

Fosroc® Nitofill® LV

Low viscosity, dual cartridge, epoxy crack-injection system

Uses

Nitofill LV is designed for injecting cracks in concrete and masonry where there is a need to consolidate a structure or exclude water and air from contact with the reinforcement.

Nitofill LV is a high strength, low viscosity resin injection system and provides excellent bond to concrete and masonry.

The Nitofill LV system is ideal for small scale repairs on site and is also suitable for insitu or precast concrete elements.

Advantages

- Suitable for structural crack repairs
- Low viscosity allows penetration into the finest cracks
- Non-shrink, adheres with no loss of bond
- System includes everything necessary to complete the crack injection
- Convenient to use, disposable cartridge pack contains both base and hardener
- Cost effective and efficient repair

Description

Nitofill LV crack injection system incorporates a two part epoxy base and hardener contained in a dual cartridge pack.

The Nitofill LV cartridge pack accessory items are available separately: cartridge gun, static mixer nozzle hoses, injection flanges, flange adaptors and flange removing tool.

Nitofill LV 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 flanges bonded to the surface using Nitomortar AP.

Nitofill LV cartridge gun is used to inject the resin for surface mounted flanges.

Nitofill LV is also available (made to order) in 15 litre 2 component kits which can be used in proportioning pumps and hand pumps.

Technical support

Parchem offers a comprehensive range of high performance, high quality construction products. In addition, Parchem offers a technical support service to specifiers, end-users and contractors, as well as on site technical support.

Design criteria

Nitofill LV is suitable for injecting cracks in concrete and masonry down to 0.2 mm at the substrate surface and internal cracks tapering down to 0.1 mm.

The system should not be used for cracks where movement is expected to continue; flexible sealant should be considered.

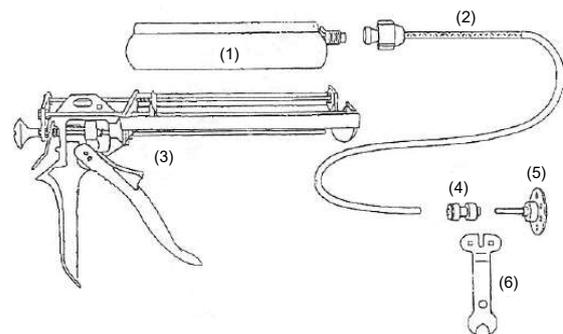
Properties

Usable life at	
10°C:	40 minutes
20°C:	20 minutes
30°C:	10 minutes
Viscosity at	
10°C:	250-450 cps
20°C:	150-200 cps
30°C:	50-100 cps
VOC content:	31g / litre
<i>The following results are typical for the hardened Nitofill LV epoxy resin</i>	
Compressive strength (BS 6319):	
1 day	57 MPa
3 days	66 MPa
7 days	83 MPa
Tensile strength (BS 6319):	>25 MPa
Flexural strength (BS 6319):	>50 MPa

Chemical resistance

The cured Nitofill LV epoxy is resistant to oil, grease, fats, most chemicals, mild acids and alkalis, fresh and sea water. Consult Parchem Technical Department when exposure to solvents or concentrated chemicals is anticipated.

Nitofill LV (Crack Injection System)



- (1) Nitofill LV 450ml pack
- (2) Nitofill LV static mixer / hose
- (3) Nitofill cartridge gun
- (4) Nitofill LV adaptor
- (5) Nitofill LV flange
- (6) Nitofill flange tool

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Specification Clause

Low viscosity crack injection grouting system

The injection grouting material shall be a low-viscosity epoxy resin, with high bond strength to wet or dry concrete, high compressive tensile and flexural strengths, and offering chemical and weathering resistance.

Specially formulated for injection of cracks down to 0.2 mm at the surface, tapering down to 0.1 mm internally.

Use in conjunction with a surface sealing two part epoxy resin and hardener material for setting and sealing around injection flanges and surface of cracks.

Instructions For Use

Surface preparation

All contact surfaces must be free from oil, grease, free standing water or any loosely adherent material. A light grind of the surface adjacent to the crack will help remove any contamination and assist adhesion of the surface seal. All dust must be removed.

Ideally, the crack should be ground out to a depth of 5mm to accept the surface seal epoxy and assist in penetration of the Nitofill LV.

Crack surface seal

Nitomortar AP is generally used to bond the injection flanges to the substrate and to seal the face of the crack (see current Nitomortar AP Technical Data Sheet for additional application / mixing instructions).

Installing of the injection flanges

Flanges should be placed between 200 mm and 500 mm apart dependent on crack size, along the length of the crack. Drill 10mm x 30mm deep holes at the crack where flanges are to be located. This assists in keeping the injection point clear. Remove any residual dust in the hole and along the crack with vacuum (do not use compressed air).

Immediately after mixing, apply a small amount of the Nitomortar AP product to the underside of each flange, making sure that the valve will not be blocked and place the flange centrally over pre-drilled hole in the crack.

Application of the surface seal

Additional Nitomortar AP should be applied around each flange edge and to the remainder of the crack between the flanges to ensure a resin tight surface seal to the crack.

Application of the Nitofill LV injection resin can commence as soon as the Nitomortar AP has fully hardened (typically overnight). If faster curing surface seal is necessary, contact Parchem for further advice.

Injection of the Nitofill LV epoxy resin

The Nitofill LV static mixer/hose should be screwed onto the cartridge. The cartridge is then placed into the gun and the outlet end of the hose pushed onto the lowest flange using the adaptor.

To ensure the product is mixed properly through the static mixer, always gun out a small amount of Nitofill LV resin prior to attaching the outlet end to the flange.

The contents of the cartridge is then slowly injected until the resin flows from an adjacent flange, or until firm and sustained hand pressure on the gun trigger signifies that no further resin will be accepted. Then pull the barb on the flange away from the base. Remove the liner strip out of the barb on the flange. Hold the base of the flange while removing the liner slip from the barb. This will ensure the flange is not accidentally removed from the substrate. The flange should be in the closed position when the liner slip is pulled totally away from the base. This will prevent material flowing out from the crack. The pressure should be released and the hose disconnected from the flange using the adaptor and tool.

The injection hose can then be refixed to an adjacent flange, and more Nitofill LV resin injected. Repeat the process until the entire length of crack has been injected.

In the case of cracks which go all the way through a wall or slab, the resin should be injected through alternate flanges on both sides where access is possible. In the case of slabs, injection from the underside takes precedence to top injection.

Pump application

Nitofill LV can also be applied using various mechanical and hand operated pumps. In these application, Nitofill LV is typically supplied in 15 litre kits (10 litre base & 5 litre hardener) and either mixed first in the correct proportions (2 parts base:1 part hardener by volume) then poured into "grease gun" type pumps or via calibrated proportioning pumps.

When mixing the base and hardener, use a spiral type mixer and mix for 3 minutes. Pot life of the mixed product will be significantly reduced if held in bulk volume. Use the mixed product immediately after mixing.

Making good

After the Nitofill LV injection resin has set, remove the flanges. These can be knocked off with a hammer. Make good any holes or voids with Nitomortar AP.

The existing surface sealant can then be removed using a sharp broad-chisel or by grinding until the original substrate profile is restored.

Cleaning

All tools and equipment should be cleaned immediately after use with Fosroc Solvent 10.



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Limitations

The Nitofill LV resin injection system should not be used for cracks where movement is expected to continue. Other measures should be taken to accommodate such movement, ie cutting and forming a movement joint.

Nitofill LV must not be injected into voids which contain free water. Nitofill LV should only be used in dry or saturated surface dry (SSD) concrete or masonry.

Contact your local Parchem sales office for further information.

Supply

Nitofill LV (450ml twin cartridge): FC344220-450ML

Nitofill LV Base 10 litre: FC344214-10L

Nitofill LV Hardener 5 litre: FC344216-5L

Nitomortar AP (3 litre pack): FC320460-3L

Fosroc Solvent 10 (4 litre can): FC600800-4L

Nitofill LV system accessory items

Nitofill LV Gun: FC344221-UNIT

Nitofill LV Flange: FC344222-UNIT

Nitofill LV Adaptor: FC344223-UNIT

Nitofill LV Static mixer/hose: FC344224-UNIT

Nitofill LV Flange tool: FC344225-UNIT

Storage

Nitofill LV has a shelf life of 36 months from date of manufacture if kept in a dry store in the original, unopened bags or packs.

Nitomortar AP has a shelf life of 6 months from date of manufacture if kept in a dry store in the original, unopened bags or packs.

Refer to the Use by Date indicated on the packaging.

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.



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Page 3

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