

# Nitofill® UR63

## Solvent free, two part polyurethane resin for sealing cracks

### Uses

Can be injected into cracks in concrete or masonry in dry or damp conditions to form an elastic seal.

Use with Nitofill WS60 to seal cracks in wet conditions in basement, subways and tunnels.

### Advantages

- Low viscosity : Penetrates fine cracks and cavities.
- Good adhesion : Adheres strongly to dry or moist concrete
- Flexible : Strong but flexible to withstand differential structural movement..
- Tough : Withstands high hydrostatic pressures
- Impermeable : On curing, it forms a hard mass impermeable to water
- Suitable for use in high temperature conditions.

### Description

Nitofill UR63 is a two part liquid polyurethane. When mixed in the proportion supplied they react to form a tough, slightly flexible resin. Nitofill UR63 has a good adhesion to concrete and masonry and when injected into cracks it allows some movement without loss of bond.

### Technical support

The company provides a technical advisory service supported by a team of specialists in the field.

### Technical Properties

Specific gravity	: 1.1
Viscosity at 25°C	: 40 - 60 cps
Cure properties (Tropical grade)	
Temperature	25°C
Pot life	60 - 80 minutes
Reaction time	70 - 90 minutes
Tensile strength	1.5 - 2.5 N/mm <sup>2</sup>
Shore A	50 - 70
Elongation	30 - 50%

### Specification Clause

#### Water-stopping crack injection resin

The flexible, low viscosity, polyurethane, crack injection resin system shall be Nitofill UR63, a two part solvent-free liquid polyurethane. When mixed in the proportions supplied and injected into cracks in concrete, the resin shall form a slightly flexible and impermeable barrier in both dry and damp conditions. The flexible, low viscosity, polyurethane, crack injection resin system shall have the following properties; pot life of 60 to 80 mins at 25°C; reaction time of 70 to 90 minutes at 25° C; viscosity of 40-60 cps at 25° C; specific gravity of 1.1. When used in conjunction with Nitofill WS60, a foaming two part polyurethane injection resin, shall form a permanent seal in cracked concrete.

### Application instructions

#### Surface Preparation and Packer Spacing

- Clean area of concrete so cracks are identifiable.
- It is recommended to use packers especially when injecting Nitofill UR63. Other techniques may be used, but are application specific. In the presence of running water pre-injection of cracks using Nitofill WS60 is recommended.
- Drill holes to suit the specific dimensions of the packers and should be spaced at between 150 to 500mm intervals depending upon the crack width, depth and pressure of water. Angle should be at approximately 45° and bisect the crack in the centre of the concrete where possible. If rebar is struck, stop drilling and move drilling point to adjacent area.
- Insert packers and ensure they are tight to the concrete. If necessary they may be sealed with a product such as Renderoc Plug or (Nitomortar PE, Nitofill Surface Sealant).
- If there is no running water at the time of application, it may be acceptable to seal the face of the crack with a product such as Renderoc Plug or (Nitomortar PE, Nitofill Surface Sealant).

#### Mixing and Application

- Thoroughly mix the accelerator with the base resin, taking care to exclude moisture as much as possible. Place in an enclosed container after mixing and ensure that the material is used within the period of its working pot life.
- Nitofill UR63 requires the presence of water to react and harden. If there is no water ingress at the time of injection, cracks should be pre-injected with water.
- Nitofill UR63 is suitable for use with all common 1 component application equipment, typically an electric pump will yield the best results when injecting against hydrostatic water pressure.

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- Inject Nitofill UR63 along the line of the crack methodically, ensuring that the material is working its way along to the next point. If injecting vertical cracks it is generally advised to begin at the bottom of the crack and work upwards.

- Take care not to over pressurise injection as this may lead to further cracking of the concrete or displacement of packers.

- If material is flowing without resistance, stop and allow material to gel. If material is still flowing consider increasing the amount of accelerator or changing the spacing of injection.

## Finishing

Once the injection process has finished, remove injection packers and fill with Renderoc Plug or other appropriate Renderoc material. Scrape off any foam residue from the cracks and dispose of appropriately.

## Packaging

Nitofill WS60	1, 5 & 20 kg
Nitofill UR63	1, 5 & 20 kg
Nitomor PE	5 L
Nitoflor Sol	5 & 20 L
Renderoc Plug	5 kg

## Limitations

While Nitofill UR63 is flexible, it is not generally considered suitable for use in movement joints or cracks subject to substantial movement.

## Precautions

### Health and Safety instruction

Some people are sensitive to resins, so gloves and a barrier cream should be used when handling all resins. If contact with the resin occurs, it must be removed, before it hardens, with a resin removing cream. Follow by washing with soap and water. Do not use solvent. The use of goggles is recommended but should accidental eye contamination occur, wash thoroughly with plenty of water and seek medical treatment immediately. Ensure good ventilation and do not smoke during use.

## Fire

Nitoflor Sol and Nitofill UR63 are flammable

## Flash point

Nitoflor Sol 33°C

## Additional information

Nitofill UR63 is part to a wide range of adhesive, grouts, repair mortars and sealing compounds specifically designed and manufactured by Fosroc for the construction industry.

## Notes :

The success of water stopping injection is largely dependent upon the skill of the applicator. Fosroc therefore recommends that an experienced applicator is selected to undertake these works to the required standard.

Exact spacing of injection ports, amount of accelerator, pump type and even injection technique will vary depending upon a number of factors, including crack width, concrete depth and water pressure. These will change even within the same project.

Excess material should be safely reacted with water to produce and inert Polyurethane foam, and disposed of appropriately.

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## Fosroc Chemicals (India) Pvt. Ltd.

### Head Office

Embassy Point, No. 150,  
2nd Floor, Infantry Road,  
Bangalore 560 001,  
Karnataka

### Important note :

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard terms and conditions of sale, copies of which may be obtained on request. Whilst Fosroc endeavours to ensure that any advice, recommendation specification or information it may give is accurate and correct, it cannot, because it has no direct or continuous control over where or how its products are applied, accept any liability either directly or indirectly arising from the use of its products whether or not in accordance with any advice, specification, recommendation or information given by it.

### telephone

+91 80-42521900

### fax

+91 80-22281510

### e-mail

enquiryindia@fosroc.com

### Regional Offices

#### Chennai

Hills Centre, Old No 5,  
New No 9, 3rd Cross Street,  
Jeth Nagar, Raja Annamalaipuram,  
Chennai 600 028.  
Ph: +91 44 61304500

#### Mumbai

MBC Park, 12th floor, Office No.12B,  
'D' Block, Near G Corp/Hyper City  
Kasarwadawali, Ghodbunder Road,  
Thane (West) 400 615  
Ph: +91 22 6229 6800  
Fax: 022 62296809

#### Noida

Unit No. 601, Highway Tower-II  
A-13/2, 6th Floor, Sector- 62  
Gautam Buddha Nagar,  
Noida 201 309, Uttar Pradesh  
Ph: +91 120 6121900  
Fax: 0120-4270622

#### Kolkata

304, Jodhpur Park  
Kolkata 700 068  
Ph: +91 33-65343188  
Fax: 033-2499-0280