

# NORPHEN 200 HCR

## Epoxy Floor Coating

### Description

NORPHEN 200 HCR is a two component coating used for the realization of concrete floors.

The product consists of:

- Component A: mixture of liquid epoxy prepolymers, pigments, additives and special fillers;
- Component B: copolymerization amine.

When fully cured the material exhibits general excellent chemical resistance and remarkable hardness and abrasion resistance properties while maintaining good flexibility.

NORPHEN 200 HCR forms an impermeable, shiny film, easy to clean, especially suitable for interiors with special hygiene, easy cleaning and high chemical resistance requirements.

The product is available also in its "WINE RESISTANT" version specifically designed for applications to be carried out on wineries floorings.

The product is available in various colours.

### Where to Use

NORPHEN 200 HCR is used as:

- ultimate coating with thicknesses from 200 to 1000 microns;
- finish coating of epoxy multilayer systems.

### Application

#### 1) Application as ultimate coating

#### Substrate Preparation

Carefully check the substrate to make sure it is a suitable and structurally sound base; the kind of treatment to be performed shall be chosen depending on the actual state of the area:

- hot water pressure washing;
- washing by means of acids;
- sanding;
- diamond grinding;
- scarification;
- sandblasting.

In this way dust, dirt, grease, oil, old adhesive or paint, laitance, rust, mildew and other extraneous materials will be removed.

Depressions and inconsistencies of the floor scheduled to receive the coating must be compensated with MALTA RAPIDA when thicknesses are greater than 3 mm, or NORPHEN FONDO SL appropriately loaded with quartz sands of various particle size, for thickness below 3 mm.

#### Specific preparation:

- on dry substrates apply a coat of primer consisting of NORPHEN 200 HCR (coverage: 100-120 g/m<sup>2</sup>) diluted with 20% by weight (on A+B) SOLVENTE PER NORPHEN (coverage: 20-25 g/m<sup>2</sup>);
- in the absence of a vapour barrier on the sub-floor, apply W3 (1.5 kg/m<sup>2</sup>) reinforced with a glass mesh.

#### Product Application:

- proceed with by laying NORPHEN 200 HCR with a short haired roller for 25 cm solvents in two coats spaced 24 hours apart from each other;
- NORPHEN 200 HCR can be loaded with flour or less of quartz flour or corundum for greater abrasion resistance;
- moreover it is possible to carry out special finishes with FLAKES or glitters: in this case a coat of clear finish shall be applied with NORDPUR ESTERNI TRASPARENTE.

#### 2) Application as a finish coat

Whenever NORPHEN 200 HCR is used as a finish for other epoxy systems (like for instance STRATOFLEX):

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- perform the entire working cycle as scheduled for STRATOFLEX;
- sand and remove dust from the area if broadcast with aggregates has been previously performed;
- apply NORPHEN 200 HCR with a steel or rubber trowel, depending on the final required grip.

### Product Preparation

Pour NORPHEN 200 HCR component B into component A and mix thoroughly with drill and impeller.

### Minimum Coverage:

- as an ultimate coating: 0.35 kg/m<sup>2</sup>;
- as a finish without broadcasting of aggregates: 0.2 kg/m<sup>2</sup>;
- as a finish over a 0,3-0,8 mm broadcast area: 0.5 to 1.0 kg/m<sup>2</sup>;
- as a finishing over 0.7÷1.2 mm broadcast area: 0.7 to 1.2 kg/m<sup>2</sup>.

### Cleaning of Tools

Use acetone or nitro diluent before hardening. The cured product should be removed mechanically.

### Coverage

To achieve a coating with a thickness of about 1 mm, 1.35 kg/m<sup>2</sup> of product (A+B) must be applied.

### Colour

This product is available in a wide range of colors (see the "Color List"). Colors are made at the specific request.

### Warnings and Special Instructions

- Adding solvents to NORPHEN 200 HCR can reduce chemical resistance, final brightness and mechanical strength.
- Apply further layers the following day, after a maximum of 48 hours.
- In cold weather, the viscosity increases, making the application difficult to be carried out with a roller: bring the product in warm place before proceeding.
- The system's reaction speed is affected by temperature: cold decreases it until it stops completely. During the hot period of the year, keep the product containers in a cool place. In warmer weather, keep the containers in a cool place.
- Mix NORPHEN 200 HCR components A and B according to the exact ratio as written on the packaging; in case of partial usage, a scale shall be available to weigh the content.
- Use NORPHEN SOLVENTE to clean your tools.
- Warning: the hardened product can only be removed by flame or >200°C hot air.
- Please carefully read the Material Safety Data Sheet (MSDS).

### Specifications

PRODUCT APPLICATION DATA (at 23°C and 50% RH)		
Bulk Density, UNI 8310	g/cm <sup>3</sup>	1.30 ± 0.05
Pot-Life, UNI EN ISO 9514	min	35 ± 5
Surface drying time, UNI 8904	hours	8 ± 1
Minimum curing time	days	> 7
Application Temperature	°C	from +8 to +35
Ratio A : B		
- NORPHEN 200 HCR	---	2.1 : 1.0
- WINE RESISTANT version		2 : 1
FINAL PERFORMANCE		
Hardness (Shore D) ASTM D 2240	---	> 70

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Abrasion resistance, UNI 8298 / 9	mg	< 120
Maximum load in tension (film), ISO 527	MPa	92 ± 15
Ultimate flexural strength (film), ISO 178	MPa	61 ± 10
Compression load, UNI 4279	MPa	75 ± 15
Tensile elongation at break (film), ISO 527	%	1.6 ± 0.5
UV Resistance and Condensate, ASTM D 4329	Exposure 168 hours	ΔE Δ gloss
Adhesion to concrete, ASTM D 4541	pull-off test	MPa
Class of reaction to fire, DM 26/06/1984 New Update DM 03/09/2001		---
determination of surface gloss, UNI EN ISO 2813	60 ° Gloss	---
		100

Note: testing methods are in accordance with the standards referred to on the table.

### Chemical resistances, UNI EN ISO 2812-1 (method 2)

hydrochloric acid 30% in water	4
10% sulfuric acid in water	4
phosphoric acid 20% in water	4
acetic acid 30% in water	1
ammonia 15% in water	5
soda (sodium hydroxide) 30% in water	5
3.5% hydrogen peroxide (12 volumes)	5
mixture of acetic acid (1%) and hydrogen peroxide (0.5%) in water	5
ethyl acetate	2
denatured ethyl alcohol	3
technical acetone	2

(1 = product disintegration, 5 = no alteration; (for the full range see [Appendix A](#))

### Packaging and Storage

NORPHEN 200 HCR is available in a 11.8 kg (A+B) packaging.

In its WINE RESISTANT version is available in a 11.8 kg (A+B) packaging.

Store in a covered place, at room temperature between +5 and +30°C.

### Legal notice

Tips on how to use our products match the current state of our knowledge and do not imply any assumption of responsibility or/and liability for the final result of works. Therefore, customers are not exempt from the responsibility to verify the suitability of products for use and final aims through preliminary tests. The website [www.nordresine.com](http://www.nordresine.com) contains the latest revision of this datasheet.

### Edition

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