Nitoflor SL3000 UT

constructive solutions

Flow applied medium to heavy duty cementitious polyurethane floor topping

Description

Nitoflor SL3000 UT is a medium-heavy duty, four component 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 & beverage production, dairy processing, pharmaceutical & engineering process areas, Automobile Units & Aircraft Hanger.

Appearance

Smooth matt finish.

Advantages

- Ease of application
- Non Taint
- Easy to clean
- Seamless
- Tough, high resistance to damage
- Availability of antimicrobial variant
- Food Grade
- Doesnt support spread of flame
- HACCP certified
- Resistant to High temperature

Thickness

3 – 7 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

Compressive strength, BS6319-2, 28 days, MPa	56
Tensile strength, BS6319-7, MPa	6.5
Flexural strength, BS6319-3, MPa	17.9
Dynamic elastic modulus (ASTM C597), MPa	6266
Flexural Modulus (ASTM C580), MPa	3295
Taber abrasion resistance (ASTM D4060) H22 wheels mg/1000 cycle CS17 wheels, mg/1000 cycle	 410 130
Water absorption % (ASTM C413)	0.06
Thermal Expansion Coefficient(deg C) (BS EN1770)	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	11.1
Slip Resistance (ASTM E303) Dry, S96 Wet, S96	 39 (slow slip risk) 25.5(moderate slip risk)
Reaction to Fire (BS476-7) Flame Spread Classification	Class 2
Cleanibility	Pass
Non-taint property(IS-8639, 24 hrs)	Pass
Service temperature 3mm Service temperarure 4mm Service temperature 5-6mm	-5°C to +60°C -5°C to +70°C -10°C to +95°C
Ideal appliation temperature range, °C	15-30

Note: 1. 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 has a smooth finish so can be expected to become slippery when wet. Good housekeeping practices must be observed. For wet areas, please refer TDS of Nitoflor RT6000 UT.

Service temperature of 3mm thick layer of Nitoflor SL3000UT will be between -5 deg C to 60 deg C without thermal shock.

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 four-component product. A forced-action rotary paddle mixer is recommended for mixing the product. Drain the contents of the liquid base and Nitoflor UT colourpot and mix briefly. Add the hardener component to the above and mix for a minute. Load the aggregate component whist mixing, and continue mixing for at least 1-2 minutes, until a lumpfree 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 & 20.45 kg packs

Comprises :

Nitoflor SL3000 UT Part A	3 kg
Nitoflor SL 3000 UT Part B	3 kg
Nitoflor SL 3000 UT Filler	14.05 kg
Nitoflor UT Color Pot	0.2kg & 0.4kg packs

Coverage

Nitoflor SL3000 UT Coverage appropriate to (primer/ scratch coat) texture and porosity of floor Nominal 10 m^2/ pack).

Pack size 20.25 kg pack Yield : 10.49 Ltr	
Thickness	Coverage in sq.m/pack
2mm	5.25
3mm	3.50
4mm	2.62
5mm	2.10

Pack size 20.45kg pack Yield : 10.60 Ltr	
Thickness	Coverage in sq.m/pack
2mm	5.30
3mm	3.53
4mm	2.65
5mm	2.12

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

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.

Nitoflor SL3000UT is sensitive to thermal shock, in case of 2-3mm topping over 1mm scratch coat. Proper precautions to be adopted for sustainable services life. This is due to inherent chemical reaction of the components. In isolated cases, the final cured floor may exhibit slight colour variation where Grey & Blue coloured pigments are used. This is due to in herent chemical reaction of the components which usually disappears with the usage of the floor and does not affect performance of Nitoflor UT systems in any way.

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Technical Advice

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

Important note :

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