



NANOLASTIC 1K

One-component nanotechnological waterproofing agent with high elasticity for waterproofing of horizontal or vertical surfaces indoors and outdoors, before laying ceramic coverings. Can be applied by trowel or by spray.



TECHNICAL FEATURES

NANOLASTIC 1K is a special one-component cementitious mortar, based on hydraulic binders with high mechanical resistance, selected silicon / quartz and calcareous aggregates with fine granulometry, special additives and highly flexible synthetic polymers, mixed together according to the strict quality standards of the **HERAKEM** laboratory. By mixing the powder with water, a very smooth and easily applicable mixture is obtained with minimal effort, with a spatula or, on large surfaces, even by spraying with a plastering machine, both on vertical surfaces and on horizontal substrates, in thicknesses of 2 mm per single but no. During curing **NANOLASTIC 1K** assumes a particular nanoporous structure that allows the passage of tiny particles of water vapor, but does not allow the passage of water molecules in liquid form. Thanks to the special formulation and the high adhesiveness of the resins used, **NANOLASTIC 1K** also resists slight counter-thrust stresses. The high elasticity of **NANOLASTIC 1K** is maintained even at low temperatures, as well as total impermeability to water and high resistance to aggressive substances such as chlorides, sulphates and carbon dioxide. **NANOLASTIC 1K** has excellent adhesion both on porous substrates such as cementitious screeds and plasters, and on compact substrates such as concrete and old ceramic tiles or natural stone.

FIELD OF APPLICATION

- Nanotechnological waterproofing before laying ceramic floors on balconies and terraces; restoring the waterproofing allows the overlap of a new floor without demolishing the old one.
- Waterproofing of horizontal or vertical surfaces indoors or outdoors, before laying ceramic floors in bathrooms, changing rooms, sports facilities, showers, kitchens, etc.
- Waterproofing of surfaces in the presence of slight negative thrust.
- Waterproofing of tanks and swimming pools, as long as they are subsequently covered with tiles or mosaics.
- Waterproof coatings of concrete surfaces subject to chemical aggression such as, for example, antifreeze salts, sulphates, etc. (especially when the thickness of the concrete cover is inadequate).
- Waterproofing of walls, surfaces, castings and constructions in contact with the ground or to be buried.
- Waterproofing in general with positive thrust.
- Waterproof and flexible skimming of micro-cracked plasters.

PREPARATION OF THE SUBSTRATE

Before starting the operations is necessary to check that there is no rising damp from the screed or walls, because the continuous negative pressure of the humidity and the formation of saline efflorescence can affect the adhesion of the product to the substrate. Only after blocking the rising damp, cleaning the surfaces and waiting for the substrates to dry, can the application be continued. The substrates to be treated must be solid, clean, free of detaching parts, dust, release agents, rust and anything else that could affect good adhesion. The substrates must be cured and mature: the curing times for plasters and screeds vary, depending on the season, from 7 to 10 days for each centimeter of substrate thickness created. For casting concrete, at least three months of curing are required, depending on the season, while on rapid screeds only one week is required. Deteriorated concrete structures must be previously restored with restoration products such as **HERAGROUT RCC** or **HERAGROUT MONO**. Any settling cracks due to plastic or hygrometric shrinkage of the cement screeds must be previously sealed. Slightly "dusting" surfaces must be pre-treated with a special consolidating primer such as **HERALAX AC**. Moisten excessively porous and absorbent cementitious substrates before applying the product. In the case of laying on ceramic tiles, it is necessary to check that all the old tiles are well anchored. Thoroughly clean and degrease the surface of the old floor by washing with a basic detergent or other suitable detergent. If this were not enough, provide for mechanical cleaning or shot peening in order to remove all inconsistent parts and materials that do not allow adhesion. In waterproofing, all corners (wall-floor and wall-wall) and expansion joints must be covered with a special elastic "strip"; in swimming pools and in the most critical applications, between the wall and the floor it is also necessary to create a dovetail "shell" to be filled with a special anti-shrinkage grout from the **HERAGROUT** range. The elastic band must also be used to waterproof any drains, "drains", or "technical connections".

MIX PREPARATION

Pour about $\frac{3}{4}$ of the mixing water indicated in the instructions for use into a suitable clean container; then slowly add the powder while stirring mechanically. Mix thoroughly with a low-speed mechanical stirrer so that the mortar does not incorporate air, until a homogeneous and lump-free mix is obtained. At this point add the missing water and adjust the fluidity of the product. Avoid preparing the dough manually.

APPLICATION

NANOLASTIC 1K can be applied by using a smooth steel trowel, directly on the support, in two successive crossed coats, creating a total thickness of no less than $3 \div 4$ mm. Before applying the second coat, wait for the first to dry (after about $3 \div 8$ hours depending on the absorption of the substrate and the environmental conditions). **NANOLASTIC 1K** can be applied by spray, using a plastering machine equipped with a smoothing lance, in at least two coats, in thicknesses of not less than $1.5 \div 2$ mm per layer, so as to have a final thickness of not less than 3 mm. When waterproofing terraces, balconies, basins, swimming pools and in areas characterized by micro-cracks or particularly stressed, it is recommended to drown in the first still fresh layer of **NANOLASTIC 1K** a special alkali-resistant glass fiber mesh with 4×5 mm mesh, taking care to overlap it by at least 10 cm in the junction areas. Once the mesh has been positioned, wait for the product to dry before applying the second layer.

NB. Apply the elastic strips at the floor / wall joints by drowning it in the **NANOLASTIC 1K** mortar. Use the elastic band also to make waterproof expansion joints. The installation of ceramic tiles or natural stone on the **NANOLASTIC 1K**-based membrane can be carried out after at least 5 days of curing (in favorable conditions of temperature and humidity), with an open joint, using class C2 tile adhesives, such as **HERACOLL GRES** or **HERACOLL FLEX**.

CLEANING

The tools used for installation must be cleaned with water before the adhesive hardens; subsequently, cleaning can only be done by mechanical removal, with the help of alcohol or solvents.

ITEM OF SPECIFICATIONS

The substrates must be waterproofed and / or protected with one-component cement-based mortar such as **NANOLASTIC 1K** of **HERAKEM SRL**, applicable by trowel or spray in two coats, each $1.5 \div 2$ mm, the final thickness must not be less than $3 \div 4$ mm. The product must guarantee crack bridging ability characteristics according to the requirements of the European standard **EN 14891**.

WARNINGS

- Do not add lime, cement or other foreign substances to the product.
- Apply the product only at temperatures between $+5^{\circ}\text{C}$ and $+35^{\circ}\text{C}$; do not apply on frozen substrates.
- Protect the works carried out for at least 24 hours from rain or washout and for at least 7 days from frost or beating sun; protect the treated area with sheets in order to avoid rapid drying.
- In hot climates it is advisable to protect the packages from direct sunlight.
- The substrates must be mature and dry, free from rising damp; any cracks or fissures must be previously repaired with pourable two-component epoxy sealant.
- Do not use the product for thicknesses greater than 2 mm per coat.
- Do not apply to block water in counterthrust: in this case use an osmotic mortar
- The gypsum or anhydrite-based substrates must be pre-treated with the special **HERALAX AC** primer.
- Do not use to waterproof surfaces that can be walked on and left exposed, metal or wooden surfaces, bituminous membranes, lightened screeds.
- Do not use to waterproof surfaces in insulating panels.
- Not suitable for water containment tanks: use **HERALASTIC CEM**.
- Do not use the product for applications not indicated on this technical data sheet.

TECHNICAL DATA *(at $+22\pm 1^{\circ}\text{C}$ and $55\pm 5\%$ R.H.)

Appearance	gray powder	Mixing ratio	approx. $20 \div 22\%$ equal to $4 \div 4.4$ liters per package
Apparent density	about 1100 kg/m^3	Flammability	no

APPLICATION DATA

Application	spreader or spray	Maximum thickness per coat	2 mm
Residual substrate humidity	$\leq 4\%$	Waiting time between 1st and 2nd coat	*about $3\div 8$ hours
Useful time of use	*about 60 minutes	Temperatures during application	min. $+5^{\circ}\text{C}$, max. $+35^{\circ}\text{C}$
Minimum thickness per coat	1.5 mm	Waiting time for laying the tiles	5 days

FINAL PERFORMANCE	VALORE	REQUISITO	NORMA	FINAL PERFORMANCE	VALUE	REQUIREMENT	STANDARD
Initial adhesion	$\geq 1,8 \text{ N/mm}^2$	$\geq 0,5 \text{ N/mm}^2$	EN 14891	Adhesion after freeze / thaw cycles	$\geq 1,5 \text{ N/mm}^2$	$\geq 0,5 \text{ N/mm}^2$	EN 14891
Adhesion after immersion in water	$\geq 1 \text{ N/mm}^2$	$\geq 0,5 \text{ N/mm}^2$	EN 14891	Adhesion after immersion in chlorinated water	$\geq 1,1 \text{ N/mm}^2$	$\geq 0,5 \text{ N/mm}^2$	EN 14891
Adhesion after the action of heat	$\geq 1,7 \text{ N/mm}^2$	$\geq 0,5 \text{ N/mm}^2$	EN 14891	Crack bridging ability	$\geq 3 \text{ mm}$	$\geq 0,75 \text{ mm}$	EN 14891
Adhesion after immersion in lime water	$\geq 1,4 \text{ N/mm}^2$	$\geq 0,5 \text{ N/mm}^2$	EN 14891	Water pressure resistance of 1.5 bar for 7 days	test passed	test passed	EN 14891

Consumption	approx. 1.2 Kg/m^2 per mm of applied thickness	Packaging	5 kg boxed bag 20 kg bag
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PRODUCT FOR PROFESSIONAL USE ONLY

All the data and indications given in this technical data sheet, although resulting from laboratory tests carried out and from our direct application experiences, due to the infinite number of variables linked to the construction site conditions, are to be considered, in any case, purely indicative. Therefore, before applying the product, the user is required to establish whether it is suitable for the use envisaged by him, in the specific hygrothermal and application conditions foreseen at the time of use and, in any case, he assumes all responsibility for it. We are not liable for damage to people or things deriving from improper use of the product. We reserve the right to modify the data contained therein as a result of improvements and technical progress.

