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NANTEN SL BIO ESD

Product description

2-component, self-leveling, low-emission epoxy coating system for concrete floors, providing protection against electrostatic discharge.
- Electrically conductive, including personal charge (Vb)
- Meets the requirements of IEC EN 61340-5-1 and IEC EN 61340-6-1 standards for conductive flooring

Applications

- Areas subject to heavy and medium-duty wear
- Hospitals
- Laboratories
- Electronics assembly areas
- Warehouses
- Logistics centers
- Premises requiring electrostatic discharge protection, where good indoor air quality and long service life of floors are essential

Instructions

Base requirements and coating conditions

The concrete strength class must be at least C25/30 with a wear resistance class of 3. The relative humidity of the concrete must be below 95%, and the surface temperature must be at least +3°C above the dew point. During application and curing, the temperature of the air, surface, and coating must remain above +15°C, and the relative humidity of the air must be below 80%. Always ensure the suitability of the coating for the intended substrate.

New concrete floor

Cement laitance and any uncured cement must be removed by surface grinding or shot blasting. All loose and adhesion-reducing material must be removed, and the surface must be thoroughly vacuumed to remove all cement dust.

Old concrete floor

Cement laitance and deteriorated concrete must be removed by grinding or shot blasting. All loose and adhesion-reducing material must be removed, and the surface must be thoroughly vacuumed. Dirty floors should be washed and rinsed with a synthetic detergent before any further surface preparation. Any existing old paint film must be completely removed from the substrate.

Patching

Small holes and cracks must be cleaned and filled with an epoxy filler prepared from Nanten HM Bio Low VOC and fine filler sand. Larger and more extensive leveling or overfilling can be done using a

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filling/leveling compound made from Nanten SL Bio Low VOC and filler sand (grain size e.g. 0.1–0.6 mm).

Priming treatment 1

Priming is carried out using undiluted Nanten HM Bio Low VOC. The primer must seal all pores in the concrete to form a dense and continuous film on the surface. Pre-mix Part A and Part B of the primer in their own containers. Combine the components in a mixing container and mix with a low-speed mixer for approximately two minutes, avoiding air entrainment. Once the primer has cured, grounding shall be carried out according to the plan using copper tapes or Nanten grounding kits. The actual conductive priming treatment (2) is carried out using Nanten ESD Primer in accordance with the instructions.

Priming treatment 2

Conductive priming layer using Nanten ESD Primer. Pre-mix Part A and Part B of the ESD Primer in their own containers. Combine the components in a mixing container and mix with a low-speed mixer for approximately two minutes, avoiding air entrainment.
Apply at a minimum of 0.35 l/m^2 to ensure proper conductivity. Pour the mixed compound onto the floor in a continuous bead and spread with a roller. The primer layer must be uniform in thickness.

Mixing of components

Pre-mix Part A and Part B of SL Bio ESD in their own containers. Estimate the required amount of mixture based on the size of the area and the working time. Combine the components in the correct ratio and mix with a low-speed mixer for approximately two minutes, avoiding air entrainment. Ensure that material on the sides and bottom of the container is thoroughly mixed.

Mixing ratio

Part A: 3 parts by volume
Part B: 1 part by volume

Coating

If the primer has cured for more than two days, the surface must be roughened by sanding and sanding residues removed. The mixed compound is poured onto the floor in a puddle or continuous bead and spread with a smoothing trowel to the desired thickness. As work progresses, the surface is back-rolled with a metal spiked roller to remove air bubbles.
Note: Inadequate mixing of the epoxy coating may result in uneven curing, and an incorrect mixing ratio may prevent the material from curing at all. Do not scrape and apply material from the sides of the mixing container onto the floor. Carefully use the metal spiked roller to achieve an even surface finish.

Floor maintenance

For products classified as M1, cleaning is recommended using only water or a detergent that does not contain solvents.

Waste handling

Storage and handling of waste
See the separate storage and disposal instructions https://www.fescon.fi/en/material-bank

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Technical information

Colour	Light grey, mid grey, and dark grey
Painting supplies group (paintingRYL2012)	Material group 661, 662, stress class 04, 06
Gloss group	Glossy
Package size	Part A: 15 l in a metal container, Part B: 5 l in a plastic container
Storage	+5°C to +25°C, shelf life up to 6 months. Must be stored in a warm location in tightly sealed original containers.
Solid volume	Approx. 100 vol.%
Usage temperature	+15°C…+25°C
Usage time	At +20°C, poured onto the floor: approx. 20–30 minutes. Working time decreases as temperature rises.
Drying time	Touch-dry in 6 h (+25°C) and 12 h (+15°C). Resists light traffic after approx. 12 h (+25°C) and approx. 24 h (+15°C). Fully cured in 7 days (+20°C).
Mixing ratio	Part A: 3 parts by volume, Part B: 1 part by volume
Reaction to fire	Cfl-s1
Thinner	Must not be diluted (solvent-free M1-rated product). Dilution increases emissions.
Method of application	Apply with a smoothing trowel or notched steel trowel. Finish with a metal spiked roller.
VOC content	< 10 g/lPermitted maximum content 500 g/l (Cat. A/j, 2004/42/EC)
GWP A1 raw material	3,46
GWP A2 transport	0,188
GWP A3 manufacturing	0,588
GWP A1-A3	4,24
GWP A4 transport	0,0317
GWP A5 assembly	0,101
GWP unit	kg CO2e/kg
Method for calculating the GWB value	EPD

Remember to consult the Maintenance Instructions for Coated Floors and the product Safety Data Sheet on our website at www.fescon.fi, or request a copy by calling +358 9 274 7970. Although the technical details provided in this product description are based on our best knowledge and experience, the information above should always be regarded as indicative. The user is responsible for verifying the suitability of the product for the intended application. If

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the instructions are not followed, the user assumes full responsibility for any resulting damage or consequences. Limitation of liability, product use notes and restrictions: Please familiarize yourself with Fescon Oy's general terms of delivery and the design and work instructions related to the product.