



constructive solutions

Expoband Plus

Flexible expansion joint membrane

Uses

Expoband Plus is a butyl rubber membrane which is designed to be bonded over a movement joint or crack in a structure to prevent the ingress of water.

The Expoband Plus system is recommended for sealing joints in trafficked surfaces, water excluding and water retaining structures. Typical areas include :

- Car park decks, podiums or balconies where hot rolled or mastic asphalt is to be applied over the joint
- Expoband Plus will resist the temperatures encountered during asphalting
- Buried joints in walkways and other elevated structures
- Overstrapping of joints in basements, subways, tunnels and substructures in general
- Reservoir roofs and buried culverts
- Internal overstrapping of joints in water retaining structures

Advantages

- Forms a tough, flexible waterproof joint
- Accommodates continuous and pronounced cyclic movement
- Excellent resistance to weathering
- Performance not affected by climatic extremes
- Expoband Plus lengths can be hot vulcanised together
- Resists the high temperature associated with asphalting

Standards Compliance

Water Bylaws Scheme - Approved product listing number 9001532.

Description

Expoband Plus comprises a nominal 3 mm thick butyl rubber sheet laminate with a fully vulcanised layer coloured black and for maximum adhesion efficiency a thin unvulcanised layer coloured red.

Expoband Plus is bonded to the structure on both sides of the joint using a two-part epoxy adhesive, Supastik E10.

Technical Support

Fosroc offers comprehensive technical support, including help at the design stage, application advice and on site problem solving. Specifiers and contractors are encouraged to contact our trained staff for answers to their questions.

For further information please contact us at your local Fosroc office.

Design Criteria

The Expoband Plus system is designed to accommodate cyclic movement of the structure and can be applied horizontally and vertically.

When used as a 'flashing' on a highway bridge below 100 mm of asphalt surfacing, Expoband Plus can accommodate 10 mm of movement. For movement between 10 and 20 mm a neoprene pad must be installed on top of the deck flashing and suitably recessed to support the surfacing.

Width selection

Expoband Plus is manufactured in two standard widths of 250 mm and 190 mm.

The 190 mm width is for sealing joints or cracks in structures subjected to low movement where the adjacent concrete is sound and where the joint is of an even width and well aligned.

The 250 mm width should be used where the condition of the concrete is such that porosity adjacent or close to the joint edges is suspect, where the joint is excessively wide or misaligned and when the Expoband Plus is to be permanently immersed. This includes all buried joints in trafficked surfaces and for sealing joints in asphalt covered bridge decks.

Typical Properties

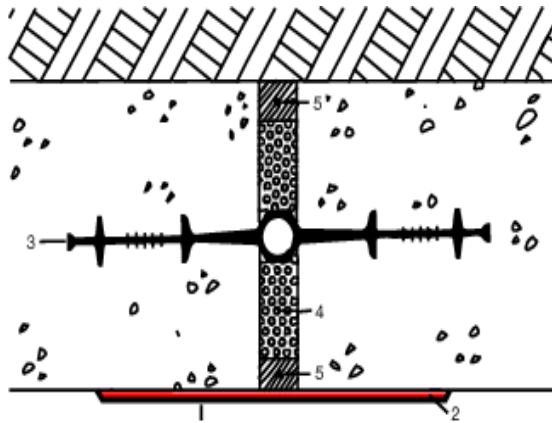
Application temperature:	5°C to 50°C
Hardness:	Shore 'A' at 25°C 65
Tensile strength:	9.1 N/mm ²
Elongation at break:	400% minimum
Movement accommodation:	Expoband Plus used in conjunction with Supastik E10 adhesive will accommodate continuous cyclic movements which result in the debonded area being extended up to 100% of the debonded width

Specification Clause

Where indicated on the drawings joints shall be sealed with Fosroc Expoband Plus flexible expansion joint membrane system supplied by Fosroc Ltd. Fosroc Expoband Plus shall be installed strictly in accordance with the manufacturers latest data sheet.

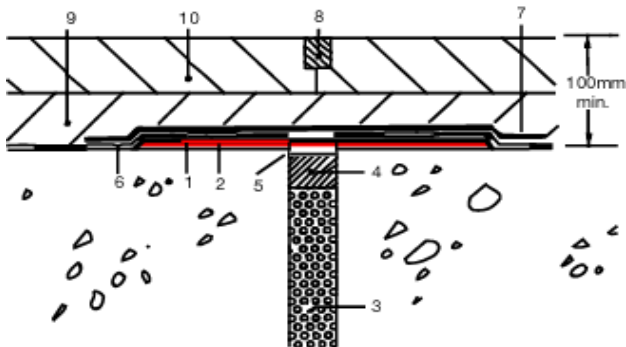
Expoband Plus

Example of a reservoir wall, sealed internally with Expoband Plus.



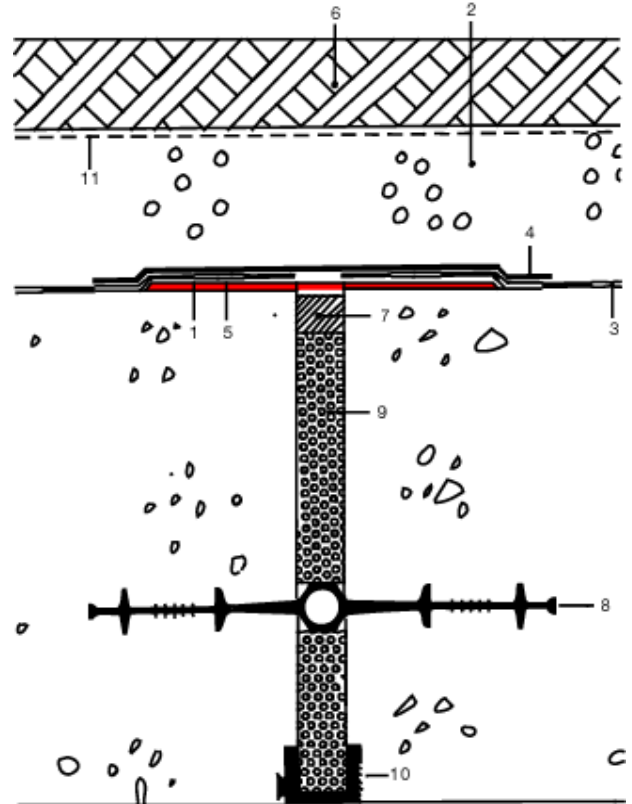
- 1 Fosroc Expoband Plus
- 2 Fosroc Supastik E10 Adhesive
- 3 Fosroc Supercast Waterstop
- 4 Fosroc Hydrocell
- 5 Fosroc Thioflex 600

Example of a joint in a trafficked surface.
(Suitable for movements up to 10 mm in accordance with D.O.T. requirements).



- 1 Fosroc Expoband Plus
- 2 Fosroc Supastik E10 Adhesive
- 3 Fosroc Hydrocell for bridges, Flexcell for road pavements
- 4 Fosroc Thioflex 600
- 5 Arises ground pencil round
- 6 Fosroc Famguard deck membrane
- 7 Fosroc Famguard laid loose & spot bonded along each edge
- 8 Fosroc Pliastic A2
- 9 Base course for hot rolled asphalt
- 10 Wearing course of hot rolled asphalt

Example of a reservoir roof joint.



- 1 Expoband Plus
- 2 Granular overburden
- 3 Fosroc Proofex or Famflex
- 4 Flamflex strap laid loose but spot bonded along each edge
- 5 Fosroc Supastik E10 Adhesive
- 6 Earth overlay
- 7 Fosroc Thioflex 600
- 8 Fosroc Supercast P.V.C. Waterstop
- 9 Fosroc Hydrocell
- 10 Fosroc P.V.C. Capping Strip
- 11 Geotextile

Note: Where backfill contains rubble or the like, Proofex Protection Board will be required.

Application Instructions

Joint preparation

Joints must be packed with a firm, consolidated joint filler prior to laying the Expoband Plus system. If necessary joints may be pre-sealed using an appropriate joint sealant. Where Expoband Plus is applied to upstands or bends, an angled fillet should be provided either cast in situ or formed with Expocrete GP so that the change in direction is smooth and progressive.



Expoband Plus

Surface preparation

Remove all dirt, dust and laitence by rigorous wire brushing, grit blasting or grinding. Any spalling or honeycombing must be repaired using Fosroc Expocrete epoxy resin mortar and allowed to fully cure prior to the application of Expoband Plus.

New concrete must be fully cured and free from curing compounds. The concrete surface ideally should be wood float finished flat and even for the width of the Expoband.

Ensure that the substrate slightly wider than the membrane width selected is flat and not misaligned. Sharp arises should be ground down pencil round.

Should the substrate be damp, dry gently with a gas torch or hot air blower. Dampness should not reappear within 15 minutes for the substrate to be considered dry enough for application to commence.

Priming of concrete

For most applications the use of a primer is unnecessary, however in cases where Expoband Plus is immersed or in critical situations, the concrete must be primed with Fosroc Primer 13X. Primer 13X can only be applied when substrate temperature is 5°C and rising. Gentle warming of the concrete will assist in the application of the primer.

Apply Primer 13X by brush, ensuring the area between the joint edges and 25 mm past either side of the Expoband Plus membrane is covered. Allow the solvent in Primer 13X to evaporate fully before the application of Supastik E10 (about 40 to 60 minutes, depending upon the temperature). The use of tenting and space heaters will accelerate the cure rate of the primer and Supastik E10 Adhesive under low temperature conditions.

Re-prime if the primer is left longer than 8 hours or has become contaminated.

Membrane preparation

Measure and cut the length of Expoband Plus to suit the joint. Lay the Expoband Plus red face up on a clean surface. Lightly buff the red face using an abrasive flap wheel fitted to an ordinary electric drill. The membrane is ready when a matt finish is achieved. Be careful not to expose the black underside of the membrane, by overdoing the buffing. The intention is to lightly and uniformly abrade the red rubber surface, not to remove it.

Brush away any rubber dust and apply a single coating of Primer 4 using the pads provided. Allow the primer to dry for 20-40 minutes (temperature dependant) prior to laying the membrane onto the Supastik E10 adhesive.

Application

Supastik E10 adhesive is supplied in two plastic tubs. Transfer the entire contents of the smaller tin into the larger tin. Using a slow speed drill, fitted with a Fosroc paddle stirrer, mix for a full 4 minutes stopping occasionally to scrape the sides of the tub. Mixing is complete when a uniform colour is achieved.

Apply the adhesive onto the substrate using a spreader comb with 3 mm serrations. Keep the resulting serrations parallel to the run of the joint. Once this has been done lay the primed Expoband Plus into the adhesive and align. Press firmly over its full area ensuring complete contact is achieved. Finish each edge by applying a small triangular fillet of adhesive - remove any excess.

The membrane should be applied not more than 20 minutes after adhesive application. Allow the adhesive to fully cure prior to the application of asphalt or other surfaces.

Where two joints intersect, firstly apply Expoband Plus to the full length of one joint and then overlap Expoband Plus as you apply Expoband to the perpendicular joint.

Where areas longer than 20 metres are applied Expoband Plus can be jointed by hot vulcanising. For further details contact your local Fosroc office.

Estimating

Packaging

Expoband Plus:	Widths of 190 and 250 mm (20 m per roll)
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Supastik E10:	2 litre packs
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Primer 13X:	200 ml pack
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Primer 4:	250 ml tin
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Coverage

Supastik E10:	6.5 metres per pack (250 mm wide) 7.5 metres per pack (190 mm wide)
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Primer 13X:	3.4 metres per pack (250 mm wide) 4.0 metres per pack (190 mm wide)
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Primer 4:	45 metres per pack (250 mm wide) 60 metres per pack (190 mm wide)
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Coverage may vary depending upon the regularity of the surface finish.



Expoband Plus

Note: In accordance with Commercial or Health & Safety requirements packaging detail may alter. Please contact your local Fosroc office for detail.

Storage

Supastik E10 has a shelf life of 12 months when stored at below 25°C in originally sealed containers. Expoband Plus can be stored indefinitely.

Precautions

Health and safety

Expoband Plus butyl rubber membrane: There are no special safety precautions required for the normal use of this product.

Supastik E10 (Part A): Irritating to skin and eyes. May cause sensitisation by skin contact. After contact with skin wash immediately with plenty of soap and water. Wear suitable gloves and eye/face protection.

Supastik E10 (Part B): Harmful in contact with skin and eyes. Causes burns. May cause sensitisation by skin contact. Avoid contact with skin and eyes. In case of contact with skin and eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection.

Fosroc Primer 13X: This product is highly flammable. Flash point 7°C. Store away from heat. Keep away from sources of ignition. Use only in well ventilated surroundings. This product contains resins which may cause skin sensitivity in certain individuals. Avoid skin contact, wear rubber gloves and wash hands thoroughly before eating.

Fosroc Primer 4: Highly flammable. Flash point 13°C. Store away from heat. Keep away from sources of ignition. Use only in well ventilated surroundings. Avoid skin contact, wear rubber gloves and wash hands thoroughly before eating.

Fosroc Equipment Cleaner: Harmful by inhalation or if swallowed. Use only in well ventilated surroundings.

Nonflammable.

Separate Health and Safety data sheets are available upon request.

Additional Information

Supastik E10 adhesive

Application	5°C	3 to 4 hrs.
life:	10°C	1 to 2 hrs.
	20°C	50 to 60 mins
	40°C	20 to 30 mins

Cure time	Over 15°C	48 hrs.
before trafficking:	5 to 15°C	96 hrs.

Cure time		
before immersion:	7 days at >7°C	

Application	5°C to 50°C	
temperature:	To avoid unacceptably long cure times, do not apply below 5°C	

	Fosroc Primer 13X	Fosroc Primer 4
Pot life:	30 minutes	-

Application		
temperature:	5 to 35°C	5 to 50°C

Tack free time		
at 20°C:	20 to 60 mins.	2 to 5 mins.



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 Service, copies of which may be obtained on request. Whilst Fosroc endeavours to ensure that any advice, recommendation, specification or 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 or information given by it.

Expoband is the trademark of Fosroc International Limited

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