Nitoflor SL3000 UT

Flow applied medium to heavy duty cementitious polyurethane floor topping

Description

Nitoflor SL3000 UT is a medium-heavy duty, flow applied cementitious polyurethane floor topping system designed with the highest order of durability to resist abrasion, chemical attack and other physical aggression.

Typical application areas include food and beverage production, dairy processing, pharmaceutical and engineering process areas.

Appearance

Smooth matt finish.

Advantages

- Ease of application
- Non Taint
- Easy to clean
- Seamless
- Tough, high resistance to damage
- Availability of antimicrobial variant

Thickness

3 – 6 mm

Colours

Telegrey, Blue Grey, Light Blue, Grey Brown, Sand Yellow, Brown Beige, Emerald Green, Tomato Red

Chemical Resistance

Nitoflor SL3000 UT is resistant to a wide range of commonly used chemicals in the food, dairy and pharmaceutical industries, and engineering workshops. Good housekeeping practices should be employed. Please consult Fosroc for further advice.

Some staining or discolouration may occur with some chemicals, depending on dwell time, temperature, type of chemical and degree of housekeeping employed. This does not necessarily affect the product service integrity or durability.

Substrates

Concrete, polymer modified screeds, grano concrete.

Typical Properties

BS 8204-6 (3 mm) BS 8204-6 (4-6mm)	Type 5 Floor (medium duty) Type 7 Floor (heavy duty)
Compressive Strength, BS6319-2, 28 days, MPa	54
Tensile Strength, BS6319-7, MPa	6.5
Flexural Strength, BS6319-3, MPa	18
Density (ASTM D792), kg/ m3	1968
Dynamic elastic modulus (ASTM C597), MPa	6266
Flexural Modulus (ASTM C580), MPa	3295
Taber abrasion resistance (ASTM D4060) CS17 Wheels,mg/1000cycles	130
Water absorption (ASTM C413) %	0.06
Thermal Expansion Coefficient (BS EN1770), /ºC	5.6 x 10-5
Impact Resistance (ASTM D2794), Joules 3mm thickness 6mm thickness	 8.1 11.1
Thermal conductivity (Thermtest TPS method), W/m.K	1.1
Slip Resistance (ASTM E303) Dry, S96	35 (moderate slip risk)
Reaction To Fire (BS476-7) Flame Spread Classification	Class 2
Cleanability	Pass
Non-taint property (IS-8639, 24 hours)	Pass
Service Temperature 3-4mm Service Temperature 5-6mm	-5ºC to +70ºC -10ºC to +95ºC
Ideal application temperature range, ºC	15 - 30

Note: The typical physical properties given above are derived from testing in a controlled laboratory environment. Results derived from testing field-applied samples may vary, dependent on actual site conditions. The slip resistance figures given above are affected by application techniques and prevailing site conditions. Slip resistance can reduce over time due to poor maintenance, general wear or surface contaminants.

Nitoflor SL3000 UT

Nitoflor SL3000 UT has a smooth finish so can be expected to become slippery when wet. Good housekeeping practices must be observed.

Cure Schedule at 30ºC

Working life of full packs:	
Nitoflor SL3000 UT	15 - 20 minutes
Note: Usable working life of material following mixing and immediate spreading as per the application instructions	
Finished floor:	
Cure time to light pedestrian traffic	12 hours
Cure time to light wheeled traffic	24 hours
Cure time to medium duty traffic	48 hours
Cure time to heavy duty traffic	7 days
Full chemical resistance	7 days

Note: The above cure times are approximate and given as a guide only. These times can vary due to prevailing site conditions.

Instructions for preparation and use

Fosroc Nitoflor SL3000 UT should be installed by specialist applicators, who must follow the procedures laid down in guideline documents such as BS 8204 Part 6:2008 Code of practice – Synthetic Resin Floorings, and the Fosroc Method Statement - PU Cementitious Flooring.

Application Conditions

Ideal ambient, material and substrate temperature range is 15 - 30ºC to achieve best results. The product components should be stored in a cool area (or warm area in the case of low ambient temperature), using localised forced cooling or heating equipment as appropriate, in order to bring product temperature within the ideal range. The product can be applied outside this ideal temperature range (subject to a minimum of 10ºC and maximum of 34ºC) however the surface finish may be subject to spike roller marks. In these cases physical properties and durability of the floor are not affected.

The substrate and applied floor must be kept at least 3ºC above the dew point to reduce the risk of condensation or blooming on the surface, from before priming to at least 48 hours after application of Nitoflor SL3000 UT.

Surface Preparation

Inadequate preparation may lead to loss of adhesion and failure. With flow-applied systems, there is a tendency for the finish to mirror imperfections in the substrate. Grinding or light vacuum-contained shot-blasting is therefore preferred over planing for these systems. Percussive scabbling or acid etching is not recommended. Anchorage grooves should be cut to a minimum depth and width of 2x the flooring thickness to be laid, at the edges, day joints, up-stands, drains, doorways and at regular points across the floor, and all debris removed.

New Concrete floors

The base should be a minimum of Grade M20 and should not contain a water repellent admixture. The surface strength when assessed using a rebound hammer should be above 25 or the surface tensile strength should exceed 1.5 MPa. The laitance and any surface sealer or curing membrane should be removed by mechanical means such as shot-blasting or grinding to expose the coarse aggregate. After surface preparation, all loose debris and dirt should be removed by vacuum equipment. For concrete bases in contact with the ground, a damp-proof membrane should have been incorporated into the slab design, in accordance with the requirements of CP102 (Code Of Practice For The Protection Of Buildings Against Water From The Ground).

Old concrete floors

All laitance and surface contamination should be removed by mechanical means such as shot-blasting or grinding to expose the coarse aggregate. After surface preparation, all loose debris and dirt should be removed by vacuum. Heavy oil or grease deposits should be removed either mechanically, or by steam cleaning, or by biological treatment, then by high pressure water blasting followed by the application of a penetrating primer. Where oil or grease contamination has been severe or of long duration, these methods may prove unsatisfactory and in these cases removal of the affected base is necessary.

In existing buildings without a functioning damp-proof membrane, the application of a surface-applied membrane should be considered. Hydrostatic pressure may, under certain circumstances, cause adhesive failure between the flooring and the substrate. Where this is likely to occur, such as in areas where the ground water table is higher than the substrate, and where external tanking has not been applied, pressure relief must be provided, e.g. by direct drainage.

A close visual examination should be made to verify cleanliness and soundness. Any weak or suspect areas should be repaired.

Application Instructions

Priming/ Scratch coating

Nitoflor SL3000 UT should be applied as a primer/scratch coat at a coverage rate of up to a nominal 1 mm thickness; actual

coverage rate will depend on concrete surface texture and porosity. This scratch coat is designed to prime and seal the floor. Mix (see Application below) and spread evenly by trowel. The scratch coat should be allowed to cure for 12 - 48 hours at 20ºC before applying the Nitoflor SL3000 UT. If the scratch coat has been allowed to cure for >48 hours then the coat must be thoroughly abraded and a fresh layer of scratch coat applied. If severe pin-holing is evident in the cured scratch coat, indicating that air is rising from the substrate, then remedial action should be taken. Contact your local Fosroc office for advice. Failure to do so may result in increased risk of pin-holing of the surface topping.

Application of Nitoflor SL3000 UT topping

Fosroc Nitoflor SL3000 UT is a three-component product. A forced-action rotary paddle mixer is recommended for mixing the product. Drain the contents of the liquid base and liquid hardener components into a large plastic container and mix briefly. Load the coloured aggregate component whist mixing, and continue mixing for at least 1 minute, until a lump-free mix is obtained, including a scrape down if necessary. Immediately discharge and spread the mix over the application area, using a notched trowel to achieve the required coverage rate. De-aerate using a spiked roller. Spike rolling should be carried out within 10 minutes of application in order to avoid interfering with flow and surface finish. Ensure that anchorage grooves are fully wetted out with material. Do not return to spike roll older applied areas as the product is fast-setting and this action will leave spoiling marks on the applied floor.
The finished floor should be protected from other trades using Kraft paper or similar breathable material. Polythene should not be used. Protect the installed floor from damp, condensation and water for at least 4 days.

Supply

Nitoflor SL3000 UT	20.25 kg packs

Comprises :

Nitoflor SL3000 UT Part A	3 kg
Nitoflor SL 3000 UT Part B	3 kg
Nitoflor SL 3000 UT Filler	14.25 kg

Coverage

Nitoflor SL3000 UT (primer/scratch coat)	Coverage appropriate to texture and porosity of floor Nominal 10 m2/pack
Nitoflor SL3000 UT (floor topping)	3.5 m2/pack at 3 mm 2.5 m2/pack at 4 mm 1.7 m2/pack at 6 mm

Note: Coverage figures given are theoretical. Actual site practical coverage figures may vary, due to wastage factors and the type and condition of the substrate.

Cleaning

Regular cleaning is essential to maintain and enhance the life expectancy, slip resistance and appearance of the floor. Fosroc Nitoflor SL3000 UT can be easily cleaned using industry standard cleaning chemicals and techniques. Consult your cleaning chemical and equipment supplier for more information.

Health and Safety

Fosroc Nitoflor SL3000 UT should not come into contact with the skin and eyes, or be swallowed. Ensure adequate ventilation and avoid inhalation of vapours. 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 provides 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.

Storage, Mixing & Application

Fosroc Nitoflor SL3000 UT has a shelf life of 12 months (6 months for the Aggregate component) if stored off the ground in unopened packs in a covered dry store at 10 -30ºC. Storage outside this temperature range or repeated fluctuations in storage temperature can reduce the storage life. Protect from frost.

Fire

Fosroc Nitoflor SL3000 UT is non-flammable.

Limitations

Do not proceed with application if atmospheric relative humidity is, or is anticipated to be within the tack-free period, >90% or if the surface temperature is <3ºC above the dew point. Application should not commence when the substrate temperature or the ambient temperature is, or is anticipated to be, <10ºC during the application or within the tack-free period. The design strength of concrete surfaces must be a minimum of 25MPa compressive strength at 28 days.The manufacture

of Fosroc Nitoflor SL3000 UT is a batch process and despite close manufacturing tolerances, colour variation may occur between batches.Slip resistance can reduce over time due to poor maintenance, general wear or surface contaminants. Nitoflor SL3000 UT has a smooth finish so can be expected to become slippery when wet. Good housekeeping practices must be observed.Application can take place outside the ideal temperature range of 15 - 30ºC, subject to a minimum of 10ºC and a maximum of 34ºC, however the surface finish may be subject to e.g. trowel and/or spike roller marks.Fosroc Nitoflor SL3000 UT is not colour fast and may yellow over time. The rate of change will depend on UV light and heat levels and cannot be predicted. This will be more pronounced with lighter colours and blue shades and does not compromise the product's in-service performance or chemical resistance characteristics.

Note

The information contained in this document, and all further technical advice given, is based on our present knowledge and experience. However, it implies no liability or other legal responsibility on our part, including with regard to existing third party intellectual property rights, especially patent rights. In particular, no warranty, whether express or implied, or guarantee of product properties in the legal sense is intended or

implied. We reserve the right to make any changes according to technological progress or further developments. The customer is not released from the obligation to conduct careful inspection and testing of incoming goods. Performance of the product described herein should be verified by testing, which should be carried out only by qualified experts in the sole responsibility of a customer. Reference to trade names used by other companies is neither a recommendation, nor does it imply that similar products could not be used.

Whilst any information contained herein is true, accurate and represents our best knowledge and experience, no warranty is given or implied with any recommendations made by us, our representatives or distributors, as the conditions of use and the competence of any labour involved in the application are beyond our control.

Technical Advice

For further information on this or any other Fosroc product, please contact your local Fosroc office

Fosroc and Nitoflor are trademarks of Fosroc International Limited.

BERGER
Trusted Worldwide

Berger Fosroc Limited
Corporate Address:
'Berger House', House # 08, Road # 02, Sector # 03, Uttara Model Town, Dhaka 1230, Bangladesh.
telephone(Hunting) : +880248953665, **fax :** +880248951350,
e-mail : enquiry.bangladesh@bergerfosroc.com, **website** : www.bergerfosroc.com

FOSROC