



# Nitoflor Uragard CR\* (Formerly Uragard CR)

Heavy duty polyurethane based hybrid floor screed, 5 mm to 10 mm thick, with very high chemical resistance

## Uses

Nitoflor Uragard CR is designed for use as heavy duty floor screed in environments where high resistance is required against chemicals, impact, thermal shock and abrasion. It is also useful in areas when steam or hot water is used in cleaning. Nitoflor Uragard CR is the ideal product for applications in:

- Dairy industries
- Food and beverage processing plants
- Perfume and cosmetic industries
- Loading docks and ramps
- Commercial kitchens / restaurants
- Waste water treatment plants
- Pulp and Paper mills
- Chemical manufacturing plants
- Chemicals storage and handling areas
- Petroleum refineries and petrochemical industries
- Pharmaceutical industries
- Fertilizer and insecticide plants
- Electrochemical industries
- Leather processing plants
- Secondary containment areas
- Breweries, Canneries etc.
- Airport maintenance hangars

## Advantages

- Extremely high chemical resistance to a range of acids, alkali solutions, solvents and other chemicals.
- Excellent mechanical properties
- High impact and abrasion resistance
- Resistant to thermal shock as per ASTM C884
- Resistant to steam and hot water cleaning
- Suitable for service range from -15°C to +90°C
- Resistant to freeze/thaw cycles
- Antislip - provides safe, textured slip-resistant surface for pedestrian and vehicular traffic

## Description

**Nitoflor Uragard CR** is a polyurethane based hybrid floor screed designed for use at thickness between 5 mm and 10 mm. The product is formulated specifically to withstand chemical attack. The product is supplied as a four-component system (including colour pack), pre-weighed for on-site mixing. Standard colours include brick red, dark grey, green (RAL6032) and blue (RAL5012).

## Properties

The values given below are typical figures achieved in laboratory tests.

<b>Compressive strength</b> (BS 6319) part 2, 1983	: 100 N/mm <sup>2</sup>
<b>Flexural strength</b> (BS 6319) part 3, 1990	: 32 N/mm <sup>2</sup>
<b>Tensile strength</b> (BS 6319) part 7, 1985	: 15 N/mm <sup>2</sup>
<b>Impact resistance</b> (BS 8204)	: No damage or deterioration
<b>Resistance to fungal growth</b> (ASTM G21)	: Pass
<b>Abrasion resistance</b> (ASTM D4060 @ 1000 cycles)	: 0.05 grams loss

The below detailed tests have been carried out in accordance with ASTM D1640.

	25°C	35°C
<b>Pot life</b>	: 60 minutes	30 minutes
<b>Initial cure</b>	: 8 hours	5 hours
<b>Foot traffic</b>	: 48 hours	24 hours
<b>Full cure</b>	: 7 days	5 days

## Chemical resistance

Nitoflor Uragard CR provides excellent chemical resistance and has been tested for 250 different chemicals, categorised under:

Inorganic/mineral acids, Organic acids, Alkali solutions, Salt solutions, Carbohydrates and sugars, Solvents, Edible/Medicated oils, Cooking ingredients/spices, Dairy products, Soft drinks, Alcoholic beverages, Industrial chemicals, Cleaning aids, Pharmaceutical/fine chemicals, Cosmetics/Toiletries, Fuels/Lubricants etc.

These tests have been conducted in accordance with ASTM D1308 for spot tests and ASTM D543 for immersion tests, as appropriate. Please contact your local Fosroc office for the **complete list of chemicals tested.**

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## Instructions for use

### Surface Preparation

It is essential that Nitoflor Uragard CR is applied to sound, clean and dry surfaces in order that maximum bond strength is achieved between the substrate and the flooring system. All dust and debris should be removed prior to application of the product or its primer.

#### *New concrete floors*

Should be at least 14 days old (at 20°C) with maximum moisture content not exceeding 5%. Laitence deposits on new concrete floors are best removed by light grit blasting, mechanical scabbling or grinding.

#### *Old concrete floors*

Again, mechanical cleaning methods are strongly recommended on old concrete floors particularly where heavy contamination by oil and grease has occurred or existing coatings are present. These may well have been absorbed several millimetres into the concrete. To ensure adhesion, all contamination should be removed. Proprietary chemical degreaser may be used on small areas of light contamination only.

Any damaged areas or surface irregularities should be repaired using one of the Nitoflor EU\*\* range of products.

#### *Steel surfaces*

Steel surfaces should be degreased and grit blasted to SA2½ immediately prior to application. Clean steel surfaces should be primed with Nitocote Primer Sealer prior to the application of Nitoflor Uragard CR.

### Priming

All surfaces treated with Nitoflor Uragard CR should be primed with Nitocote Primer Sealer, a solvent free epoxy resin primer designed for maximum absorption and adhesion to the substrate. Add the entire contents of the hardener tin to the base tin and mix thoroughly.

Once mixed, immediately apply the primer in a thin continuous film to the clean prepared surfaces. Work the primer into the surface and avoid over application and puddling. On porous floors, Nitocote Primer Sealer will be absorbed very quickly leaving characteristic light coloured dry patches. It is recommended that a second priming coat is applied in these areas.

While still wet, dress the surface with ½kg/m<sup>2</sup> of Antislip Grain No. 3 to provide a key for the application of Nitoflor Uragard CR. Ensure that the primer is touch dry prior to the application of Nitoflor Uragard CR.

### Mixing

It is important that Nitoflor Uragard CR is mixed correctly.

Pour the entire colour pack into the base container and mix thoroughly with a slow speed electric drill fitted with a suitable Fosroc mixing paddle for 15-20 seconds or until the mix becomes homogeneous.

The entire contents of the hardener should then be poured into the base container and mixed thoroughly until homogeneous.

Pour the mixed base, hardener and colour pack slowly into a suitable forced action mixer such as a Cretangle or similar. A free fall mortar mixer is not suitable. Add the filler. Continue mechanical mixing for a further 2-3 minutes, until all components are thoroughly blended.

### Application

The mixed Nitoflor Uragard CR should be spread to uniform thickness on the primed surface using either a garden rake or the edge of a plastic trowel only when the primer is in a tacky condition. The material should be tamped with a wooden float to ensure complete compaction and finally finished to a closed even texture using a steel trowel. Screeding rods are useful to maintain a minimum compacted thickness of 5mm (5000 microns).

Fosroc Trowel EZ\*\* can be used to aid trowelling and finishing.

Once mixed, the material must be used within its pot life, after this time any unused material will have stiffened and should be discarded.

### Expansion joints

Expansion joints in the existing substrate should be continued through the Nitoflor Uragard CR topping, and filled to the required level with a suitable sealant from the Fosroc\* range incorporating the appropriate movement accommodation factor (MAF).

### Sealing

Although Nitoflor Uragard CR is impervious at 5mm thick, in constantly wet operation areas or where a high degree of cleanliness is required, it may be sealed with Nitocote CR400\*†.

### Cleaning

Nitocote Primer Sealer and Nitoflor Uragard CR should be removed from tools and equipment with Fosroc Solvent 102\* immediately after use. Hardened material can only be removed mechanically.



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## Maintenance

The service life of a floor can be considerably extended by good housekeeping. Regular cleaning should be carried out using a rotary scrubbing machine with a water-miscible cleaning agent.

## Limitations

- Nitoflor Uragard CR should not be installed at temperatures below 5°C.
- Fosroc does not recommend acid etching as a method of floor preparation. If used, the method should be approved by the project consultant.
- Nitoflor Uragard CR should not be applied on to surfaces which are known to or likely to suffer from rising damp, osmosis or have a relative humidity greater than 75% as measured in accordance with BS 8203 Appendix A or by Hammond concrete/mortar moisture tester type COCO.
- Nitoflor Uragard CR should not be applied to asphalt, unmodified sand/cement screeds, PVC tiles or sheet. For information on the suitability of other substrates, consult the local Fosroc office.
- Nitoflor Uragard CR results in colour change in contact with strong oxidising acids.
- Nitoflor Uragard CR is not recommended for outdoor applications and in ballast freezer rooms.
- If movement or cracking of the substrate takes place after application, reflective cracking of the topping may occur. All known expansion joints should be continued in the topping.
- For temperatures above 35°C refer to **Hot Weather Working**.

## Technical support

Fosroc offers a comprehensive range of high performance, high quality flooring, jointing and repair products for both new and existing floor surfaces. In addition, the company offers a technical support package to specifiers, end-users and contractors, as well as on-site technical assistance in locations all over the world.

## Estimating

### Supply

<b>Nitoflor Uragard CR</b>	:	12 litre packs
<b>Antislip Grain No. 3</b>	:	20 Kg bags
<b>Nitocote Primer Sealer</b>	:	1 and 4 litre packs
<b>Fosroc Solvent 102</b>	:	5 litre can

### Coverage

<b>Nitoflor Uragard CR</b>	:	1.2m <sup>2</sup> /pack @ 10 mm thickness
<b>Nitocote Primer Sealer</b>	:	4 - 5 m <sup>2</sup> /litre

**Note** : The coverage figures given are theoretical - due to wastage factors and the variety and nature of possible substrates, practical coverage figures will be reduced. Typically an additional 10% should be allowed for surface irregularities and wastage although this will vary with site conditions.

## Storage

### Shelf life

All products have a shelf life of 12 months if kept in a dry store in the original, unopened packs.

### Storage conditions

Store in dry conditions between 5°C and 30°C, away from sources of heat and naked flames, in the original, unopened packs. If stored at high temperatures the shelf life may be reduced.

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## Precautions

### Health and safety

Nitoflor Uragard CR, Nitocote Primer Sealer and Fosroc Solvent 102 should not come into contact with the skin and eyes, or be swallowed. Ensure adequate ventilation and avoid inhalation of vapours. Some people are sensitive to resins, hardeners and solvents.

Wear suitable protective clothing, gloves and eye protection. If working in confined areas, suitable respiratory protective equipment must be used.

The use of barrier creams provide additional skin protection. In case of contact with skin, rinse with plenty of clean water, then cleanse with 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

Nitoflor Uragard CR and Nitocote Primer Sealer are non-flammable.

Fosroc Solvent 102 is flammable. Keep away from sources of ignition. No smoking. In the event of fire extinguish with CO<sub>2</sub> or foam. Do not use a water jet.

### Flash points

<b>Fosroc Solvent 102</b>	:	33°C
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### Disposal

Spillages of component products should be absorbed onto earth, sand or other inert material and transferred to a suitable vessel. Disposal of such spillages or empty packaging should be in accordance with local waste disposal regulations.

For further information, refer to the Product Material Safety

Data Sheet.

## 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



**Al Gurg Fosroc  
LLC**

Post Box 657, Dubai  
United Arab Emirates

[www.fosroc.com](http://www.fosroc.com)

### 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

### Head Office

telephone: (+9714) 2858606

fax: (+9714) 2859649

email: [agf@fosroc.com](mailto:agf@fosroc.com)

### Regional offices

Dubai, Al Gurg Fosroc  
Abu Dhabi, Al Gurg Fosroc  
Bahrain, YBA Kanoo  
Kuwait, Boodai  
Oman, Al Amana  
Qatar, Tadmur

telephone: 285 8787  
telephone: 673 1779  
telephone: 17735454  
telephone: 4817618  
telephone: 771 5080  
telephone: 413628

fax: 285 2023  
fax: 673 1449  
fax: 17732828  
fax: 4832124  
fax: 771 7554  
fax: 440812

email: [dubai@fosroc.com](mailto:dubai@fosroc.com)  
email: [abudhabi@fosroc.com](mailto:abudhabi@fosroc.com)  
email: [bahrain@fosroc.com](mailto:bahrain@fosroc.com)  
email: [kuwait@fosroc.com](mailto:kuwait@fosroc.com)  
email: [oman@fosroc.com](mailto:oman@fosroc.com)  
email: [qatar@fosroc.com](mailto:qatar@fosroc.com)



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