

Fosroc® Expoband H45

constructive solutions

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 Supastik E10 two-part epoxy adhesive. Expoband H45 is suitable in construction use and repair/remedial applications.

Advantages

- Accommodates continuous and pronounced cyclic movement
- Excellent resistance to weathering
- Waterproof and chemical resistant for joints above and below ground
- Heat weldable connection

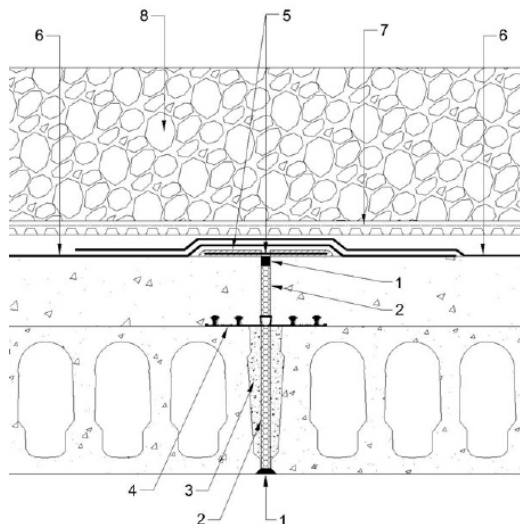
Description

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

Expoband H45 is available in 1mm thickness and widths of 100mm and 200mm, supplied in a 25 metre roll. 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 Supastik E10 two-part epoxy adhesive.

Example of a reservoir roof joint

(sealed externally with Expoband H45)



- | | |
|---------------------------|-------------------------------|
| 1 Nitoseal MS600 | 5 Expoband H45 + Supastik E10 |
| 2 Hydrocell XL | 6 Proofex 3000 |
| 3 Conbextra PM | 7 Proofex Sheetdrain 80 |
| 4 Supercast Rearguard 250 | 8 Graded stone surfacing |

Specification clauses

Where 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.

Properties

Expoband H45 Hypalon membrane

Form:	Elastomeric Strips
Colour:	Dark 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

Application instructions

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 the 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 Expoband H45 and free from irregularities, with well designed 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 to a pencil round profile.

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. Masking tape should be applied over the sealant in the joint and, if required, on both arrises to provide an increased unbonded width and greater movement potential if required.

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Priming of concrete

Priming of concrete is not normally required with the Supastik E10 / Expoband H45 system. The use of Nitoseal MS2 Primer should be considered where there could be doubt about porosity or condition of the concrete.

When using Nitoseal MS2 Primer, empty the entire contents of the hardener tin into the base tin and replace the base tin lid. Mix thoroughly by shaking for at least 2 minutes.

Apply Nitoseal MS2 Primer by brush, working well in, to a width of 25 mm either side of the membrane. Nitoseal MS2 Primer should be left for about 30 minutes (depending upon temperature) to allow evaporation of the primer solvent prior to the application of the Supastik E10 adhesive.

If the primer has been left longer than 4 hours or has become contaminated with dust, the surface must be reprimed.

The rate of cure of Nitoseal MS2 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.

Mixing and application of the adhesive

Transfer the entire contents of Part B of Supastik E10 adhesive into the Part A container and mix thoroughly using a slow speed drill and Fosroc sealant mixing paddle 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 Supastik E10 using a serrated spreader.

Following application, remove central masking tape, together with any additional tape applied to arrises (as described in Surface Preparation). Immediately position membrane into the Supastik E10 with central release film uppermost.

Roll firmly to displace trapped air and to ensure extrusion of Supastik E10 through the edge perforations.

Apply a second layer of Supastik E10 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 Supastik E10.

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. 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.

Water applications

After application the Expoband H45 system should be allowed to cure for 7 days before permanent contact with water.

Ancillary materials and equipment

Supastik E10 adhesive.
Fosroc Solvent 105.
Nitoseal MS2 Primer.
Slow speed drill and Fosroc sealant mixing paddle.
Adhesive spreader with 2 to 3 mm serrations.
Hot air welding gun and roller.

Estimating

Supply

Expoband H45:	1mm thick x 100mm wide, 25metre roll 1mm thick x 200mm wide, 25metre roll
Supastik E10	2 litre pack

Coverage

Supastik E10:	(based on a 2mm spread of adhesive above and below the membrane) For 100mm wide Expoband H45: 5 to 6 linear metres per 2 litres Supastik E10 For 200mm wide Expoband H45: 2.5 to 3.5 linear metres per 2 litres Supastik E10 Dependent upon surface roughness and film thickness
Nitoseal MS2 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.



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Limitations

If the primer is left for more than 4 hours, Nitoseal MS2 Primer should be removed by grinding and the surface reprimed.

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.

Do not split packs of Supastik E10 or Nitoseal MS2 Primer.

Storage

Expoband H45 should be stored in original unopened packaging, in cool dry conditions, away from sunlight. Nitoseal MS2 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.

Supastik E10, Nitoseal MS2 Primer, Fosroc Solvent 105

For further information refer to appropriate Product Safety Data Sheet.

Fire

Nitoseal MS2 Primer, 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

Fosroc Solvent 105

Flash Point:	43°C
Storage Life:	Indefinite
Pack Size:	5 litre

Supastik E10

Form:	Base: Off-white viscous paste Curing agent: Grey viscous paste	
Storage Life:	18 months in originally sealed containers stored below 25°C in cool dry conditions	
Flash Point:	Above 65°C	
Mixed density:	1.2 kg/litre	
Pot Life:		
5°C:	3 to 4 hours	
10°C:	1 to 2 hours	
20°C:	50 to 60 minutes	
40°C:	20 to 30 minutes	
Solids content:	100%	
Cure duration:	Over 15°C:	48 hours
Before trafficking:	5°C to 15°C:	96 hours
Before immersion:	>7°C:	7 days
Application temperature:	5°C to 50°C	
Mixed Colour:	Grey	

Nitoseal MS2 Primer

Flash Point:	Part A:	30°C
	Part B:	107°C
Density:	0.95 kg/litre	
Storage Life:	18 months in originally sealed containers	
Application temperature:	5°C to 35°C	
Tack-free time at 20°C:	10 to 60 minutes	
Pack size:	750ml	

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Important note

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