



BETON CR

Epoxy-polyurethane reactive waterproofing adhesive for all surfaces



CE marking:

- EN 12004-1 - Designation: R2T
- EN 12004-1 - Class: E WFT

TECHNICAL SPECIFICATIONS



FIELD OF APPLICATION



APPLICATIONS



Description

BETON CR is a bi-component solvent-free adhesive to be mixed when used.

BETON CR creates a mix suitable for bonding various types of coverings on any surface with exceptional adhesion properties.

BETON CR produces an adhesive layer that is impermeable to water and thus exerts a joint waterproofing and adhesive action.

BETON CR is suitable for application in interiors and exteriors.

CE Mark

► EN 12004-1 + EN 12004-2

BETON CR fulfils the requirements of the EN 12004-1 standard "Adhesives for ceramic tiles - Part 1: Requirements, evaluation and verification of the performance persistence, classification and marking" and of the EN 12004-2 standard "Adhesives for ceramic tiles - Part 2: Test methods", with the following designation:

→ R2T

- Improved (2) resin-based reactive adhesive (R) for laying on floors and walls, in interiors and exteriors.
- Adhesive with reduced slip (T).

Colour

The product is available in the BIANCO version (cream-like).

Field of application

BETON CR is specifically used as:

- Adhesive for wood.
- Adhesive for all types of tiles, including large formats.
- Binder for special materials such as metals, coated metals and so forth, in combination with specific primers that improve adhesion on "difficult" surfaces.
- Adhesive for jobs requiring strong adhesion combined with high flexibility.

Advantages

- Strong adhesion and considerable flexibility even after long ageing.
- It can replace the waterproofing treatment for special applications, such as on small balconies, in bathrooms and in shower cabins.

General preparation of the laying support

► Types of substrates (nature of the support)

It can be used indoors and outdoors and is practically compatible with all existing building surfaces.

A few examples to follow.

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- Cement-based screeds and plasters.
- Prefabricated concrete cast in-situ.
- Wood, metal, PVC.
- Gypsum, plasterboard, anhydrite.
- Resin or natural stone supports, etc.
- Surfaces subject to vibrations.

► Laying materials (nature of the bonded material):

- Wood.
- Single-fired and double-fired ceramic tiles.
- Stoneware and clinker tiles.
- Cotto and ceramic mosaics on mesh.
- Engineered materials.
- Natural stone.

- Clean all substrates thoroughly in a workmanlike manner, removing any loose parts, oil, grease, paint and anything else that may prevent proper adhesion of the adhesive.
- Make sure that the supports are free of rising damp from the bottom.
- If necessary, assess the most suitable type of intervention with a NORD RESINE technician.
- If the surface has evident signs of chalking, consolidate the surface with NORPHEN SW SOLID suitably diluted in water (see Technical Sheet).
- To smooth a surface (indoors or outdoors, on walls or floors), use GROVE RASANTE, attached to the substrate with GROVE PRIMER.
- On gypsum, plasterboard and anhydrite, apply one coat of NORPHEN SW SOLID diluted 4–5 times in water.

Specific preparation of the laying support

The supports indicated below require specific preparation phases to make them suitable for bonding with BETON CR.

► Industrial quartz concrete

- For all laying materials (with the exception of wood), apply after adequate seasoning with maximum 3% humidity of the substrate (carbide method, ASTM D4944 standard).
- For application on wood, observe the supplier's requests.
- Clean and remove the dust.
- Concrete that is too smooth and closed on the surface must be diamond-ground.
- If required, eliminate joints and cracks via STITCHING with fixed steel bars inserted in the cast.

► Sand and cement screeds

- Apply only on screeds with compressive strength above 20 MPa.
- For all laying materials (with the exception of wood), apply after adequate seasoning with maximum 3% humidity of the substrate (carbide method, ASTM D4944 standard).
- For application on wood, observe the supplier's requests.
- Sand the surface with a single-disc floor scrubber equipped with 60-grit DOUBLE DISC.
- If required, eliminate joints and cracks via STITCHING with fixed steel bars inserted in the cast.

► Stoneware and clinker tiles

- Roughen the surface with a diamond cup wheel.
- Skim coat any wide and deep gaps with GROVE PRIMER and GROVE MASSETTO.
- Supports with humidity between 3% and 6%
- Apply one coat of SOLID on the roughened surface.

► Supports with humidity above 6%

- Apply one coat of Q-PRIMER followed by a skim coat with Q-RASANTE sprinkled with 0.3–0.9 NATURAL QUARTZ sand.

► Stitching of cracks and joints

- Make cuts in the support perpendicular to the cracks and insert the steel bars secured with PLAST EPO (see Technical Sheet).

► Concrete supports treated with coloured iron oxide

- Shot-peen the surface deeply or grind it with a diamond grinding wheel down to the non-coloured part of the concrete.

► Concrete supports with holes

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- Repair any holes or depressions more than 3 mm deep with MALTAFIX (see Technical Sheet).

Preparing the product

- Pour BETON CR Component B into the container of Component A taking care to remove all the hardener (Component B) from its container.
- If the package is used partially, the components must be weighed in very precise ratios.
- In case of an incorrect mixing ratio, the product may harden.
- Mix the contents with a low-speed (500–600 rpm) mixer until obtaining a creamy compound with a uniform colour.
- The mix can be used immediately, once it has been mixed.

Application of the product

► Application of the adhesive

- The type of notched trowel to be used to apply BETON CR must be chosen on the basis of the laying material and the type of support.
- To simultaneously complete the substrate's waterproofing and bonding, apply a thin homogeneous layer of BETON CR on the surface using the smooth side of the trowel. Pass the trowel again over the adhesive with the notched side without uncovering the laying support, then apply the material to be bonded.
- To facilitate the obtainment of the result (waterproofing+bonding), one coat of BETON CR can be applied with a smooth trowel the day before the application.

► Temperatures

- Low temperatures tend to make the product more viscous (especially Component A). Though it does not jeopardise the adhesive's final hardening (which occurs also at temperatures below +8°C), this has a negative effect on the application.
- The mix becomes less workable as the temperature decreases, making trowelling very difficult.
 - The curing times are considerably longer.

► Type of trowel

- For PARQUET floors, use trowel model NR 542/200 D-TR.
- For mosaics on a smooth surface, use trowel model NR 541/200 D-SE.
- For small- and medium-sized tiles to be laid on a regular surface, use a notched trowel with 3 mm teeth.
- For slightly irregular surfaces and medium- and large-size tiles, a trowel with 4 mm teeth should be used.
- Point application is recommended for large formats to be applied on the wall.

► Tiling

- The material to be laid must not be damp, therefore it must be conditioned in a covered and dry place for the necessary drying period.
- When applied outdoors, we always recommend completely filling the cavity between the tiles and the substrate.

Consumption

TYPE OF APPLICATION	MINIMUM CONSUMPTION	MAXIMUM CONSUMPTION	UoM	DILUTION
Depending on the type of tile and the laying substrate	0,8	3,0	kg/m ²	-

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).

Useful application tips

- Do not apply at ambient temperatures below +8°C. If it is necessary to work at temperatures near this value, for optimal results first mix Component A on its own and then add Component B afterwards.

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- Do not apply BETON CR on frosted surfaces or surfaces that are expected to frost within the next 24 hours.
- Do not apply directly on substrates made with gypsum and plasterboard, but only after pre-treating the support with NORPHEN SW SOLID.
- Do not use on anhydrite screeds without first treating them with NORPHEN SW SOLID.
- Do not use on damp surfaces or surfaces potentially subject to capillary rising damp.

Technical data

► PRODUCT IDENTIFICATION DATA	UoM	value
Appearance (Component A)	-	Paste
Appearance (Component B)	-	Fluid liquid
Colour (Component A)	-	Cream
Colour (Component B)	-	Transparent straw-yellow

► APPLICATION DATA AND FINAL PERFORMANCES	UoM	Value
Mix ratio by weight (A:B)	-	15 : 1
Pot-life (thermometric), EN ISO 9514	min	35 ± 5
Tensile adhesion (20 min after laying of the test tile), EN 1346	MPa	1,5 ± 0,3
Registration time	min	60 ± 5
Minimum curing time for grouting (at +23°C)	hours	8 - 12
Walk-over time (at +23°C)	hours	8 - 12
Resistance to solvents, oils	-	Good
Resistance to acids and alkalis	-	Good
Deformability	-	Highly deformable
Maximum operating temperature	°C	+85

► TECHNICAL DATA IN CONFORMITY TO EN 12004-1 + EN 12004-2	UoM	value
Open time, EN 12004-2	min	45 ± 2
Cross-cut adhesion (initial), EN 12004-2	MPa	3,0 ± 0,6
Cross-cut adhesion (after immersion in water), EN 12004-2	MPa	3,3 ± 0,6
Cross-cut adhesion (after thermal shock), EN 12004-2	MPa	3,0 ± 0,6
Vertical flow, EN 12004-2	mm	< 0,5
Fire reaction (Euroclass) for thicknesses below 20 mm, EN 12004-1, Par. 4.4.3	-	E WFT

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 +35°C.
- Protect the product against frost.

Packages

VARIANT	PACKAGING	ADR	UNITS PER PALLET	COMPONENTS
-	kit (A+B) - 4,8 kg	P*	-	A = 4,5 kg – bucket B = 0,3 kg – bag Advantages Advantages

legend

P* = DANGEROUS goods packed in limited quantities (packed as per Chap. 3.4 ADR)

Note:

(1): Prodotto di colore biancastro.

LEGAL NOTES

Advice on how to use our products corresponds to the current state of our knowledge and does not involve the

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assumption of any guarantee and / or responsibility for the final result of the work. They do not therefore 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 technical sheet.

EDITION

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