

Expoband H45

Flexible expansion joint membrane

Uses

Expoband H45 is a Hypalon membrane system which is designed to be bonded over movement joints or cracks in structures to prevent the passage of water. It is bonded in position using Lokfix EP two-part epoxy adhesive.

Expoband H45 is suitable for construction use and in repair/remedial applications.

Advantages

- Accommodates continuous and pronounced cyclic movement
- Excellent resistance to weathering
- Can be applied to dry or damp surfaces

Description

Expoband H45 is an un-reinforced Hypalon membrane incorporating a central release tape.

Expoband H45 is available in 1mm thickness (2mm to order) and widths of 100mm and 200mm. The 1mm thick membrane is supplied in a 25 meter roll and the 2mm membrane in 10 meter rolls.

When longer lengths are required Expoband H45 can be joined by hot welding.

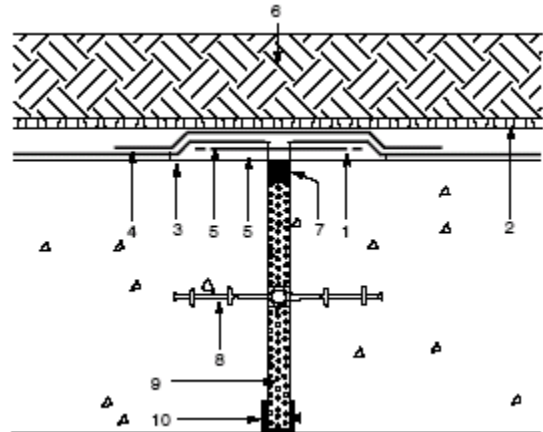
It is bonded to the structure on both sides of the joint using Lokfix EP two-part epoxy adhesive.

Technical support

Fosroc offers a comprehensive range of high performance, high quality technical products. In addition Fosroc offers a technical support package to specifiers and contractors which include computer-aided design (CAD), standard details as well as on-site technical advice from staff with unrivalled experience in the industry.

Design criteria

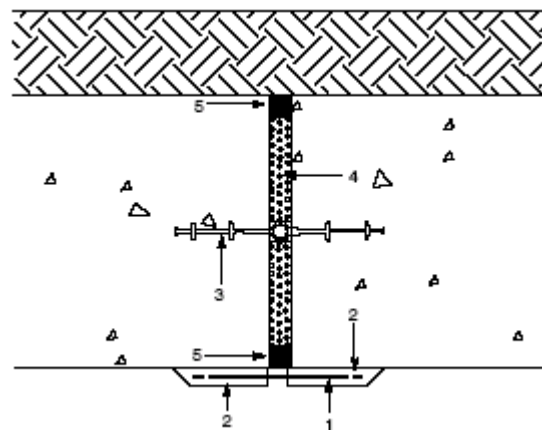
Example of a reservoir roof joint



- | | |
|---|------------------------|
| 1 Expoband H45 | 5 *Lokfix EP adhesive |
| 2 *Proofex Sheetdrain | 6 Earth overlay |
| 3 *Proofex or Famflex | 7 *Thioflex 600 |
| 4 *Famflex strap laid loose but spot bonded along each edge | 8 *Supercast waterstop |
| | 9 *Hydrocell |
| | 10 PVC capping strip |

*Also available from Fosroc.

Example of a reservoir wall, sealed internally with Expoband H45



- | | |
|------------------------|-----------------|
| 1 Expoband H45 | 4 Hydrocell |
| 2 *Lokfix EP adhesive | 5 *Thioflex 600 |
| 3 *Supercast waterstop | |

*Also available from Fosroc.

Maintenance

There are no special requirements; however any damage should be repaired by exposing the damaged area, cleaning the surface and replacing the strip.

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Properties

Expoband H45 Hypalon membrane

Form:	Elastomeric strips
Colour:	Light grey
Density:	1.7 approximate
Tensile strength:	7.0 N/mm ²
Elongation at break:	400%
Adhesion to concrete (with Supastik E10):	>tensile strength of substrate

Specification clauses

Where is indicated on the drawings, joints shall be sealed with Expoband H45 flexible expansion joint membrane system supplied by Fosroc. Expoband H45 shall be installed strictly in accordance with the manufacturer's printed instructions.

Application instructions

Width selection

Expoband H45 is manufactured in two thicknesses (1mm and 2mm) and in two widths (100mm and 200mm).

For most application in water industry structures, the 1mm thickness is appropriate; 2mm should only be required for heavy duty applications.

The 200mm width should be used to seal across expansion joints and where the condition of the concrete is such that porosity adjacent to the joint edges is suspect. The 100mm width is for sealing cracks which are essentially straight and where the adjacent concrete is sound.

Joint preparation

Expansion joints must be packed with a firm, consolidated joint filler prior to laying the Expoband H45. If necessary joints may be pre-sealed using a bituminous or elastomeric sealant. Ensure that any sealant used is capable of accommodating the anticipated joint movement. Where Expoband H45 has to be turned up parapets and the like, a splay should be provided so that the change in direction is smooth and progressive.

Surface preparation

Concrete surfaces onto which Expoband H45 is to be laid must be sound, frost and dust free. New concrete must be fully cured and free from curing compound. The concrete surface ideally should be wood float finished for the width of the Expoband H45 and free from irregularities, with well defined arrises and no vertical misalignment between each side of the joint.

Prepare a suitable width of substrate slightly wider than the membrane width selected. Sharp arrises should be ground down pencil around.

Remove all dirt, dust and laitance by rigorous wire brushing needle gun, abrasive blasting or grinding. Any spalling or honeycombing must be repaired prior to the application of the Expoband H45 system. Should the substrate be wet, dry gently with a gas torch or hot air blower. Dampness should not re-appear within 15 minutes for the substrate to be considered as being dry enough for the application of the Supastik E10. A maximum 25mm width of masking tape applied adjacent to either arris will provide an increased un-bonded width and greater movement potential if required.

Priming of concrete

Priming of concrete is not normally required with the Lokfix EP/Expoband H45 system. The use of a Fosroc Primer should be considered where there could be doubt about porosity or condition of the concrete. Ask for Fosroc's technical advice.

Apply Fosroc Primer by brush, working well in, to a width of 25mm either side of the membrane. Fosroc Primer should be left for about 40 to 60 minutes (depending upon temperature) to allow evaporation of the primer solvent prior to the application of the Lokfix EP adhesive.

If the primer has been left longer than 8 hours or has become contaminated with dust, the surface must be reprimed.

The rate of cure of Fosroc Primer is temperature dependent. Ideally the substrate should be above 10°C to ensure a reasonable cure rate, however this primer can be applied when substrate temperatures are 5°C and rising.

Preparation of the membrane

This operation is vital to the adhesion and performance of the Expoband H45 system.

Measure and cut the length of Expoband H45 to suit the joint.

The Expoband H45 Hypalon membrane must be prepared by thoroughly wiping both faces with Fosroc Solvent 105 and a clean cloth. DO NOT use excessive quantities of solvent. Allow 1 hour to dry before placing.

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Mixing and application of the adhesive

Transfer the entire contents of Part B of Lokfix EP adhesive into the Part A container and mix thoroughly using a slow speed drill and Fosroc paddle stirrer for 4 minutes, stopping to scrape down the sides of the container. When mixed, the adhesive should be a uniform grey colour.

Use masking tape at extremities and along centre line of joint. Apply mixed Lokfix EP using a serrated spreader.

Remove central masking tape immediately and position Expoband H45 membrane into the Lokfix EP adhesive. Roll firmly to displace trapped air and to ensure extrusion of Lokfix EP through the edge perforations.

Apply a second layer of Lokfix EP to the full width of the top surface of membrane. Remove central release film from membrane. Finally remove outer edge masking tapes and feather-edge the Lokfix EP.

Jointing the Expoband H45 membrane

The surfaces to be jointed must be clean and wiped with Fosroc Solvent 105 prior to jointing.

For heat welded joints, a 50 mm overlap should be used. Welding is carried out using a proprietary hot air welding tool (e.g. LEISTER). The tool should be set to the correct heat output by trial to achieve a satisfactory weld.

The faces of the overlap are heated by moving the welding tool along the joint and, simultaneously, pressure should be applied by roller to the heated overlap to ensure that the faces are fused together.

Potable water applications

After application the Expoband H45 system should be allowed to cure for 28 days before permanent contact with potable water.

Ancillary materials and equipment

Lokfix EP adhesive.

Fosroc Solvent 105.

Fosroc Primer.

Slow speed drill and Fosroc paddle stirrer.

Adhesive spreader with 2 to 3 mm serrations.

Hot air welding gun and roller.

Limitations

Joint layouts incorporating Expoband H45 should be kept as simple as possible to allow for site joints to be restricted to straight butt joints. Avoid complex changes of angle or skew giving rise to difficulty in jointing and installation.

Estimating

Supply

Expoband H45:	1mm thick X 100mm wide, 20 mtr roll
	1mm thick X 200mm wide, 20 mtr roll
	2mm thick X 100m wide, 10 mtr roll
	2mm thick X 200m wide, 10 mtr roll

Coverage

Lokfix EP:	(based on a 2mm spread of adhesive above and below the membrane) For 100mm wide Expoband H45: 5 to 6 linear mtr per 2 litres of the Adhesive For 200mm wide Expoband H45: 2.5 to 3.5 linear mtr per 2litres of the adhesive Dependent upon surface roughness and film thickness
Fosroc Primer:	10m ² /litre

The coverage figures are theoretical — due to wastage factors and the variety and nature of substrates, practical coverage figures may be substantially reduced.

Storage

Expoband H45 should be stored in original unopened packaging, in cool dry conditions, away from sunlight. Fosroc Primer should be stored in accordance with the Highly Flammable Liquids and Liquefied Petroleum Gases Regulations 1972.

Precautions

Health and safety

Expoband H45: There are no known hazards associated with this product in normal use.

Lokfix EP: Contains resins which may cause sensitisation by skin contact, avoid contact with skin and eyes. Wear suitable protective clothing, gloves and eye/face protection. Barrier creams provide additional skin protection. Should accidental skin contact occur, remove immediately with a resin removing cream, followed by soap and water. Do not use solvent. In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice. If swallowed seek medical attention immediately — **do not** induce vomiting.



Expoband H45

Fosroc Primer 13X: Highly flammable liquid. Keep away from sources of ignition. No Smoking. Avoid inhalation of vapours. Use only in well ventilated areas. This primer contains resins which may cause sensitisation by skin contact; avoid contact with skin and eyes. Wear suitable protective clothing, gloves and eye/face protection. Barrier creams provide additional skin protection. Should accidental skin contact occur, remove immediately with a resin removing cream, followed by soap and water. Do Not use solvent. In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice. If swallowed seek medical attention immediately — **do not** induce vomiting.

Fosroc Solvent 105: Harmful by inhalation. Avoid contact with skin and eyes and inhalation of vapours. Wear suitable protective clothing, gloves and eye/face protection. Use only in well ventilated areas and keep away from sources of ignition and hot surfaces. No Smoking.

For additional information see relevant Product Safety Data Sheets.

Fire

Fosroc Primer 13X, Fosroc Joint Cleaner and Fosroc Solvent 105 are flammable. Do not expose to naked flames or other sources of ignition. No Smoking. Containers should be tightly sealed when not in use. In the event of fire, extinguish with CO₂ or foam.

Additional information

Technical data — ancillary materials

Lokfix EP

Form:	Base: Off-white viscous paste Curing agent: Grey viscous paste
Storage life:	12months in originally sealed containers stored below 25°C in cool dry conditions
Flash point:	Above 65°C
Mix Density:	1.75 kg/litre

Solid content:	100%
Cure duration:	Over 25°C 48 hours
Before trafficking:	5°C to 25°C 96 hours
Before immersion:	>7°C 7 days
Application temperature:	5°C to 50°C
Mixed colour:	Grey
Physical/chemical change:	Chemical cure

Fosroc Primer 13X

Flash point:	Base: -7°C Curing agent: -7°C
Density:	1.0kg/litre
Storage life:	12 months in originally sealed containers
Pot life:	30 minutes
Application temperature:	5°C to 35°C
Tack-free time at 20°C:	10 to 60 minutes
Pack size:	200ml

Fosroc Solvent 105

Flash point:	43°C
Storage life:	Indefinite
Pack size:	5 litre

Expoband is the trademark of Fosroc International Limited



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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