



constructive solutions

# Nitoflor Lithurin

Permanent hardening and dust-proofing compound for concrete surfaces

## Uses

As a surface hardener for new and old concrete floors to prevent dusting and to increase durability.

Suitable for use on concrete and granolithic surfaces.

Typical applications include industrial floors, light engineering works, warehouses, animal feed and milk parlours, abattoirs, car parks, dams, reservoirs, tanks, silos and flues.

As a case hardener for pre-cast products.

## Advantages

- Highly durable, improves abrasion resistance and reduces chemical attack from oils and greases.
- Easy to apply, no special equipment or skills required.
- Eliminates dust formation from within the treated surface.
- Economical and low cost method of floor protection.

## Description

Nitoflor Lithurin is a white, soluble, crystalline powder based on alkali metals fluorosilicates and wetting agents.

When Nitoflor Lithurin is mixed with water and applied to the floor, the solution penetrates the concrete reacting with lime and other soluble particles to form granite hard crystals, leaving a permanent, hard wearing and dust free surface.

## Technical support

Fosroc offers a comprehensive range of high performance, high quality repair, and maintenance and construction products. In addition, Fosroc offers a technical support package to specifiers, end-users and contractors, as well as on-site technical assistance in locations all over the world.

## Maintenance

Nitoflor Lithurin, when applied in accordance with the technical data sheet, will last the life of the floor and therefore re-treatment should not be required.

## Properties

<b>Penetration:</b>	Specially selected wetting agents in Nitoflor Lithurin improve the depth of penetration resulting in a more durable finish better than that of other surface treatments which merely form a superficial skin.
<b>Life:</b>	Nitoflor Lithurin lasts the life of the floor and re-treatment should never be required.
<b>Hardness:</b>	The surface hardness is achieved through a chemical reaction within the cementitious material. This gives in-depth protection against heavy traffic and other forms of abrasion.
<b>Anti-dust:</b>	The chemical elimination of free lime and other soluble particles creates a tightly bound surface resistant to dusting.
<b>Chemical resistance:</b>	The inert crystalline compounds resistance: formed by Nitoflor Lithurin application reduce the absorbency of the surface and improve resistance to solvents, greases and commonly used chemicals.

Consult the Fosroc Customer Service Department for details on resistance to specific chemicals.

## Application

Surfaces to be treated with Nitoflor Lithurin must be structurally sound and free from loose materials. Cracks or holes can be repaired using a recommended Fosroc repair material which should be allowed to cure prior to proceeding.

Oil and grease contamination should be treated with a suitable chemical de-greaser and washed with clean water and allowed to dry.

Any laitance or existing coating must be removed prior to application as these will prevent penetration.

New concrete floors must be allowed to cure for 14 days prior to treatment. Coloured floors should be allowed to cure for 28 days prior to treatment and a small area tested with Nitoflor Lithurin to assess the effect on the colour.

Nitoflor Lithurin must only be applied to dry surfaces to maximise penetration.

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## Mixing

Dissolve 25 kg of Nitoflor Lithurin with 75 litres (16.7 gallons) of water in plastic containers and stir until completely dissolved. Metal containers may be used provided the solution is used within 24 hours.

## Application

Ensure that the surface to be treated is dry and apply the mixed Nitoflor Lithurin at a rate of approximately 1 litre to every 6.5 m<sup>2</sup> using a soft broom or brush. Ensure that the surface is thoroughly saturated with the solution and well brushed out to prevent ponding.

Allow the solution to be absorbed into the floor for a period of up to 2 hours and whilst the floor is still damp wash the surface thoroughly with clean water. Remove all surplus solution and water as stated in disposal instructions. Failure to do so will result in a white dusty deposit left on drying. **Nitoflor Lithurin should not be discharged into drains and storm tanks. (see disposal instructions).**

Normally a two or three coat application is recommended for complete treatment, however, very dense, well trowelled surfaces such as granolithic topping, power floated or vacuum dewatered concrete will generally require only a single coat.

If a second application is necessary, re-apply the solution after 24 hours ensuring that the floor is dry. All surplus solution must be removed as stated previously. The same procedure will apply for a third application if required.

## Limitations

Nitoflor Lithurin solution is toxic and cannot be discharged into drains and storm tanks. Nitoflor Lithurin must be disposed of in accordance with national and local environmental regulations.

Metal, glass or paintwork must be protected against Nitoflor Lithurin. Should any splashes occur these must be removed immediately and disposed of by following the disposal instructions.

## Estimating

<b>Pack sizes:</b>	Nitoflor Lithurin is supplied in 25 kg polyethylene bags.
<b>Coverage:</b>	Coverage varies with the absorbency of the substrate but typical figures for a smooth trowelled finish are: 7m <sup>2</sup> / kg of powder for 3 applications. 10 m <sup>2</sup> / kg of powder for 2 applications. 13 m <sup>2</sup> / kg of powder for 1 application

The coverage figures shown are typical values, however, the degree of porosity will affect the actual coverage achieved on site.

## Storage

### Shelf life

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

### Storage conditions

Store in cool dry conditions in the original, unopened bags.

### Precautions

### Health and safety

Nitoflor Lithurin is toxic and should not come into contact with skin or eyes or be swallowed. Dust inhalation during mixing must be avoided.

Wear suitable protective clothing, gloves, boots and eye/face protection.

After contact with skin, wash immediately with plenty of soap and water. In case of contact with eyes, rinse immediately with plenty of clean water and seek medical attention. If swallowed, do not induce vomiting, seek medical attention immediately.

Ensure that Nitoflor Lithurin does not come into contact with food, food containers and animal feeding stuffs.

### Fire

Nitoflor Lithurin is non-flammable.

### Disposal

Suitable fluorosilicates i.e. Nitoflor Lithurin should not be discharged into drains or storm tanks and the given guidelines should be followed.

After treatment of the floor with Nitoflor Lithurin solution the surplus solution and subsequent washings must be vacuumed up to remove all traces of the solution from the surface. The storage and transportation of this solution must be in polythene, plastic or stainless steel containers that can be lidded for transport.

The residual liquid should be treated with builders lime i.e. calcium hydroxide, in order to neutralise the solution. The calcium hydroxide should be thoroughly mixed with the solution, left to stand for 24 hours and pH checked with litmus paper until a pH 7 or above is achieved. Both the calcium hydroxide and litmus paper can be obtained from most chemical laboratory equipment suppliers. Builders lime can be obtained from any good builders merchant. As a guideline, 10 litres of solution will require 2 kg of calcium hydroxide for neutralisation. The pH of the solution must always be checked to ensure that complete neutralisation has occurred.



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The reaction with the lime produces a white precipitate of calcium fluorosilicate which may be disposed of on a landfill site. The remaining liquid can be washed away down drains with excess water.

All health and safety procedures and precautions must be adhered to whilst handling and disposing of the solution.

## 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.



Fosam Company Limited

Head Office  
Post Box 11081  
Jeddah – 21453  
Saudi Arabia

[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 Services, copies of which may be obtained on request. Whilst Fosroc endeavours to ensure that any advice, recommendation, specification of 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 of information given by it.

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**Telephone: +966 2 637 5345**

**Fax: +966 2 637 5891**

**email: [fosam@fosroc.com](mailto:fosam@fosroc.com)**

### Regional Offices

Jeddah Sales Office	Tel: (02) 608 0999	Fax: (02) 638 0693	Yanbu	Tel: (04) 322 4280	Fax: (04) 391 2980
Jeddah Showroom	Tel: (02) 665 0187	Fax: (02) 667 4844	Makkah	Tel: (02) 542 0869	Fax: (02) 542 0869
Riyadh	Tel: (01) 482 9303	Fax: (01) 482 7562	Medinah	Tel: (04) 855 0091	Fax: (04) 855 0047
Dammam	Tel: (03) 814 1282	Fax: (03) 814 1581	Jubail	Tel: (03) 362 3904	Fax: (03) 362 3875
Khamis Mushayt	Tel: (07) 250 0469	Fax: (07) 250 0469	CSD	Tel: (02) 608 0999	Fax: (02) 638 0693

Registered Office: Industrial Area, Phase 4, Road No. 414, Street No. 407