Nanodefense

Certified, organic, water-based, mineral waterproofing product for absorbent substrates in damp environments.

Nanodefense develops total water-resistance under positive thrust guaranteeing the protection of absorbent substrates or those subject to damp, or in constantly humid environments.



1. **Suitable for subsequent laying of ceramic tiles, porcelain tiles and natural stone using mineral adhesives**
2. **High elasticity and chemical stability**
3. **It can be easily applied with a spreader or roller to any substrate**

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Areas of application

→ Use
Waterproofing of smooth, compact and absorbent substrates before laying ceramic coverings with adhesives.
Compatible adhesives:
- mineral adhesives and mineral adhesives with SAS technology
- single-component and two-component organic mineral adhesives
- cement-based, water-dispersed, reactive-epoxy and polyurethane two-component adhesives

For internal use. Concrete flooring, compact and smooth cement-based screeds, prefabricated or fresh concrete castings, gypsum, plasterboard and gypsum brick walls, cement-based plasters and finishing products and cement-lime mortar.

→ Do not use in external applications, on wet surfaces or substrates subject to moisture rising; in environments where water is always present, swimming pools and tanks.

Instructions for use

→ Preparation of substrates
In general, cement-based substrates must be free of dust, oil and grease, dry and free from moisture rising, with no loose or imperfectly anchored parts such as residues of cement, lime and paint coatings, which must be completely removed. The substrate must be stable and without cracks, must have already completed the hygrometric shrinkage curing period and must present suitable mechanical resistance levels.
Uneven areas must be corrected in advance with suitable finishing products.
High-absorbency substrates: when laying on anhydrite-based screeds and highly absorbent cement-based screeds, it is recommended to first apply Active Prime Fix primer, either undiluted or diluted, following the instructions provided, in order to reduce the level of absorption.
Plasters with a gypsum base must present a residual humidity ≤ 1% and screeds with an anhydrite base ≤ 0.5%, both of which should be measured with a carbide hygrometer.
Check for traces of thin finishing, that would interfere with the subsequent laying of heavy surface coverings such as ceramic tiles.

→ Preparation
Nanodefense is ready for use. In any case, before use it is advisable to remix the product inside the pack to ensure the mixture is of an even consistency. Any excess waterproofing product can be kept for later use by putting the lid back on the packaging.

→ Waterproofing of corners
Go on with laying Nanodefense in the corners wall/floor and wall/wall with a width of 10 cm each side. Position the Aquastop 120 or o Aquastop Plus 120 sealing corner on the waterproofing product. Press firmly and smooth over the corner joint to ensure perfect adhesion of the corner joint, being careful not to wrinkle it. Smooth carefully any excess and check the adhesion of all edges of the joint.

→ Waterproofing of perimeter corners
Lay the waterproofing product along the perimeter around the wall-floor and wall-wall corner joints: lay the sealant in strips approximately 10 cm wide. Position Aquastop 120 or Aquastop Plus 120 in the centre line on the fresh waterproofing product. Press firmly and smooth over the waterproof joint to ensure it adheres perfectly, being careful not to wrinkle it.

→ Waterproofing of pipes, mixers and drains
Lay Aquastop Nanosil on the connection surfaces of the drains and on the adjacent surfaces to be connected. Position the special pieces of Aquastop 120 Flangia or Aquastop 120 cut to measure. Follow the same instructions when using Aquastop Plus 120 or Aquastop Plus Flangia. Press down strongly and smooth over to ensure adhesion of the band, wait at least 25 min for the product to cross-link, taking care to leave the outer side of the flange free, which will be incorporated into the next two coats of Nanodefense.

→ Application
Apply a fine, uniform film, preferably using a steel spreader, a short-bristle synthetic fibre roller or a flat brush. Wait until the first coat has hardened before proceeding with the second one (≈ = 1 hr depending on the absorbency level of the substrate and temperature) in order to ensure waterproofing.
The distinct light blue colouring of Nanodefense allows the user to check whether the application is complete and uniform.

→ Cleaning
Nanodefense can be removed from tools and other surfaces by washing them using water before the product hardens or with solvents once hardened.

Special notes

→ If necessary, Aquastop AR1 special reinforcing mesh made of alkali-resistant glass fibre can be inserted, followed by a further coat of Nanodefense.

Certificates and marks







** Émission dans l'air intérieur Information sur le niveau d'émission de substances volatiles dans l'air intérieur, présentant un risque de toxicité par inhalation, sur une échelle de classe allant de A+ (très faibles émissions) à C (fortes émissions).*

Abstract

The certified waterproofing of damp environments, kitchens, bathrooms, shower cabinets and saunas before laying ceramic and porcelain tiles, marble or natural stone will be done using a single-component, ready-to-use, organic, mineral, solvent-free waterproofing product, such as Nanodefense by Kerakoll Spa, to be applied with a roller or steel spreader with coverage of 1.5 kg/m².

Technical Data compliant with Kerakoll Quality Standard		
Appearance	light blue paste	
Specific weight	≈ 1,44 kg/dm³	
Chemical nature	co-polymers dispersed in water	
Shelf life	≈ 12 months from production in the original sealed packaging	
Warning	protect from frost, avoid direct exposure to sunlight and sources of heat	
Pack	15 / 5 kg buckets	
Viscosity	≈ 1,100,000 mPa · s, rotor 93 RPM 0.5	Brookfield method
Temperature range for application	from +5 °C to +40 °C	
Dilution for base coat	≈ 5%	
Minimum thickness per coat	≈ 1 mm	
Minimum dry thickness per coat	≈ 500 µm	
Waiting time between 1st and 2nd coat	≈ 1 h	
Waiting time before laying:		
- min.	≥ 2 h	
- max	≤ 48 h	
Coverage	≈ 1,5 kg/m²	

Values taken at +23 °C, 50% R.H. and no ventilation.

Performance		
VOC Indoor Air Quality (IAQ) - Volatile organic compound emissions		
Conformity	EC 1 plus GEV-Emicode	GEV certified 2134/11.01.02
HIGH-TECH		
Water-resistance	≥ 3 bar	DIN 1048
Permeability to water vapour μ after 28 days	≥ 20000	Cert. 173379 Inst. Giordano
Water absorption after 28 days	≤ 5%	UNI 8202/22
Adhesion to concrete after 28 days	≥ 1 N/mm²	EN 1542
Tensile strength after 28 days:		
- adhesives Class C1	≥ 0,5 N/mm²	EN 1348
- adhesives Class C2	≥ 1 N/mm²	EN 1348
Elongation at break after 7 days	≥ 90%	DIN 53 504
Crack bridging	≥ 1,5 mm	ASTM C 1305
Working temperature	from -40 °C to +90 °C	

Values taken at +23 °C, 50% R.H. and no ventilation. Data may vary depending on specific conditions at the building site.

Warning

→ abide by any standards and national regulations
→ do not apply Nanodefense as an external waterproofing covering
→ use at temperatures between +5 °C and +40 °C
→ Nanodefense is a product dispersed in water solution: hence, it should be stored and transported at temperatures of more than +5 °C
→ apply the subsequent coat only when the previous one is perfectly dry
if necessary, ask for the safety data sheet
→ for any other issues, please contact the Kerakoll Worldwide Global Service - info@kerakoll.ae

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