

Fosroc® Flamex Two

Flexible, chemical resistant, intumescent sealant

Uses

For fire protection in expansion and construction joints in walls, floors and ceilings, confining smoke and fire, giving extra time for people to escape from a fire situation.

Advantages

- Extensively fire tested in accordance with BS 476 Pt.20: 1987.
- Fire tested in overhead joints as well as in wall joints
- Over 4 and 5 hours insulation and longer integrity rating, depending on joint design
- Suitable for fire stopping of joints as defined by Approved Document B of the Building Regulations
- Prevents the passage of smoke through joints under fire conditions
- Effective as normal building sealants and allows structural movement
- Resistant to a range of chemicals

Standards compliance

Tested in accordance with BS 476 Pt. 20: 1987.

Description

Under fire conditions Flamex Two intumesces, forming a foam-like structure which insulates and provides a barrier to hot gas and flame.

Flamex Two forms a tough, flexible rubber-like seal with a movement accommodation factor of 25% for high movement situations. Flamex Two is suitable for expansion joints in building superstructures and may be used in both internal and external joints. Flamex Two can be used in joints from 5 mm up to 50 mm wide. For non-trafficked movement joints the width of sealant should be twice the depth, subject to a minimum depth of 12 mm. For trafficked movement joints, sealant depth should be equal to the width subject to a minimum depth of 12mm and the sealant should be recessed 5 – 8mm below the joint surface. Additional protection to the joint arris may be provided by chamfering the top edge. The use of a surface primer is always required.

Fire performance test data

Extensive fire testing has been carried out on Flamex Two in accordance with BS 476 Pt.20: 1987 at the Technical Centre of the Loss Prevention Council (LPC). Sealant was assessed in terms of insulation and integrity.

Insulation is defined as the ability to restrict excessive heat transfer through the joint, preventing ignition from conduction on the cold side.

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

Results summary

Flamex Two — polysulphide intumescent sealant

Joint size w x d (mm)	Backing material	Insulation	Integrity
Wall joints			
Single seal in lightweight blocks:			
10 x 12	Expandafoam	> 15 mins	> 1.5 hrs
20 x 12	Ceramic strip	> 2 hrs	> 4 hrs
Lightweight blocks sealed both sides:			
10 x 12	Expandafoam	> 5 hrs	> 5 hrs
25 x 12	Expandafoam	> 3 hrs	3.5 hrs
Lightweight blocks to concrete lintel sealed both sides:			
20 x 12	Expandafoam	> 5 hrs	> 5 hrs
40 x 20	Expandafoam	> 4 hrs	> 4.5 hrs

Soffit joints

Joints in concrete sealed both sides:			
15 x 12	Expandafoam	4 hrs	4 hrs
20 x 12	Expandafoam	> 4 hrs	> 4 hrs
25 x 12	Expandafoam	> 4 hrs	> 4 hrs
30 x 15	Expandafoam	3.5 hrs	> 5 hrs
30 x 15	Ceramic strip	> 5 hrs	> 5 hrs
45 x 25	Ceramic strip	> 5 hrs	> 5 hrs
50 x 25	Expandafoam	2 hrs	2 hrs
50 x 25	Ceramic strip	> 5 hrs	> 5 hrs

Properties

Form	Multi-component paste in one tin; requires mixing
Colour:	Mid grey
MAF:	25% butt joints 50% lap joints
Curing mechanism	Chemical cure
Pot-life	2 hours at 25°C
Tack free time (typical rates)	24 hours at 25°C 48 hours at 15°C 96 hours at 5°C
Full cure (typical rates)	1 week at 25°C 2 weeks at 15°C 4 weeks at 5°C
Application temperature	5°C to 30°C

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Application instructions

Joint preparation

The joint surfaces must be thoroughly dry, clean and frost free. Remove all contamination by rigorous wire brushing, grinding or grit blasting. Avoid polishing the joint sides when grinding. Remove all rust, scale and protective lacquers from metal surfaces. Remove any oil or grease with Fosroc Equipment Cleaner. When resealing all traces of previously applied sealant should be removed. The prepared sealing slot should be blown out with dry, oil-free compressed air.

Flamex Two must be backed or supported with Expandafoam Cord, Hydrocell XL, a ceramic strip or a bond breaker tape. The choice will be dependent upon the performance level required and the type of joint being sealed. Where Expandafoam is to be used ensure that an appropriate diameter cord is selected to give sufficient compression and support to the sealant.

In construction or contraction joints, if the joint is not deep enough to accept Expandafoam cord, a bond breaker tape should be applied to the base of the sealing slot to prevent three side adhesion of Flamex Two. Ensure the correct joint profile is obtained.

Where the ceramic strip is required it should be installed before priming, by folding and inserting into the joint using two thin metal plates to compress the strip and push it into the joint at the same time. A bond breaker tape, or Expandafoam is then placed over the ceramic strip before joint sealing takes place.

Where an especially neat finish is required, mask the face edges of the joint with masking tape before priming.

Priming

Fosroc Primer 7 is required all porous surfaces such as concrete, stone, brickwork, blockwork and should be used as follows:

Apply by brush, working in well, ensuring complete coverage. Avoid over priming resulting in an excess of primer in the base of the joint or beyond the joint faces.

Flamex Two should be applied when Fosroc Primer 7 is tack free (that is after the evaporation of the solvent but before the primer film has completely reacted), normally within 20 minutes to 1 hour. After 3 hours the surfaces must be re-primed before applying the sealant.

Excessively porous surfaces may require a second coat of primer, applied over the first coat which must be thoroughly dry.

Mixing

Flamex Two base component and curing agent are supplied ready for mixing in a single tin. Mix thoroughly using a slow speed drill (300 to 500 rpm) fitted with a Fosroc Sealant Mixing Paddle. Mix for 3 minutes, then scrape down the sides and bottom of the tin using a spatula, mix for a further 2 minutes. Only thorough mixing, including material right at the bottom of the tin, will result in proper curing. In cold weather Flamex Two mixes more easily if stored overnight at room temperature. Immediately after mixing, load the sealant into a Fosroc 'G' Gun using a follower plate.

Finishing

Extrude the sealant firmly into the joint. When gunning the sealant ensure good contact is made with the joint sides. For very wide joints it may be necessary to apply the sealant in two or more passes.

Flamex Two should be tooled to the required finish (flush or recessed) to ensure good contact between the sealant and the substrate. A minimum of surface lubricant such as dilute detergent solution may be used to assist the process.

Any masking tape should be removed immediately after tooling. Normally wall and soffit joints will be flush finished and left unpainted.

Cleaning equipment

Uncured Flamex Two should be cleaned from equipment using Fosroc Equipment Cleaner.

Contract application

The designer or contractor may wish to use the services of a specialist sub-contractor for joint sealing work. Names of preferred sub-contractors are available from Fosroc.

Limitations

The fire rating of Flamex sealants is specific to the tests quoted on this data sheet. Users should satisfy themselves that the test results are applicable to their own installations. Over-painting of Flamex Two is not recommended.

Flamex sealants should not be used in direct contact with materials containing pitch or bitumen or in situations where water cannot freely drain away.

Chemical spills should be cleaned from Flamex Two as soon as practicable.

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Estimating

Packaging

Flamex Two is supplied in 2.5 litre tins in cartons of 4.

Guide to Flamex Two quantities

Joint size in mm	Litres per metre run	Metre run per 2.5 litre pack
10 x 12	0.12	20.80
15 x 12	0.18	13.80
20 x 12	0.24	10.40
25 x 12	0.30	8.3
30 x 15	0.45	5.5
40 x 20	0.80	3.10
50 x 25	1.25	2.00

These are theoretical yields. No allowance has been made for variation in joint dimensions or wastage.

Guide to primer quantities

1 litre of Fosroc Primer 7 to 30 litres of Flamex Two. Actual usage will depend on joint dimensions and other factors.

Storage

Flamex sealants have a storage life of 12 months in original containers when kept in dry conditions between 5°C and 25°C.

Maintenance

No special requirements, but damage identified during normal building inspections should be repaired or replaced as appropriate to maintain performance in a fire.

Precautions

Health and safety

For further information refer to appropriate Product Safety Data Sheet

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Important note

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