

Highly flexible, large joint capable, chemically resistant, joint bandage membrane system

Uses

Emer-Band is a Hypalon rubber membrane which 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.

Emer-Band may be used to seal joints in car park decks, podiums, balconies, walkways and other elevated structures, where the Emer-Band 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.

Emer-Band 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
- Range of sizes available to suit most applications
- Excellent resistance to UV and weathering
- AS4020 approved for potable water
- Application to dry and damp surfaces
- Excellent adhesion to most construction materials
- Performance not affected by climatic extremes
- Rot resistant
- Emer-Band can be heat welded for the continuity of long joint lengths
- Perforations along the edges of the Emer-Band provide a mechanical fixing element in addition to the excellent chemical bond offered by the Nitomortar AP
- Resistant to a wide range of chemicals

Description

The Emer-Band joint sealing system consists of two components;

Emer-Band Hypalon Tape: a Hypalon rubber strip available in 1 mm and 2 mm thicknesses and a range of standard widths including 100 mm, 150 mm and 200 mm. Special widths can be manufactured to order.

Nitomortar AP: a moisture tolerant, non sag, two part epoxy adhesive specifically formulated to give optimum adhesion to the Emer-Band and construction materials.

Emer-Band Tape is supplied in rolls 25 m in length for the 1 mm thick material. When the length of joint exceeds the roll

length, the Emer-Band strip is joined by heat welding with a hot air gun.

Emer-Band Tape is bonded to the structure on both sides of the joint using Nitomortar AP.

Properties

Data quoted is typical for this product but does not constitute a specification.

Emer-Band Tape

Colour:	Concrete grey
Service temperature:	Minus 10°C to plus 80°C
Tensile strength:	5.7 MPa
Elongation at break:	625% ts (50% total)

Nitomortar AP

Colour:	Concrete grey
Specific gravity:	1.7 (mixed)
Application temperature:	5°C to 50°C
Pot life:	30 min @ 25°C
Initial cure:	24 hours
Full cure:	7 days
Adhesive bond strength:	Exceeds tensile strength of concrete
Movement accommodation:	Emer-Band used in conjunction with Nitomortar AP can accommodate continuous cyclic movements which result in the de-bonded area being extended up to 100% of the de-bonded width e.g. application with 50 mm unbonded area can accommodate 50 mm movement

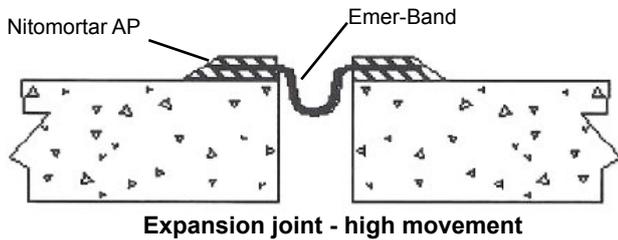
Maintenance

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

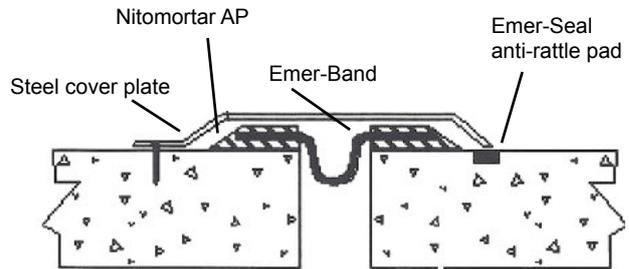
Specification clauses

Where indicated on the drawings joints shall be sealed with a flexible Hypalon rubber bandage membrane having a tensile strength greater than 5.5 MPa and an elongation greater than 600%. Such a bandage membrane is Emer-Band supplied by Parchem. Emer-Band shall be installed strictly in accordance with the manufacturer's printed instructions.

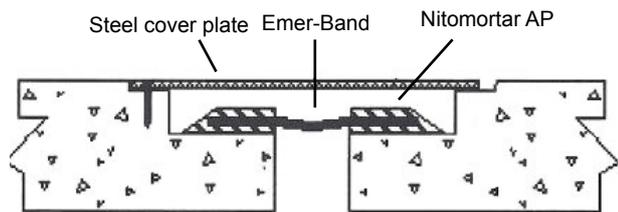
Emer-Band



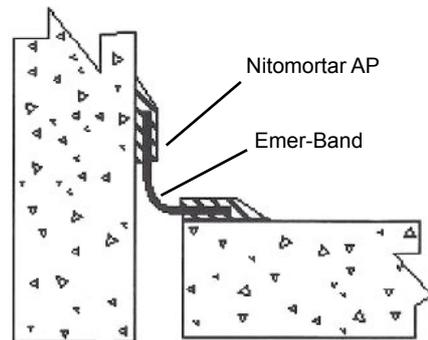
Expansion joint - high movement



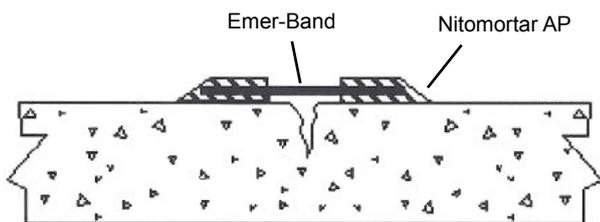
Car park with cover plate - high movement



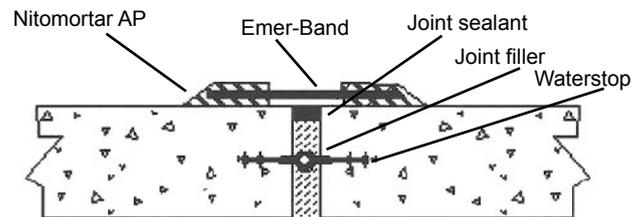
Recessed joint with cover plate



Perimeter joint - wall to floor



Crack repair - low movement



Water retaining structure

Applications Instructions

Width selection

Emer-Band is available in standard widths of 100 mm and 200 mm, in 1 mm thickness. Special widths up to 1 m can be produced to order for applications such as tanking etc. 2 mm thickness is also available on request.

Emer-Band 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 20 mm.

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

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

The 200 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 Emer-Band is to be permanently immersed.

Joint preparation

Expansion joints must be packed with a firm, consolidated joint filler, such as Hydrocell, prior to laying the Emer-Band system. If necessary joints may be pre-sealed using an elastomeric sealant prior to laying the Emer-Band system. Ensure that any sealant used is capable of accommodating the anticipated joint movement. Where Emer-Band is to be turned up parapets and the like, a splay 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 Emer-Band 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 Emer-Band and free from irregularities, with well defined arises and no vertical misalignment between each side of the joint.

Emer-Band

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 Emer-Band 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 25 mm width of bond breaker tape applied adjacent to either areas will provide an increased unbonded width and greater movement potential if required.

Priming

For most concrete applications use of a primer is unnecessary, however in cases where Emer-Band is being used on other substrates i.e. steel, fired clay bricks etc, a primer may be required. Please call your local Parchem sales office for further information.

Welding

Emer-Band 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 Emer-Band tape. Before bonding, solvent wipe the two faces to be bonded with Solvent 10 and create an overlap of at least 40 mm. The ambient air temperature should be taken into account when welding by adjusting the welding speed to ensure that the Hypalon is neither scorched or under-heated with no weld forming.

Solvent welding of the Hypalon tape is an alternative to hot air welding, however solvent welding is slower because of the time required for the solvent to soften the tape to allow welding. If required Solvent 10 can be used as a welding solvent.

Preparation of the membrane

This operation is vital to the adhesion and performance of the Emer-Band system.

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

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

Lay the Emer-Band with the bond face up on a clean surface. Solvent wipe the bond face of the Emer-Band with Solvent 10 to activate the Hypalon for bonding. The solvent wipe is essential in order to achieve adequate adhesion (refer section on Welding).

Mixing and application of the adhesive

Nitomortar AP is a two part epoxy resin based adhesive designed for maximum bond strength with the Emer-Band 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 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 wider than the Emer-Band tape. Once this has been done lay the solvent wiped, bond face of the Emer-Band tape onto the adhesive and align as required pressing it firmly over its full area ensuring complete contact. Finish along each edge of the Emer-Band tape with a small triangular fillet of adhesive and remove any excess.

Membrane should be applied no more than 20 minutes after wiping the bond face of the Emer-Band tape with Solvent 10. If the Emer-Band tape cannot be placed in contact with the adhesive within 20 minutes of solvent wiping, it should be wiped again with Solvent 10 immediately prior to placement.

Allow the Nitomortar AP to cure for 3 to 48 hours before applying a layer of Nitomortar AP along the edges of the top surface of the Hypalon 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 Hypalon tape, peel the green tape from the centre of the Hypalon to produce an even straight sided epoxy fairing with no epoxy bridging the joint.

Limitations

Joint layouts incorporating Emer-Band 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.

Emer-Band

Estimating

Supply

Emer-Band:

25m x 100mm x 1mm

25m x 150mm x 2mm

25m x 200mm x 2mm

Other sizes available on request.

Nitomortar AP:

3 litre packs

Solvent 10:

4 and 20 litre drums

Coverage

Nitomortar AP:

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

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

All components must be stored in a cool dry location at a temperature between 5°C and 30°C.

Important notice

A Safety Data Sheet (SDS) and Technical Data Sheet (TDS) are available from the Parchem website or upon request from the nearest Parchem sales office. 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.