



Nitofill EPLV*

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

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. The epoxy injection resin shall have the following properties when tested to BS 6319:

Compressive strength	: 70.0 N/mm ² @ 20°C 93.0 N/mm ² @ 35°C
Tensile strength	: 26.0 N/mm ² @ 35°C
Flexural strength	: 63.0 N/mm ² @ 35°C

And shall also have the following properties:

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

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(@ 35°C and at 7 days unless otherwise specified)

Description & design criteria

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. Nitofill EPLV is designed to seal and bond cracks in concrete and masonry. Crack widths of between 0.2 - 9 mm can be treated. Consult local Fosroc office for details.

Instructions for use

It 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 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

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

Surface of cracks between packers shall be sealed with a band of Nitomortar FC, 30 - 40 mm wide & 2 - 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 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. Nitomortar FC shall be allowed to cure for 8 hours @ 35°C. At low ambient temperatures (5° - 12°C) curing time will be extended and applicator shall ensure that prior to continuing the surface sealant has adequately cured. One end of injection hose shall be attached to lowest packer on vertical cracks or to either end of 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*

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 0.4 N/mm² (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 & cleaning

Remove the packers and make good any holes or voids with Nitomortar FC and allow curing. The Nitomortar FC can be ground off or softened with a blow lamp and peeled off. Do not allow to burn. Nitofill EPLV & Nitomortar FC should be removed from tools, equipment & mixers with Fosroc Solvent 102* immediately after use. Hardened material can only be removed mechanically.

Limitations

- Nitofill EPLV should not be used on live cracks or where further movement is expected. In these cases contact the local Fosroc office.
- It must be used only in dry or damp concrete/masonry.
- 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:

- a) Store unmixed material in a cool environment (preferably temperature controlled), avoiding exposure to direct sunlight.
- b) 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.
- c) Try to eliminate application during the hottest times of the day and in direct sunlight.
- d) Make sufficient material, plant and labour available to ensure that application is a continuous process.



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.

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Cert No. THR2004006

Estimating

Supply

Nitofill EPLV	:	1 kg pack
Nitomortar FC	:	1 & 3 kg packs
Fosroc Solvent 102	:	4 & 20 litre cans

Storage

All products have a shelf life of 6 months at 20°C if kept in a dry store in the original, unopened containers. 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 - 3 months.

Precautions

Health and safety & fire

Nitofill EPLV contains resins which may cause sensitization 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 provides 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. 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 CO₂ or foam. Do not use a water jet. For information, refer to Product Material Safety Data Sheet.

Flash point

Fosroc Solvent 102	:	33°C
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* Denotes the trademark of Fosroc International Ltd.

↑ See separate data sheet