

Highly flexible, chemically resistant, flexible polyolefin (FPO), joint bandage membrane system

Uses

Expoband F is designed to be bonded over movement joints or cracks in a structure to prevent the ingress of water and chemicals. It is bonded in position with Nitomortar AP, a two-part epoxy adhesive specifically formulated for the purpose.

Expoband F may be used to seal joints in car park decks, podiums, balconies, walkways and other elevated structures, where the Expoband F can be protected from mechanical damage by a cover plate. It can also be used for over-strapping joints in basements, subways, tunnels, refineries and substructures in general.

Expoband F can also be used on silos, roofs as well as water immersed applications such as tanks, sewers, reservoirs, pipelines and swimming pools where the joint movement may exceed the capability of conventional gun applied elastomeric sealants.

Advantages

- Forms a tough, flexible joint flashing
- Accommodates continuous, and pronounced cyclic movement
- Excellent resistance to UV and weathering
- Complies to AS4020:2018 - suitable for potable water
- Application to dry and damp (SSD) surfaces

Properties

Expoband F Tape

Thickness:	1.0mm	2.0mm
Material weight:	1050g / m ²	2100g / m ²
Colour:	Grey	Grey
Shore A hardness:	91	91
Resistance to temperature:	Minus 30°C to plus 90°C	Minus 30°C to plus 90°C
In service temperature resistance:	4°C to 55°C (limited by epoxy properties)	4°C to 55°C (limited by epoxy properties)
Tensile strength (longitudinal.):	13.2 N/mm ²	10.6 N/mm ²
Tensile strength (lateral.):	10.2 N/mm ²	9.2 N/mm ²
Elongation at break:	>660%	>740%
Fusability:	The product is fusible with standard hot-air dryers (recommendation >1500 watts / 340°C. It is important to select a low temperature setting so that the surface of the tape melts in order not to effect the tightness of the product. Parts to be welded must be roughened, sanded or solvent wiped.	

- Excellent adhesion to most construction materials
- Performance not affected by climatic extremes
- Rot resistant
- Expoband F can be heat welded for the continuity of long joint lengths
- Perforations along the edges of the Expoband F provide a mechanical fixing element in addition to the excellent chemical bond offered by the Nitomortar AP
- Solvent activation of surface not required
- Resistant to a wide range of chemicals

Standards Compliance

Expoband F has been tested in conjunction with Nitomortar AP to comply with AS4020:2018. Refer to AWQC Report 312170.

Copies of the report are available on the Fosroc website.

Description

Expoband F Tape is a Flexible Polyolefin membrane available in 1mm and 2mm thicknesses and widths including 100mm, 150mm, 200mm, 250mm and 300mm. Special widths up to 500mm can be manufactured to order.

Expoband F Tape is supplied in rolls 20m in length.

Expoband F Tape is bonded to the structure on both sides of the joint using Nitomortar AP, a moisture tolerant, non sag, two part epoxy adhesive specifically formulated to give optimum adhesion to the Expoband F and construction materials.

Fosroc® Expoband® F

Chemical resistance

Resistant after storage over 28 days at room temperature in following chemicals:

Hydrochloric acid 3%	Potassium hydroxide 3% / 20%
Sulphuric acid 35%	Sodium hydroxide 0.3g/L
Citric acid 100g/L	Salt water
Lactic acid 5%	Lime milk

Nitomortar AP

Colour:	Concrete grey
Specific gravity:	1.7 (mixed)
Application temperature:	5°C to 35°C
Pot life:	60 min @ 25°C (3 litre mix)
Initial hardness:	5 hours @ 20°C
Full cure:	7 days
Adhesive bond strength:	Exceeds tensile strength of concrete

Applications Instructions

Width selection

Expoband F Tape is available in 1mm and 2mm thicknesses and widths including 100mm, 150mm, 200mm, 250mm and 300mm. Special widths up to 500mm can be manufactured to order.

Expoband F width selection is based on the width of the joint plus the width of the required bond area either side of the joint. In the case of narrow joints and cracks the minimum width of the unbonded area must be 20mm.

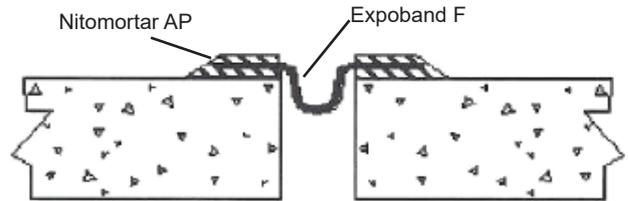
Where the quality of the concrete on either side of the joint is poor and porous, wider Expoband F tape profiles should be used to ensure a leak free joint.

In the case of a 20mm wide joint with good quality concrete either side, a 100mm wide Expoband F tape can be used. On good quality, sound concrete, the bond area on each side of the joint should not be less 30 - 40mm.

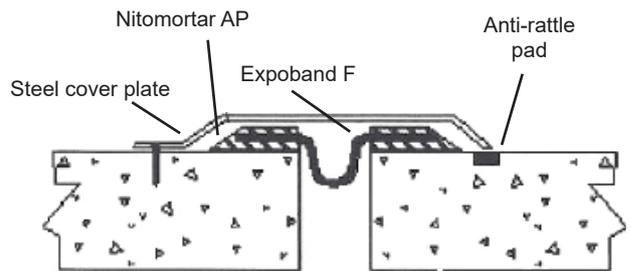
The 200mm width should be used where the condition of the concrete is such that porosity adjacent or close to the joint edges is suspect, where the joint is excessively wide or misaligned and when the Expoband F is to be permanently immersed.

* High movement applications

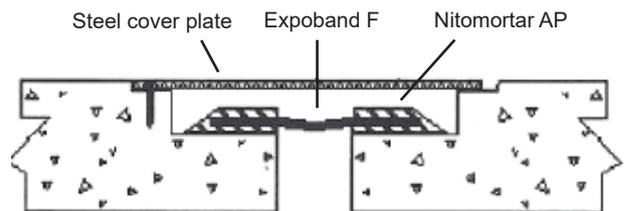
When high movement is anticipated and the Expoband F will be looped into the joint, when using 2mm Expoband F, the loop should be preformed into the membrane with a hot air gun before bonding in place with Nitomortar AP.



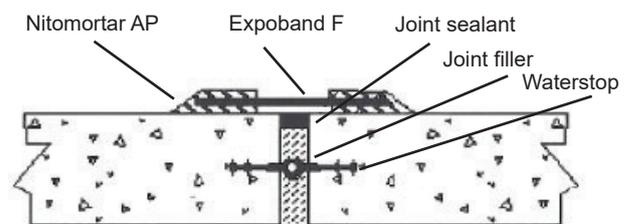
Expansion joint - high movement *



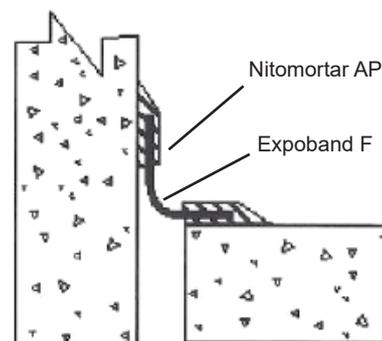
Car park with cover plate - high movement *



Recessed joint with cover plate



Water retaining structure



Perimeter joint - wall to floor

Diagrams are indicative only - in some situations the Expoband F will require backing sealant

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Expoband® F

Joint preparation

Expansion joints must be packed with a firm, consolidated joint filler, such as Hydrocell, prior to laying the Expoband F system. If necessary joints may be pre-sealed using an elastomeric sealant prior to laying the Expoband F system. Ensure that any sealant used is capable of accommodating the anticipated joint movement. Where Expoband F is to be turned up parapets and the like, a fillet should be provided either cast in-situ or formed with Nitomortar AP so that the change in direction is smooth and progressive.

Surface preparation

Concrete surfaces onto which the Expoband F is to be laid must be sound and dust free, with no frost or free surface water. 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 F and free from irregularities, with well defined arises and no vertical misalignment between each side of the joint.

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

Remove all dirt, dust and laitance by rigorous wire brushing, grit blasting or grinding. Any spalling or honeycombing must be repaired using Nitomortar AP resin mortar and allowed to harden prior to the application of the Expoband F system. If the concrete is wetter than Saturated Surface Dry (SSD), dry it gently with a gas torch or hot air blower.

If required, a maximum 25mm width of bond breaker tape applied adjacent to either areas will provide an increased unbonded width and greater movement potential if required.

Preparation of the membrane

When all substrate preparation has been carried out and the joints are ready for application of the Expoband F, measure and cut the length of Expoband F to suit the joint.

Carry out any welding of the Expoband F tape as required to cater for the length of joint to be bonded during this application session.

Welding

Expoband F tape can be jointed by hot air welding to cater for any joint length. A electric hot air gun of the type used by vinyl flooring applicators is generally suitable for the task. The hot air gun should have a nozzle with a slot shaped outlet to spread the hot air across a broad fan. This will allow for more effective bonding and prevent localised over heating and charring of the Expoband F tape. Before welding, abrade the surfaces with #80 grit sandpaper and thoroughly brush away any loose material.

Overlaps for joints should be a minimum of 50mm.

The ambient air temperature should be taken into account when welding by adjusting the welding speed to ensure that the tape is neither scorched or under-heated with no weld forming.

Mixing and application of the adhesive

Nitomortar AP is a two part epoxy resin based adhesive designed for maximum bond strength with the Expoband F Tape and is tolerant of damp concrete substrates.

Transfer the entire contents of the hardener component into the base component can and mix thoroughly using a slow speed drill and spiral stirrer for a full 4 minutes stopping occasionally to scrape the sides of the tub. Mixing is complete when a uniform grey colour is achieved.

Apply the adhesive onto the substrate using a spreader, making sure that an even spread of adhesive approximately 2 mm thick is applied to an area approximately 10 - 20mm wider than the Expoband F tape.

Once this has been done lay the bond face of the Expoband F tape onto the adhesive and align as required pressing it firmly over its full area ensuring complete contact. Finish along each edge of the Expoband F tape with a small triangular fillet of adhesive and remove any excess.

Allow the Nitomortar AP to cure for minimum 5 hours (maximum 48 hours). The Nitomortar AP adhesive must be cured sufficiently to bond the tape to the concrete before applying a layer of Nitomortar AP along the edges of the top surface of the Expoband F tape. Before applying the Nitomortar AP, apply masking tape to centre of the Expoband F tape to match the width of the unbonded area of the tape. Application of the adhesive serves to encapsulate the edges as shown in the diagrams on page 2. Immediately after application of the adhesive to the top face of the Expoband F tape, peel the masking tape from the centre of the Expoband F to produce an even straight sided epoxy fairing with no epoxy bridging the joint.

Limitations

Joint layouts incorporating Expoband F to 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.

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Expoband® F

Supply

Expoband F is supplied in 20m rolls

Expoband F1501: 150mm wide x 1mm thick:	FC020446-UNIT
Expoband F2001: 200mm wide x 1mm thick:	FC020448-UNIT
Expoband F1002: 100mm wide x 2mm thick:	FC020445-UNIT
Expoband F1502: 150mm wide x 2mm thick:	FC020447-UNIT
Expoband F2002: 200mm wide x 2mm thick:	FC020449-UNIT
Expoband F2502: 250mm wide x 2mm thick:	FC020450-UNIT
Expoband F3002: 300mm wide x 2mm thick:	FC020451-UNIT
Expoband F4002: 400mm wide x 2mm thick (MTO):	FC020452-UNIT
Expoband F5002: 500mm wide x 2mm thick (MTO):	FC020453-UNIT

Nitomortar AP is supplied in 3 litre and 15 litre 2 component packs

Nitomortar AP Base of 3 litre pack:	FC320467-2L
Nitomortar AP Hardener of 3 litre pack:	FC320468-1L
Nitomortar AP Base of 15 litre pack:	FC320463-10L
Nitomortar AP Hardener of 15 litre pack:	FC320464-5L

Coverage

Nitomortar AP:

Approx. 0.35 litres per metre per side - total 0.7 litres per metre. (35mm bonded width with encapsulation @ 5mm)

Notes: coverage rates for liquid products are theoretical - due to wastage factors, variety and nature of possible substrates, practical coverage figures may be reduced.

Storage

Expoband F has a shelf life of 18 months from date of manufacture if kept in a dry store in the original packaging.

Store in dry conditions out of direct sunlight at a temperature between 5°C and 30°C. If stored at high temperatures conditions the shelf life may be reduced.

Nitomortar AP has a shelf life of 6 month from date of manufacture if kept in a dry store in the original packaging.

Important notice

A Safety Data Sheet (SDS) is available from the Fosroc website. Read the SDS and TDS carefully prior to use as application or performance data may change from time to time. In emergency, contact any Poisons Information Centre (phone 13 11 26 within Australia) or a doctor for advice.

Product disclaimer

This Technical Data Sheet (TDS) summarises our best knowledge of the product, including how to use and apply the product based on the information available at the time. You should read this TDS carefully and consider the information in the context of how the product will be used, including in conjunction with any other product and the type of surfaces to, and the manner in which, the product will be applied. Our responsibility for products sold is subject to our standard terms and conditions of sale. Parchem does not accept any liability either directly or indirectly for any losses suffered in connection with the use or application of the product whether or not in accordance with any advice, specification, recommendation or information given by it.