

Nitoflor® LH Protect

High performance lithium based hardener, with advanced anti-staining technology

Uses

Nitoflor LH Protect liquid floor hardener is used for surface hardening of new and old concrete to prevent dust generation and to reduce wear. This is particularly recommended in areas where stain resistance is the main criteria.

Typical areas of application include parking facilities, maintenance areas, decorative pavers, service bays, manufacturing areas on concrete, masonry and stone surfaces

Advantages

- **Oil Repellent** system protects against staining from greases, hydraulic fluids, fuels, oils and fatty materials
- **Water Repellent** treatment protects surface from moisture, water borne pollution, dirt and growth of micro-organisms (moss, lichens)
- **Graffiti Barrier** that makes removal of commonly used graffiti materials easier.
- **Penetrates** surface for long-term protection; does not leave a film or coating.
- **Invisible protection** without changing the appearance of the treated surface
- **Breathable** allows surface to breathe after application
- **Super easy** cleaning and maintenance

Description

Nitoflor LH Protect liquid floor hardener is a lithium silicate based system which when applied on concrete surfaces penetrates into the micro channels and seals against water and chemical attack and improves abrasion resistance.

Technical support

Fosroc offers a comprehensive range of floor toppings and coatings. In addition, Fosroc offers technical support service to specifiers, end users and contractors, as well as on-site technical assistance in locations all over the country.

Properties

Treated and Untreated Areas Shown being tested against Automotive Grade Antifreeze, Transmission Fluid and Aircraft Engine Oil



Test Areas Shown After Cleaning

Stain Resistance

Smooth-troweled concrete treatment first with Nitoflor LH liquid floor hardener and then with Nitoflor LH Protect was tested for resistance to various substances including oils and fatty compounds. These compounds were checked at regular intervals upto 24 hours to determine the amount of penetration / staining after cleaning with a non-abrasive, neutral pH cleaner. After cleaning, the stain was evaluated according to the following scale with 0 indicating no change in the appearance of the stain and 10 indicating the stain was completely removed.

0 - No change in stain, very visible

5 - Stain lighter, but still very visible

10 - Stain completely removed, no visible signs remaining

	2 hrs.	8 hrs.	24 hrs.
Cooking Oil	10	10	8
Motor Oil	10	10	8
Hydraulic Oil	10	10	8
Mobil Jet Oil	10	8	6
Skydrol	10	8	6
Red Wine*	5	5	5
Printers Ink*	7	7	7

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* The Red wine and the Printers Ink dried quickly. The ink spots could then be scraped from the surface with little effort. The Red wine left a distinct shadow.

Penetration

The wetting agents in Nitoflor LH Protect floor hardener assist penetration to considerable depth, unlike some treatments which merely form a superficial skin having a limited life.

Durability

The depth of hardness obtained by Nitoflor LH Protect floor hardener lasts for the life of the floor and re-treatment is not required unless that depth of surface concrete is physically removed.

Anti-dust

The main source of dust, from otherwise sound concrete floors, is the liberation of free lime which has not been converted fully in the hydration process. By converting this free lime into a hard crystalline material, this source of dust is eliminated. At the same time, the resistance of the concrete surface to penetration of oil and grease is considerably increased.

Specification Clauses

Supplier specification

The surface hardening of new and old concrete (specify details and areas of application) must be carried out using Nitoflor LH Protect liquid floor hardener marketed by Fosroc, applied strictly in accordance with the technical datasheets.

Application instructions

Preparation

The substrate shall be thoroughly cleaned of all foreign materials such as bond breakers, curing agents, form release oils, dust, construction laitance by light mechanical grinding if required. Clean the surface with a high pH detergent and wash thoroughly. The surface shall be saturated with water and later excess water has to be removed.

Application

Thoroughly clean the substrate so it is free from all foreign materials such as bond breakers, curing agents, form release oils, dust, construction laitance etc. Allow the surface to dry before proceeding.

Mix, shake or stir the material thoroughly before applying. Use a low-pressure sprayer to apply Nitoflor LH Protect, applying enough material to ensure complete saturation of the surface.

Distribute the Nitoflor LH Protect evenly using a fine, soft bristlebroom or lambs-wool applicator,.

Keep the surface **wet** with Nitoflor LH Protect for about 10 minutes (adding more product, if necessary). Do not allow puddles.

Once the surface has begun to dry and the surface is no longer wet with product, apply a second, light application of Nitoflor LH Protect, enough to thoroughly re-wet the surface. Distribute evenly as described above. Let the surface dry completely.

Sealing / overcoating / striping

Concrete floors treated with Nitoflor LH Protect liquid floor hardener can be sealed /overcoated with Nitoflor epoxy floor coatings after 24 hours. The treated surface can also be painted for striping as there will be no chemical incompatibility between Nitoflor LH Protect liquid floor hardener treated surface and these paints.

Final results

Maximum performance may take upto 14 days to develop, depending on temperature. Heat will accelerate performance.

Maintenance

Oils, fuels lubricants, fats, grease etc. must be removed from surface in a timely manner to prevent staining.

Estimating

Packaging

Nitoflor LH Protect liquid floor hardener is supplied in 20 & 200Ltr containers.



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Coverage

Steel Trowelled concrete surface	-	12-15 m ² /ltr
Broom finished concrete surface	-	5-10 m ² /ltr
Paver blocks	-	5-10 m ² /ltr

Storage

Shelf life

12 months if stored in a cool dry place in unopened packages.

Precautions

Health & Safety instructions

Nitoflor LH Protect liquid floor hardener is non flammable, non toxic water based formulation. It contains no solvents, or harmful levels of VOCs. It is not carcinogenic or mutagenic and may be used in food preparation areas. Nitoflor LH Protect is odorless during and after application and also allows concrete to breathe.

Fire

Nitoflor LH Protect is non-flammable.

Limitations

Nitoflor LH Protect is designed to provide a window of opportunity for cleaning and maintenance. Many chemicals **will** stain a surface treated with Nitoflor LH Protect if not removed promptly. Oils, fuels, lubricants, fats, grease, etc. must be removed from the surface in a timely manner to prevent staining. Clean the surface regularly with non-abrasive, neutral detergents. Avoid using citrus based or acidic cleaners. Anticipated performance period of 3-5 years, but possibly less in harsh or abrasive environments.

Additional information

Technical data and guidance can be provided on a wide range of concrete admixtures, concreting aids, waterproofing and other materials including floor sealers/toppings, repair systems and industrial machinery grouts.

Separate datasheets are available on these products.

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