Fosroc Nitofill EPLV

constructive solutions

Low viscosity epoxy injection resin system

Uses

For injecting into cracks in concrete or masonry, to form a permanent bond or seal.

Advantages

- Low viscosity allows penetration into the finest cracks
- Formulated for hot climates
- Suitable for structural repairs
- Excellent bond to concrete, brick and masonry
- Minimum creep under sustained load
- Resistant to wide range of chemicals
- Non-shrink, adheres with no loss of bond

Description

Nitofill EPLV two part, solvent-free, low viscosity epoxy resin system is mixed in the proportions supplied to form a strong permanent bond and seal in cracks in concrete and masonry. Nitofill EPLV is designed to be injected into cracks using suitable resin injection equipment.

Design criteria

Nitofill EPLV is designed to seal and bond cracks in concrete and masonry. Crack widths of between 0.1 mm and 9 mm can be treated. Consult the local Fosroc office for further details.

Specification

The epoxy crack injection resin system shall be Nitofill EPLV, a two part solvent-free low viscosity, epoxy. When mixed in the proportions supplied and injected into cracks in concrete, the resin shall form a permanent bond and seal in both dry and damp conditions.

APPROVED WRAS MATERIAL

Properties

The following properties were obtained at a temperature of 35ºC and at 7 days unless otherwise specified.

Test method		Typical results
Compressive strength (BS 6319)	:	70.0 N/mm² @ 20ºC 93.0 N/mm² @ 35ºC
Tensile strength (BS 6319)	:	26.0 N/mm² @ 35ºC
Flexural strength (BS 6319)	:	63.0 N/mm² @ 35ºC
Youngs modulus in compression	:	16 GPa
Pot life	:	90 minutes @ 20°C 40 minutes @ 35°C
Specific gravity	:	1.04
Mixed viscosity	:	1.0 poise @ 35°C

Instructions for use

Nitofill EPLV can be applied using either injection packers fixed into holes drilled directly into the crack or drilled diagonally from concrete adjacent to the crack or by the fixing of injection nipples bonded to the surface using Nitomortar FC*†.

Preparation

Clean the surface and remove any dust, unsound or contaminated material, plaster, oil, paint, grease, corrosion deposits or algae.

The surface should preferably be prepared using high pressure water jetting or light abrasive blasting, followed by thorough washing to remove dust and remaining particles. Dirt alone may be removed with wire brushes or similar mechanical means.

Oil and grease deposits should be removed by steam cleaning, detergent scrubbing or the use of a proprietary degreaser. The effectiveness of decontamination should be assessed by a pull-off test.

Blow the cracks and treated surface with oil free air to ensure complete removal of all dust and loose particles. Ensure that the surfaces are blown dry.

In the presence of running water the flow must be stopped using Nitofill WS60*† which produces a rapid setting water-stopping foam. When the water is stopped the cracks are re-injected with Nitofill UR63*†.

Fixing injection packers

The injection packers shall be inserted into pre-drilled holes at intervals along the length of each crack. The distance between each packer will depend upon the width and depth of the crack. Spacing shall be close enough to ensure that the resin will penetrate along the crack to the next point of injection.

The surface of the cracks between the packers shall be sealed with a band of Nitomortar FC, 30 to 40mm wide and 2 to 3 mm thick. Both sides of any cracks which go all the way through a wall or slab shall be sealed in this way. In the case of a wall or slab cracked all the way through, packers shall be located on both sides with those at the back placed at midway points between those at the front.

The Nitomortar FC shall be allowed to cure for 8 hours at 35°C. At low ambient temperatures (5°C to 12°C) the curing time will be extended and the applicator shall ensure that the surface sealant has adequately cured prior to continuing. One end of the injection hose shall be attached to the lowest packer on vertical cracks or to either end of the horizontal cracks.

Alternative methods of resin injection are currently in use, they include the system where injection nipples are bonded to the substrate.

Nitofill EPLV application

Thoroughly mix the entire hardener and base resin contents until the liquid becomes clear.

Nitofill EPLV should be used with standard injection equipment having closed containers. The injection pressure should be at least 0.4N/mm^2 (4 bar).

Only mix sufficient resin that can be used within the pot life of the material.

Following completion of the injection works the injection system shall be allowed to cure for 24 hours and shall be left undisturbed for this time.

Making good

Remove the packers and make good any holes or voids with Nitomortar FC and allow to cure. The Nitomortar FC can be ground off or softened with a blow lamp and peeled off. Do not allow to burn.

Application in Horizontal cracks

In case of horizontal cracks in excess of 2mm Nitofil EPLV can be applied through gravity flow, without the use of injection packers. However such appliction need to be verified for suitability through a site trial.

Cleaning

Nitofill EPLV and Nitomortar FC should be removed from tools, equipment and mixers with Fosroc Solvent 102* immediately after use. Hardened material can only be removed mechanically.

Limitations

- Nitofill EPLV is only to be used in dry or damp concrete or masonry.
- Nitofill EPLV should not be used on live cracks or where further movement is expected. In these cases contact the local Fosroc office.
- Nitofill EPLV should not be used in the presence of running water. In these cases Nitofill WS60 or Nitofill UR63 should be used.

If any doubts arise concerning temperature, application or substrate conditions, consult the local Fosroc office.

High temperature working

It is suggested that, for temperatures above 35°C, the following guidelines are adopted as good working practice:

(i) Store unmixed material in a cool (preferably temperature controlled) environment, avoiding exposure to direct sunlight.

(ii) Keep equipment cool, arranging shade protection if necessary. It is especially important to keep cool those surfaces of the equipment which will come into direct contact with the material itself.

(iii) Try to eliminate application during the hottest times of the day and in direct sunlight.

(iv) Make sufficient material, plant and labour available to ensure that application is a continuous process.

Technical support

Fosroc offers a comprehensive technical support service to specifiers, end users and contractors. It is also able to offer on-site technical assistance, an AutoCAD facility and dedicated specification assistance in locations all over the world.

Fosroc Nitofill EPLV

Estimating

Supply

Nitofill EPLV	:	1 litre pack
Nitomortar FC	:	1 and 4 litre packs
Fosroc Solvent 102	:	5 litre packs

Storage

Shelf life

12 months, when Stored in warehouse conditions below 35 degree C.

Storage conditions

Store in dry conditions in the original, unopened containers. If stored at high temperatures and/or high humidity conditions the shelf life may be reduced to 2 to 3 months.

Precautions

Health and safety

Nitofill EPLV contains resins which may cause sensitisation by skin contact. During use of Nitofill EPLV, Nitomortar FC and Fosroc Solvent 102 avoid contact with skin and eyes. Ensure adequate ventilation and avoid inhalation of vapours.

Some people are sensitive to resins, hardeners and solvents. Wear suitable protective clothing, gloves and eye/face protection. Use only in well ventilated areas. If working in confined areas or in cases of insufficient ventilation, suitable respiratory protective equipment must be used.

The use of 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.

Fire

Nitofill EPLV and Nitomortar FC are non-flammable.

Fosroc Solvent 102 is flammable. Keep away from sources of ignition. No smoking. In the event of fire extinguish with CO_2 or foam. Do not use a water jet.

Flash points

Fosroc Solvent 102	:	33ºC

For further information, refer to the Product Material Safety Data Sheet.

Fosroc Nitofill EPLV

Additional Information

Fosroc manufactures a wide range of complementary products which include :

- waterproofing membranes & waterstops
- joint sealants & filler boards
- cementitious & epoxy grouts
- specialised flooring materials

Fosroc additionally offers a comprehensive package of products specifically designed for the repair and refurbishment of damaged concrete. Fosroc's 'Systematic Approach' to concrete repair features the following :

- hand-placed repair mortars
- spray grade repair mortars
- fluid micro-concretes
- chemically resistant epoxy mortars
- anti-carbonation/anti-chloride protective coatings
- chemical and abrasion resistant coatings

For further information on any of the above, please consult your local Fosroc office - as below.

*** Denotes the trademark of Fosroc International Limited**

† **See separate data sheet**

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. **All Fosroc datasheets are updated on a regular basis. It is the user's responsibility to obtain the latest version.**

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ISO 9001 / ISO 14001
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Certification

UAE/0298/10/E