



PU BASE

Bi-component liquid waterproofing membrane for continuous contact and immersion

CE marking:

- EN 1504-2 (C) - Principles: MC-IR

Certifications:

- UNI CEN/TS 14416 - Root inhibitor (DERADIX version)



TECHNICAL SPECIFICATIONS



FIELD OF APPLICATION

APPLICATIONS



Description

PU BASE is a dense bi-component waterproofing system featuring an optional root inhibitor additive to be added to the product upon use.

PU BASE is made up of:

- Component A: a mixture of functionalised pre-polymers with high molecular weight, additives, pigments and fillers.
- Component B: a mixture of co-polymerisation polyamines.

DERADIX for PU BASE is the root-inhibitor additive to be used for waterproofing planters, roof gardens and water/soil containment tanks in general.

Thanks to its properties, PU BASE features and retains excellent waterproofing properties, elasticity, hardness and durability for a long time.

Applied with a trowel, roller or block brush on any surface, after curing, PU BASE forms a coloured waterproof membrane suitable for waterproofing surfaces in continuous contact with:

- Stagnant water.
- Continuously moving water (also suitable for water containing abrasive substances).
- Constantly damp terrains.

CE marking

PU BASE fulfils the principles defined in the EN 1504-9 standard ("Products and systems for the protection and repair of concrete structures: definitions, requirements, quality control and evaluation of conformity. General principles for use of products and systems") and to the requirements of the EN 1504-2 standard ("Protection systems for concrete surfaces") for the following class:

→ MC-IR

- For Principle 2 (MC) - Humidity control: 2.2 Coating (C), ZA.1e.
- For Principle 8 (IR) - Resistance increase through the limitation of the humidity content: 8.2 Coating (C), ZA.1e.

Certifications

The PU BASE product supplemented with PU BASE DERADIX is classified as "RESISTANT TO ROOT PENETRATION" on the basis of the CEN/TS 14416 standard (see Test Report in the "Certifications" section).

Colour

PU BASE is available in the standard BIANCO and GRIGIO colours.

If exposed to sunlight (outdoor waterproofing) PU BASE must be protected with a UV-resistant top coat, for example

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POOL FINITURA COLORATO.

Field of application

PU BASE is used as:

- Waterproofing agent for planters, roof gardens and water/soil containment tanks in general.
 - A highly resistant waterproofing product for tanks with high water flows (water treatment plants and similar).
 - Waterproofing agent for aesthetic fountains and water tanks in exteriors, if finished with the POOL FINITURA top coat.
 - An exceptional waterproofing coating for swimming pools to be covered with mosaics and/or tiles prior sprinkling with 0.4–0.6 mm NATURAL QUARTZ (see price list item) on the last coat.
 - An exceptional waterproofing coating for swimming pools to be coated with resins (for manual application) to be finished with POOL FINITURA COLORATO.
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General preparation of the laying support

- Use BETONSEAL MS 2.0 and the primers suited to the materials involved:
 - the fillets on the joints between the floor and wall;
 - couplings with flashing, trap-doors, through pipes and all foreign elements.
 - Stop the cracks present on the objects with fixed steel bars inserted in the structure and anchored with PLAST EPO.
 - Apply only on appropriately cohesive surfaces, free of residues that can prevent the product's adhesion, with a slightly coarse surface.
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Specific preparation of the laying support

► Tanks and planters made on new concrete

- Wash with a power wash, remove any encrustations with a diamond grinding wheel, eliminate cracks with fixed bars.
- Verify that the residual humidity of the concrete does not exceed 4% measured according to the carbide method (UNI 10329 or ASTM D4944 standard).

► Tanks and planters made on old concrete

- Carefully verify the state of corrosion of the concrete, especially if it is a water treatment tank.

Depending on the entity of the corrosion, proceed as follows:

→ Superficial corrosion:

- Remove the deteriorated concrete with a diamond grinding wheel until reaching the intact part.
- Skim coat with W3 LIQUID WATERPROOFING.
- Wait for the skim coat to cure (see Technical Sheet).
- Proceed with the application of PU BASE.

→ Deep corrosion:

- Sandblast the surface down to the sound concrete.
- Apply GROVE 30 (for thicknesses between 1 and 3 cm) or NORDGROUTH TIXO (for thicknesses from 2 to 5 cm) with or without reinforcement mesh depending on the specific situation.
- Wait for the restoration skim coats to cure (see Technical Sheets).
- Proceed with the application of PU BASE.

► Tiled tanks

- Verify that the tiles are perfectly bonded to the structure and that the adhesive has no weak points.
 - Grind the surface using a diamond grinding wheel to eliminate the glossy part (enamelling).
 - If there are deep gaps, skim coat the surface with W3 IMPERMEABILIZZANTE.
 - Wait for the skim coat to cure (see Technical Sheet).
 - Proceed with the application of PU BASE reinforced.
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Preparing the product

► Normal version

- Homogenise Comp. A with a mechanical low-speed mechanical mixer.
 - Pour Comp. B into Comp. A and mix them.
 - The product's viscosity is studied to make the product suitable for both horizontal and vertical application without having to add thickening agents.
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To adjust the fluidity, consult the paragraph "Adjustment of the fluidity".

► Root inhibitor version with PU BASE DERADIX additive

If prescribed for the type of use (planters, roof gardens or green roofs), it is possible to prepare an anti-root version of PU BASE by adding a specific additive: PU BASE DERADIX.

- PU BASE DERADIX is supplied in bags batched for a supplement ratio of 1% by weight of A+B.
- Add PU BASE DERADIX to Comp. A of PU BASE.
- Homogenise all the contents with a low-speed mechanical mixer.

► Partial use of the package

If the package is used partially, mix PU BASE Comp. A and Comp. B in its own container then draw the amount of product according to the ratio shown on the label of the containers.

► Adjustment of the fluidity

- Add up to roughly 5% of SOLVENT FOR NORPHEN to the mix A+B of PU BASE.
- Mix thoroughly.

Application of the product

► Creation of the waterproofing covering

→ Waterproofing of planters, roof gardens and water/soil containment tanks in general

- Work on the dry surface (maximum 6% humidity of the support measured with the carbide method (UNI 10329 or ASTM D4944).
- Apply one coat of NORPHEN FONDO IGRO as a consolidating base coat and primer.
- Apply the anti-root version of the product using a steel trowel (see "Preparing the product ► Root inhibitor version with PU BASE DERADIX additive").
- Place the NYCON 100 reinforcement mesh and impregnate it to saturation.
- For special points that require a reinforcement adapted to the shape of the support, use NYCON F/FIOCCO).
- On the wet product, pour more PU BASE above the reinforcement to complete the impregnation.

→ Waterproofing of tanks and fountains in interiors and exteriors

Proceed as explained in the paragraph, "Waterproofing of planters, roof gardens and water/soil containment tanks in general".

In this case, it will no longer be necessary to use PU BASE DERADIX.

► Creation of the surface finish

→ For resin finish

- Wait for the hardening of PU BASE (normally 24–48 hours at 23°C/50% R.H.).
- Choose POOL FINITURA as a polyurethane top coat resistant to weathering.
- Prepare POOL FINITURA by mixing comp. A and comp. B together.
- Apply one or two coats (depending on the colour coverage and the chosen shade) of POOL FINITURA with a roller. To this aim, consult support@nordresine.com).

→ For tiling

- Apply an additional coat of PU BASE using a roller.
- Sprinkle a thin layer (roughly 1 kg/m²) of 0.4–0.6 mm NATURAL QUARTZ on the wet product.
- Wait for the product to harden completely then proceed with the bonding operations.
- For bonding tiles of any type, use BETON CR.
- For bonding of mosaic, use EPOSEAL W.

→ For creating non-slip surfaces (for stairs, walkways, etc.)

To create a non-slip surface, proceed on the waterproofing coating after 1–2 days in the following way:

- Prepare a mix of PU BASE A+B (see "Preparing the product").
- Add to the mix 40% by weight of PU BASE FILLER.
- Homogenise all the contents with a low-speed mixer.
- Scrape the surface completely using a steel trowel.

PU BASE FILLER added to the filler allows for adjusting the thickness of the applied film and maximising the non-slip

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effect.

Consumption

type of application	minimum consumption	maximum consumption	UoM	notes
Without reinforcement on smooth surfaces	1,4	1,6	kg/m ²	-
With NYCON 100 reinforcement on a smooth surface	2,2	2,3	kg/m ²	-
With PL 100 and NYCON F reinforcement on a smooth surface	2,4	2,5	kg/m ²	-
To create non-slip finishes on smooth surfaces	0,6	0,7	kg/m ²	+ 40% by weight of PU BASE FILLER on (A+B)

Cleaning of tools

- Wet and dry product: clean with ACETONE, SOLVENT FOR NORPHEN, thinner for nitro or alcohol.
- Hardened product: remove mechanically, soak for at least 24 hours in ACETONE or nitro thinner, or use paint strippers (FLUID STRIPPER or GEL STRIPPER).

Useful application tips

- Mix the two components very carefully with a mechanical mixer, avoiding any form of manual mixing.
- Pay special attention to the screed's humidity content. Humidity exceeding the allowed values may cause blisters to form in the product in some points.
- PU BASE can be applied at an ambient (and support) temperature close to +5°C. Lower temperatures imply a considerably longer hardening time and make it difficult to use the product (increase in viscosity).
- For grouting tiles indoors and outdoors, use EPOSEAL W.
- For sealing any expansion joints, use NORDSIL AC.
- During the winter period, the product thickens substantially. If necessary, heat the components slightly at bain-marie or with hot air.
- The use of ACCELERANTE EPOSSIDICO (request information from the NORD RESINE technical department) can aid curing.
- The product's surface could remain tacky in the first few days after its application: this is normal and the effect will disappear in time.
- Read the Safety Sheet carefully before using the product.

Technical data

► PRODUCT IDENTIFICATION DATA	UoM	value
Density at 23°C (Component A), EN ISO 2811-1	kg/L	1,40 ± 0,03
Density at 23°C (Component B), EN ISO 2811-1	kg/L	1,00 ± 0,03
Density at 23°C (A+B mix), EN ISO 2811-1	kg/L	1,35 ± 0,03
Colour (Component A)	-	Neutral white
Colour (Component B)	-	Characteristic
Brookfield apparent dynamic viscosity (A+B) 23°C / 50% R.H. ASTM#5 spindle, 10 rpm), EN ISO 2555	mPa•s	20000 ± 1500

► APPLICATION DATA AND FINAL PERFORMANCES	UoM	Value
Mix ratio by weight (A:B)	-	10:1
Pot-life (thermometric), EN ISO 9514	min	30 ± 5
Application temperature	°C	From +5 to +35
Operating temperature	°C	From -20 to +80

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► APPLICATION DATA AND FINAL PERFORMANCES	UoM	Value
Walk-over time (at +23°C, 50% R.H.)	hours	10 ± 1
Minimum commissioning time (at 23°C, 50% R.H.)	days	48
Shore A hardness (curing for 7 days at +23°C and 50% R.H.), DIN 53505	-	(88 ± 2)°
Impermeability to water (1,000 mm water column, time 24 hours), 1.1 mm without reinforcement, EN 1928	-	No penetration
Impermeability to water (3,000 mm water column, time 24 hours), 1.6 mm with NYCON 100 reinforcement, EN 1928	-	No penetration
Maximum humidity of the support (carbide method), UNI 10329	-	6%
Rupture load (traction) at +23°C, 1.1 mm without reinforcement, 50 mm/min, EN ISO 527-1	MPa	7,5 ± 0,7
Rupture load (traction) at -20°C, 1.1 mm without reinforcement, 50 mm/min, EN ISO 527-1	MPa	19 ± 1
Elongation at break at +23°C, 1.1 mm without reinforcement, 50 mm/min, EN ISO 527-3	-	135 ± 7
Elongation at break at -20°C, 1.1 mm without reinforcement, 50 mm/min, EN ISO 527-3	-	128 ± 7
► TECHNICAL DATA IN CONFORMITY TO EN 1504-2	UoM	value
Permeability to water vapour, equivalent air thickness SD, without reinforcement, thickness 0.72 mm, EN ISO 7783	m	1,7 ± 0,1 (Classe I)
Capillary absorption and permeability to water, without reinforcement, EN 1062-3	kg/(m ² ·√h)	0,006 ± 0,0009
Direct tensile adhesion, without reinforcement, EN 1542	MPa	2.2 ± 0.1 (Cohesive fracture of the support)
Classification as per EN 1504-2	-	MC-IR
► FINAL PERFORMANCES (with PU BASE DERADIX additive)	UoM	value
Root penetration resistance, CEN/TS 14416	-	No root penetration

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
BIANCO (1)	kit (A+B) da 5,5 kg	P*	-	A = 5,0 kg (fustino met.) B = 0,5 kg (flacone)
BIANCO (1)	kit (A+B) da 11 kg	YES	-	A = 10 kg (fustino met.) B = 1 kg (flacone)
FILLER (2)	fustino da 2,2 kg	NO	-	
FILLER (2)	fustino da 4,4 kg	NO	-	

Legenda ADR:

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

SI' = merce PERICOLOSA

NO = merce NON PERICOLOSA

Note:

(1): Product also available in GRIGIO.

(2): PU BASE FILLER is a mix of selected aggregates for preparing the mixture together with PU BASE A+B, for the final skim coating after application of the first coat (without FILLERS), with reinforcement.

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

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