



ESC FINITURA

Top coat for static-dissipative and conductive floors

CE marking:

- EN 13813 - Designation: SR-B2.0-AR0.5-IR10-ER3 = 250 kOhm

Certifications:

- EN 13501-1 - Class: Bfl-s1



TECHNICAL SPECIFICATIONS



FIELD OF APPLICATION

APPLICATIONS

Description

ESC FINITURA is the top layer of the special ESC epoxy resin coating system used to create floors with special electrical properties:

- anti-static/dissipative: vertical and superficial electrical resistance below 1 GOhm (conforming to the requirements of the IEC EN 61340-5-1 standard "Protection of electronic devices from electrostatic phenomena - General requirements");
- conductive: vertical and superficial electrical resistance not exceeding 1 MOhm (conforming to "Class I" requirements (EN 1504-2) "Floors of environments in which explosive substances are handled").

ESC FINITURA is a bi-component product made up of:

- component A: a mixture of liquid epoxy pre-polymers and conductive fillers;
- component B: co-polymerisation amine.

On the whole, the ESC package is made up of:

- dissipative mat to be applied before the resin: SELF-ADHESIVE COPPER TAPE;
- base coat: ESC FONDO (see Technical Sheet);
- top coat: ESC FINITURA
- cleaning detergent with anti-static and dissipative properties: ESC CLEANER (see Technical Sheet).
- protective wax with anti-static and dissipative properties: ESC WAX (see Technical Sheet).

CE marking

The ESC package (of which ESC FINITURA is part) complies with the principles envisaged in the EN 13813 standard ("Screed material and floor screeds - Screed materials: Properties and requirements") with the following designation:

- SR – B2.0 – AR0.5 – IR10 – Bfl-s1 – ER3 250 kOhm
- Synthetic resin screed (SR).
- Bond strength: 2.4 ± 0.1 MPa (B2.0).
- BCA wear resistance:
- Impact resistance: 10 Nm (IR10).
- Fire reaction: Class Bfl-s1.
- Electrical resistance (superficial) R3: 250 kOhm (ER3 250 kOhm).

Colour

The product is available in a limited range of colours (consult the "Colour catalogue") due to the presence of dark-coloured functional fibres.

Colours can also be made on request.

Contact the Nord Resine Technical Service.

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Field of application

ESC FINITURA constitutes the finishing layer (conductive) of the ESC package (epoxy system for creating high-performance coatings and floors in EPAs – Electrostatic Protected Areas).

The ESC package of which ESC FINITURA is part is used for floors made of:

- electronics industries (assembly and production of semi-conductors);
- operating theatres;
- environments with risk of explosion;
- assembly plants and automated warehouses;
- calculation and data processing centres (DPC).

Advantages

The ESC package, of which ESC FINITURA is the finishing layer, allows for creating:

- floors with similar electric characteristics (if not superior) to those of prefabricated PVC systems with the typical mechanical properties of epoxy floors;
- ultra low-thickness electro-conductive coatings;
- easily sanitisable continuous coverings (without gaps).

Specific preparation of the laying support

ESC FINITURA must be applied only on surfaces previously treated with ESC FONDO (see Technical Sheet).

Preparing the product

- Thoroughly mix Comp. A with a mechanical low-speed professional mixer.
- Pour ESC FINITURA (B) into the container of comp. A.
- Mix A+B thoroughly with a mechanical low-speed professional mixer.
- Any form of manual mixing (with a trowel, beaters, etc.) must be excluded.
- If the package is used partially, use a scale to weigh the two components according to the quantities specified on the label under the section "Mixing ratio (by weight)".

Application of the product

► Application of ESC FINITURA

- on ESC FONDO applied the day before, apply the first coat of ESC FINITURA using a SMOOTH TROWEL;
- wet on wet, uniform the product with a SHORT-BRISTLE ROLLER and eliminate the air with a spiked roller;
- at the end of the rolling process, the consumption of ESC FINITURA must be around 0.25 kg/m²;
- wait until the following day to apply the second coat of ESC FINITURA;
- apply a second coat, USING A FLOAT, of ESC FINITURA;
- wet on wet, uniform the product with a SHORT-BRISTLE ROLLER and eliminate the air with a spiked roller;
- at the end of the rolling process, the consumption of ESC FINITURA must be around 0.25 kg/m².

NOTE: pay special attention to the rolling uniformity with the short-bristle roller + spiked roller.

The final electrical conductivity depends on these operations.

► Finish with ESC WAX

- Prepare the surface of ESC FINITURA as described in the Technical Sheet of ESC WAX (see).
- Shake ESC WAX well before use.
- On the dry floor, apply 2 thin coats of ESC WAX, waiting at least 1 hour between the coats.
- Rapidly apply ESC WAX without insisting too many times on the same point, to avoid creating streaks.
- Mean consumption: 20–40 g/m² equal to a coverage of roughly 25–50 m²/l.
- The drying time is 1 hour between successive coats, 6 hours for light traffic and 12 hours for heavy traffic.

Consumption

type of application	minimum consumption	maximum consumption	UoM	dilution
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on ESC FONDO, two coats using a smooth trowel + roller

	0,50	0,50	kg/m ²	-
> Thickness = (0.40 ± 0.05) mm with a consumption of 0.50 kg/m ² of ESC FINITURA (A+B).				

Cleaning of tools

- Wet product: clean with ACETONE or nitro thinner.
- Hardened product: remove mechanically, soak for at least 24 hours in ACETONE or nitro thinner, or use paint strippers (FLUID STRIPPER or GEL STRIPPER) or a thermal gun.

Useful application tips

- Store the product in a cool location during summer and in a warm one during winter: this allows for preserving good fluidity at low temperatures and limiting the product's reactivity to high temperatures.
 - If the package is used partially, it is indispensable to weigh the single components by reading the exact "MIXING RATIO" (by weight) on the package.
 - Pay special attention to the rolling uniformity of the short-bristle roller + spiked roller.
- The final electrical conductivity depends on these operations.
- Read the Safety Sheet carefully before using the product.

Maintenance

► Routine maintenance

ESC floors treated with ESC WAX can be subjected to periodic maintenance to restore their original appearance. To this aim, consult the Technical Sheet of ESC WAX under "Maintenance".

► Extraordinary maintenance

Floors made with the ESC cycle withstand forklift truck traffic or intense pedestrian traffic.

However, the use of forklift trucks with hard wheels (Vulkollan) can cause (if not properly adjusted) skidding capable of opacifying the surface.

This phenomenon does not normally pose any functional problem (that is, it does not affect the electrical resistivity value), but can be a problem from an aesthetic perspective.

If necessary, contact the Nord Resine Technical Service for further details on the ESC floor refurbishment cycle.

Technical data

► PRODUCT IDENTIFICATION DATA	UoM	value
Density at 23°C (A+B mix), EN ISO 2811-1	kg/L	1,200 ± 0,005
Colour (Component A)	-	Characteristic of the shade
Colour (Component B)	-	Straw yellow
Odour (Component A)	-	Characteristic
Odour (Component B)	-	Ammoniacal
► APPLICATION DATA AND FINAL PERFORMANCES	UoM	Value
Mix ratio by weight (A:B)	-	2,2 : 1,0
Pot-life (thermometric), EN ISO 9514	min	27 ± 5
Application temperature	°C	from +12 to +35
Surface drying time (23°C, 50% R.H.), EN ISO 9117-3	hours	10 ± 1
Minimum commissioning time (at 23°C, 50% R.H.)	days	7
Shore D hardness, A+B, curing for 72 hours at +25°C/70% R.H., DIN 53505	-	78 ± 1
► TECHNICAL DATA IN CONFORMITY TO EN 13813 (ESC FONDO + ESC FINITURA package)	UoM	value
Bond strength, EN 13892-8	MPa	2,4 ± 0,1
BCA wear resistance, depth of wear, EN 13892-4	µm	< 50
Impact resistance (class), measured on specimens of concrete coated with MC (0.40) as per	N•m	10 ± 1

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► TECHNICAL DATA IN CONFORMITY TO EN 13813 (ESC FONDO + ESC FINITURA package)	UoM	value
EN 1766, EN ISO 6272-1		
Fire reaction (Euroclass), EN 13501-1	-	Bfl – s1
Vertical electrical resistivity R1, EN 1081	kOhm	250 ± 100
Surface electrical resistivity R3, EN 1081	kOhm	250 ± 100

Storage of the product

- 24 months in the closed original packaging, in a dry and covered place away from direct sunlight, at a temperature between +5°C and +30°C.

Packages

VARIANT	PACKAGE	ADR	PACKAGES PER PALLET	COMPONENTS
RAL 7040	kit (A+B) da 6,4 kg	P*	-	A = 4,4 kg (fustino met.) B = 2,0 kg (tanica)
RAL 7040	(A+B) da 12,8 kg	YES		A = 8,8 kg (fustino met.) B = 4,0 kg (tanica)

Legenda ADR:

P* = merce PERICOLOSA imballata in quantità limitata (confezionata come da Cap. 3.4 ADR)

SI' = merce PERICOLOSA

LEGAL NOTES

Advice on how to use our products corresponds to the current state of our knowledge and does not involve the assumption of any guarantee and / or responsibility for the final result of the work. They do not refore exempt the customer from the responsibility of verifying the suitability of the products for the use and the prefixed purposes through preventive tests. The website www.nordresine.com contains the latest revision of this datasheet.

EDITION

Issue date: 07.01.2004

Revision: 14.12.2018