

## Flow applied, antistatic medium duty polyurethane floor topping

### Description

Nitoflor SL3000 UT ESD is a medium duty, flow applied polyurethane floor topping system designed with the highest order of durability to resist abrasion, chemical attack and other physical aggression, and is suitable for use where a antistatic floor is required as a measure to control static electricity. Refer to Typical Properties for resistivity property and consult Fosroc for further advice as appropriate.

Typical application areas include electronics manufacture and assembly rooms, computer rooms and clean rooms.

### Appearance

Smooth matt finish.

### Advantages

- Ease of application
- Easy to clean
- Non tainting
- Seamless
- High abrasion resistance
- Static control - provides an effective passage to earth

### Thickness

4 – 5 mm

### Chemical Resistance

Nitoflor SL3000 UT ESD is resistant to a wide range of chemicals such as inorganic acids, fuels, hydraulic oils, mineral oils and solvents. 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 affect the product service integrity or durability.

### Substrates

Concrete, polymer modified screeds, grano concrete.

### Typical Properties

Compressive strength, N/mm <sup>2</sup> ASTM C109, 28 days,	>45
Bond strength , N/mm <sup>2</sup> (ASTM D4541	>1.5

Flexural strength , N/mm <sup>2</sup> (BS 6319)	> 12
Tensile Strength, BS6319-7, N/mm <sup>2</sup>	> 4
Density (ASTM D792), kg/ m <sup>3</sup>	1950 - 2000
Surface to earth resistance (ASTM F150)Nitoflor SL3000 UT ESD	< 1 x 10 <sup>6</sup> Ohms

### Cure Schedule at 30°C

Working life of full packs: Nitoflor SL3000 UT ESD	: 15 - 20 minutes
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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

#### Surface preparation

Inadequate preparation will lead to loss of adhesion and failure. In coatings or 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, bay joints, up-stands, drains, doorways and at regular points across the floor, and all debris removed.

New concrete or cementitious substrates should have been placed atleast 28 days earlier and have a moisture content of less than 5% before topping with Nitoflor SL 3000 UT ESD. This can be checked by using a Thermo Hygrometer. With non-self supporting concrete floors transfer of moisture from the soil might occur, resulting in adhesion failures of the flooring system.

The long term durability of the applied Nitoflor SL3000 UT ESD is dependent upon the adhesive bond achieved between the floor-

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ing material and substrate. It is most important therefore, that substrate surfaces are correctly prepared prior to application.

All substrates should be sound and free from contamination such as mortar and paint splashes, curing compound residue, oil or grease. Excessive laitance should be removed by light mechanical scrubbing, grinding or grit blasting.

Oil and grease contamination must be completely removed by grinding down to sound, clean concrete. Alternatively, blasting techniques can be used to provide the required substrate.

Old concrete floors with deep seated contamination and substrate damage must be prepared by any of the mechanical methods as previously described. Major discrepancies in the substrate should be repaired with Nitomortar S\*.

Where these methods are considered impracticable, alternative methods may be considered, but it is essential that a sound, clean substrate be provided. For further advice, Fosroc may be consulted.

## Priming

Prepared substrates to be treated with Nitoflor SL 3000 UT ESD system, should be primed with Nitoprime 25\*. Nitoprime 25 should be mixed in the proportions supplied by adding the entire contents of hardener can to the base can. Once mixed the Nitoprime 25 primer, should be immediately applied in a thin, continuous film using stiff brushes or rollers. Over application and puddles should be avoided.

Porous floors may require two coats of Nitoprime 25.

## Earthing Connections

Earthing connections ( where needed) should be placed at appropriate locations in consultation with Fosroc.

## Mixing undercoat

Proper mixing of the undercoat components is essential. Both the base and hardener shall be mixed in a mixing vessel.

Solvents should not be added. It is important that all components are intermixed thoroughly with a forced - action mixer or with a heavy duty slow speed drilling machine attached with a mixing paddle so that no traces of the components remain unmixed.

## Applying undercoat

The mixed Nitoflor SL Conductive undercoat shall be applied with a roller or brush on the primer at a material consumption rate of 6.3 - 7.3 m<sup>2</sup>/litre for Nitoflor SL 3000 UT ESD. Care should be taken to avoid over application or puddles. The undercoat provides a passage to earth and correct application and strict adherence to coverage rates are critical to the final electrical properties of the completed floor.

For undercoat curing to be complete, adequate ventilation and

air movement are necessary. Thorough covering of earthing connections is essential. The conductivity of the undercoat needs to be measured before applying the Top coat. The surface resistance should be in the range of approx.  $3 \times 10^3 - 9 \times 10^3$  Ohm.

## Application Instructions

### Application of Nitoflor SL3000 UT ESD

Fosroc Nitoflor SL3000 UT ESD 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 liquid hardener components into a large plastic container and mix for a minute. Add the Fosroc Antistatic Additive to the mixed base and hardener step by step and continue mixing for at least 1 minute. Load the coloured aggregate component whilst mixing and continue mixing for atleast 1 minute, until a 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

Nitoprime 25 – 1 and 4 liter packs

Nitoflor SL3000 UT ESD 20.265 kg packs

Consists of Nitoflor SL 3000 UT (20.25 Kgs) and  
Fosroc Antistatic additive (0.015 kgs)

Total pack size 20.265 kgs

Nitoflor SL Conductive undercoat 2.4 litre pack

## Coverage

Nitoprime 25 - 5.5 - 6.5 m<sup>2</sup>/liter

Nitoflor SL3000 UT ESD 2.5 m<sup>2</sup>/pack at 4 mm  
2.0 m<sup>2</sup>/pack at 5 mm

Nitoflor SL Conductive undercoat 15.12 - 17.50 m<sup>2</sup>/pack

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.



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## Cleaning

Regular cleaning is essential to maintain and enhance the life expectancy, slip resistance and appearance of the floor. Fosroc Nitoflor SL3000 UT ESD 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 ESD 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 ESD 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 -30°C. Storage outside this temperature range or repeated fluctuations in storage temperature can reduce the storage life. Protect from frost.

## Fire

Fosroc Nitoflor SL3000 UT ESD 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 <3°C above the dew point. Application should not commence when the substrate temperature or the ambient temperature is, or is anticipated to be, <10°C during the application or within the tack-free period. The design strength of concrete surfaces must be a minimum of 25 MPa compressive strength at 28 days. The manufacture of Fosroc Nitoflor SL3000 UT ESD 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 ESD 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 - 30°C, subject to a minimum of 10°C and a maximum of 34°C, however the surface finish may be subject to e.g. trowel and/or spike roller marks. Fosroc Nitoflor SL3000 UT ESD 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

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## Technical Advice

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

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