Method: ISO 834

Penetration size	Penetrant	Backing material	Fire rating
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Gypsum board, lightweight wall: Flamex S depth of 12 mm, ceramic fibre backing

Tested non-fireside of test furnace

Sleeve 160 mm diameter galvanised steel 0.8 mm thick	2 cables EKKJ 3 x 10 x 10 mm ² 1KV Cu Core	114 mm	60 mins
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Gypsum board, lightweight wall: Flamex S depth of 2 x 12 mm, ceramic fibre backing

Tested fireside and non-fireside of test furnace

Sleeve 160 mm diameter galvanised steel 0.8 mm thick	2 cables EKKJ 3 x 10 x 10 mm ² 1KV Cu Core	102 mm	60 mins
450 mm diameter	Ventilation duct 400 mm diameter galvanised steel 0.8 mm thick	98 mm	60 mins

Penetration size	Penetrant	Backing material	Fire rating
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Gypsum board to concrete: Flamex S depth of 12 mm, ceramic fibre backing

Tested fireside or non-fireside of test furnace

30 mm wide joint	None	110 mm	60 mins
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Concrete floor: Flamex S depth of 12 mm, ceramic fibre backing

Tested non-fireside of test furnace

400 x 400 mm	48.3 mm o.d. mild steel pipe 2.6 mm thick	138 mm	60 mins
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Fire rating table D

Method: Centre Scientifique que du Bâtiment

Penetration size	Penetrant	Insulation rating	Integrity rating
Concrete substrate: Flamex S depth of 12 mm, 110 mm ceramic fibre backing			
Tested non-fireside of test furnace			
333 x 200 mm	Cables — 2 x type 88-448/88 Cu 1 x type 88-224/4 Cu	60 mins	> 120 mins
330 x 200 mm	Cables — 1 x type 88-448/88 Cu 1 x type 88-224/4 Cu	60 mins	> 120 mins
200 mm diameter	NB80 mild steel pipe 60 mm o.d.	60 mins	> 120 mins

The fire ratings given are specific to the conditions of the test and provide a good indication of the expected performance of the sealant in a fire situation. Users should satisfy themselves that the test results are applicable to their own installations. Testing of a particular system may be required. To achieve any specific fire rating, all substrates being used must have at least an equivalent fire rating.

Application instructions

Joint preparation

Joint surfaces must be thoroughly dry, clean, and free from frost and contamination. Remove all laitance by rigorous wire brushing, grinding or grit blasting. Remove all rust, scale and protective lacquers. Any oil or grease should be removed with Fosroc Equipment Cleaner.

Application

Flamex S should be backed or supported with a closed cell polyethylene foam of nominal density 35 kg/m³, a ceramic fibre blanket of nominal density 128 kg/m³, or mineral wool of nominal density 100 kg/m³. The choice is dependent upon the performance level required and the type of joint being sealed. Contact the local Fosroc office for details.

Where using a closed cell polyethylene foam ensure the diameter cord selected will give sufficient compression and support to the sealant. In construction or contraction joints a bond breaker tape should be used.

Extrude sealant firmly into the joint ensuring complete contact with joint faces.

Mask the face edges of the joint with masking tape before

sealing to prevent contamination of the substrate and remove the masking tape immediately after tooling.

Priming

On cement and concrete, priming with Flamex S Primer is recommended.

Sufficient primer should be transferred to the working container. Do not decant more primer than can be used in 1 hour. Apply by brush to give a thin uniform layer. Flamex S should be applied after 30 minutes. The maximum sealant application time is 3 hours. Application temperatures for the primer are 5°C to 30°C.

Any unused decanted primer should not be returned to the original container but disposed of in the appropriate manner. Any brushes and containers should be cleaned with Fosroc Equipment Cleaner.

Finishing

Flamex S should be tooled within 5 minutes of sealing to ensure good contact between the sealant and the substrate.

Cleaning

Uncured Flamex S can be removed from tools and non-porous surfaces using Fosroc Equipment Cleaner. Sealant adhering to porous surfaces should be left to cure and then removed by abrasion.

Limitations

Flamex S should not be applied to surfaces that are below 5°C.

Flamex S should not be used against substrates that bleed oils, plasticisers or solvent.

Flamex S is not intended for use as the structural seal in any application.

Estimating

Guide to Flamex S quantities

Joint size in mm	Litres per metre run	Metre run per 380 ml cartridge
10 x 15	0.150	2.5
15 x 15	0.225	1.7
20 x 15	0.300	1.3

Packaging

Flamex S is supplied in 380 ml plastic cartridges packed in cartons of 20.



Flamex S

Storage

Flamex S has a storage life of 9 months if kept in a dry store in the original, unopened container, at between 5°C and 25°C.

Flamex S Primer should be stored in accordance with the UK Highly Flammable Liquids and Liquefied Petroleum Gases Regulations 1972.

Precautions

Health and safety

For further information refer to appropriate Product Safety Data Sheet.

Fire

Flamex S is non-flammable.

Flamex S Primer: Highly flammable liquid. Keep away from all sources of ignition — No Smoking. Avoid contact with skin and eyes and inhalation of vapours. Wear suitable gloves and eye/face protection. Use only in well-ventilated areas.



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Important note

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard Conditions for the Supply of Goods and Services, copies of which may be obtained on request. Whilst Fosroc endeavours to ensure that any advice, recommendation, specification of information it may give is accurate and correct, it cannot, because it has no direct or continuous control over where or how its products are applied, accept any liability either directly or indirectly arising from the use of its products, whether or not in accordance with any advice, specification, recommendation of information given by it.

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