

## High build aliphatic polyurethane protective systems for steel and concrete

### Uses

Nitocote UR612 system provides a high build chemical and UV resistant protective coating for steel and concrete structures. It also offers corrosion protection in addition to waterproofing property. It is an ideal protective coating for exposed RC / steel structural members, bridge piers etc.

### Advantages

- **Durable** : Low maintenance costs
- **Non yellowing** : Will not yellow on exposure to UV rays.
- **Chemical resistant** : Excellent resistance to most industrial chemicals, acids, solvents etc.
- **Hygienic** : Seamless surface, easily cleaned
- **Excellent adhesion** : Bonds well with both steel and concrete substrates
- Excellent flexibility to withstand higher temperatures
- Available in attractive colors

### Standards compliance

Nitocote UR612 meets the requirements of UL 94 for resistance to spread of flame.

### Description

Nitocote UR612 is a two component, high build, pigmented, aliphatic polyurethane coating possessing good resistance to long term exposure of UV rays and chemical attack. On steel substrates, it offers excellent corrosion protection when coated over zincrich based Primer.

### Technical Support

Fosroc offers technical support & service to specifiers and contractors as well as on-site assistance.

### Properties

<b>Pot life at 30°C</b>	:	Min.1 hour
<b>Recoat time at 30°C</b>	:	2 - 4 hours
<b>Initial cure at 30°C</b>	:	16 hours
<b>Final cure at 30°C</b>	:	5 days
<b>Flash point</b>	:	35 °C

### Chemical resistance

Nitocote UR612 is resistant to following chemicals at ambient temperature, under the following exposure conditions

Hydrochloric acid (36%)	:	Occasional contact
Nitric acid (15%)	:	Occasional contact
Citric acid (10%)	:	Occasional contact
Sodium Hydroxide ( 50%)	:	Occasional contact
Ammonia (10%) Soln.	:	Occasional contact
Bleach concentrate	:	Occasional contact
Urea ( Saturated)	:	Regular contact
Sugar (Saturated)	:	Regular contact
Sodium Chloride (Saturated)	:	Regular contact
Methanol	:	Occasional contact
Butanol	:	Occasional contact
Mineral spirits	:	Regular contact
Xylene	:	Occasional contact
Lubrication oil	:	Regular contact
Gasoline	:	Occasional contact

### Specification clauses

**As a protective coating** - "Areas as marked on the steel, concrete and/or masonry shall be applied/coated with Nitocote UR612, a two component aliphatic polyurethane coating to a thickness of 125 microns w.f.t in one coat of application. When exposed to UV rays for long periods, the cured coated film shall not yellow and chalk. The coated surfaces should retain a semi gloss finish. The potlife of the mixed material shall not be less than one hour at 30°C. It shall be recoatable in 2 - 4 hours at 30°C and shall cure fully in 5 days at 30°C. It shall be resistant to spread of flame when tested as per UL94 Standards. It shall develop a minimum bond strength to steel or cementitious substrates of 1.5 N/mm<sup>2</sup>, when tested for Pull Off strength with an Elcometer."

# Nitocote® UR612

---

**As a waterproof coating-** "Providing and applying a two part polyurethane based waterproof coating Nitocote UR612 in 3 coats of application @ 0.1 litre/m<sup>2</sup>/coat, over rcc slab including sprinkling of clean sand (300 microns - particle size) or, pea gravel and, laying pcc (1:2:4), mixed with integral waterproofing compound, Conplast X421IC, at a dosage of 150ml/50 kg bag of cement, over the fully cured Nitocote UR612 coating, as per manufacturer's specifications. It shall be an aliphatic, non yellowing, non chalking polyurethane based waterproof coating; with a minimum bond strength of 1.5 N/mm<sup>2</sup> to concrete when tested with a Pull Off tester." The cured film shall be protected with concrete screed / mortar when used on accessible roofs to avoid damage from foot traffic.

Application instructions

## For Concrete Substrates

### Surface preparation

All surfaces must be smooth, sound and free from debris, loose or flaking material and areas of standing water. Surfaces must be free from contamination such as oil, grease, dust, loose particles and organic growth. Concrete surfaces must be fully cured, laitence free and free from any traces of shuttering, release oils and curing compounds.

All surfaces should then be grit blasted to remove all foreign matter and open up blow-holes, and provide a suitable key for Nitocote UR612. All blow holes and imperfections should be filled with Nitomortar FC, epoxy putty.

### Mixing

The individual components should be thoroughly stirred before mixing them together. The components should then be mechanically mixed together for atleast 3 minutes using a slow speed (400 - 500 RPM) drill machine attached with a mixing paddle.

## Application

Apply Nitocote UR612 with a nylon brush, or a flat pile felt roller, to the prepared substrate at a thickness of 125 microns WFT. In case of second coat application, there should be a time gap of 2-4 hours at 30°C after the first coat is applied. When applying Nitocote UR612 as a topcoat over any of the Nitocote range of epoxy systems, it must be applied after 6 hours but within 24 hours of applying the epoxy.

## For Steel Substrates

### Surface preparation

The steel surfaces shall be cleaned to remove all traces of rust, corrosion scales, deposits etc. Sand blasting / wire brushing is recommended.

### Primer

An epoxy zinc based anticorrosive primer, Nitozinc Primer Std shall be applied to protect the steel from corrosion and reduce the formation of incipient anodes. This coating shall be applied to a thickness of 100 microns wft.

The mixing and application instructions for Nitocote UR612 shall be followed as explained for concrete substrate.

**Note :** When applying Nitocote UR612, if the moisture content in the substrate is more than 3%, blistering of the coating may occur.

### Curing

This coating will become tack free in approximately 2 - 4 hours and be fully cured in 5 days.

### Cleaning

Clean tools and equipment immediately after use with Nitoflor Sol. Wash hands and skin with soap, or an industrial hand cleaner.



# Nitocote® UR612

---

## Limitations

Minimum ambient surface and material temperature must be between 10 to 40°C. For applications outside this range, contact Fosroc for advise. Application of the product should be always on dry substrates.

## Storage

### Shelf life

Nitocote UR612 has a shelf life of 6 months when stored under normal warehouse conditions in unopened containers. Exposure to moisture greatly reduces the shelf life, particularly that of the hardener.

## Estimating

### Packaging

Nitocote UR612	-	4 litres and bulk industrial packs
Nitozinc Primer Std.	-	1, 5 litre and bulk industrial packs
Nitoflor Sol	-	5 & 20 litre tins

### Coverage

Nitocote UR612	-	8m <sup>2</sup> /litre / coat @ 125 microns wft
Nitozinc Primer Std.	-	8 m <sup>2</sup> / litre

**Note:** The coverage figures given are theoretical. However, practical coverage figures may vary depending on the porosity of substrate, application thickness etc .

## Precautions

### Health & Safety

Nitocote UR612 and Nitoflor Sol should not come in contact with skin or eyes nor should they be swallowed.

Avoid inhalation of vapours and ensure adequate ventilation. Some people are sensitive to resins, hardeners and solvents. Wear suitable protective clothing, gloves and eye/face protection.

Should accidental skin contact occur, remove immediately with a resin removing cream followed by washing with soap and water - **do not** use solvent.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

If swallowed seek medical attention immediately - **do not** induce vomiting.

For further information, please consult the Material Safety Datasheet.

### Fire

Nitocote UR612 and Nitoflor Sol are flammable. Do not use near a naked flame.

### Flash Point

Nitoflor Sol - 33°C

## Additional information

Fosroc manufactures a wide range of products specifically designed for the repair and refurbishment of damaged reinforced concrete. This includes repair mortars, fluid micro-concretes, chemical resistant epoxy mortars in addition to comprehensive package of protective coatings. In addition, a wide range of complementary products are available. This includes joint sealants, waterproofing membranes, grouts and anchors and specialised flooring materials.

Separate datasheets are available on these products.



# Nitocote® UR612

---

® Denotes the trademark of Fosroc International Limited

## 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.



## Fosroc Chemicals (India) Pvt. Ltd.

### Head Office

111/3, Hafeeza Chamber II Floor,  
K H Road, PBN0. 2744, Bangalore 560027  
[www.fosroc.com](http://www.fosroc.com)

telephone	fax	e-mail
++91 80-22240018/120	++91 80-22233474	india@fosroc.com



### Regional Offices

#### Bangalore

Shankar House, IV Floor  
1 & 18, RMV Extension  
Bangalore 560 080  
Ph:080-2361 3161/2361 2004  
Fax : 080-2361 7454  
email: Bangalore@fosroc.com

#### Mumbai

208/209, Persepolis  
Sector 17, Vashi  
Navi Mumbai 400 703  
Ph:022-2789 6412/14  
Fax: 022 - 2789 6413  
email:Mumbai@fosroc.com

#### Delhi

First floor,1/2 East Patel Nagar  
Opp: Vivek Cinema, Main Patel Rd  
New Delhi 110 008  
Ph:011-25884903/4  
Fax: 011- 25884422  
email:Delhi@fosroc.com

#### Kolkata

P-569, Lake Terrace Extn.  
First Floor  
Kolkata 700 029  
Ph: 033 24650917 / 55343188  
Fax: 033-24650891  
email:Kolkata@fosroc.com

- Ahmedabad : (079) 26762799 ● Ankleshwar :(02646) 220704/224687 ● Bhubaneswar : (0674) 2546415 ● Chennai (044) 24899949/24853383
- Chandigarh : (0172) 2639360 ● Cochin : (0484) 2356668 ● Coimbatore : (0422) 2472966 ● Goa : (0832) 2542465 ● Guwahati (0361) 2548793
- Hyderabad : (040) 27662324/27662425 ● Hubli (0836) 09343402597 ● Indore : (0731) 504339/5061477 ● Jaipur : (0141) 2235349
- Jamshedpur: (0657) 2223848 ● Lucknow :(0522) 2239044 ● Nagercoil 09842134873 ● Visakhapatnam : (0891) 2564850 / 2707607