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NANO SILO W

WATER-BASED NANOTECHNOLOGIC PROTECTIVE WATER REPELLENT FOR ARCHITECTURAL HERITAGE BUILDING MATERIALS

SPECIFICATIONS:

NANO SILO W is a concentrated aqueous dispersion of functionalized silica nanoparticles, able to give a protective effect with high water repellency (contact angles greater than 110 °).

The nanoparticles are able to penetrate inside the porosity of the materials, and to create strong bonds with the hydroxyl groups present. The depth of penetration means that even with the natural phenomena of abrasion of the surface the water-repellent effect is not lost, while the bond stability increases the durability of the treatment.

The water repellent chains bound to the nanoparticles face outwards of the pore and block the entry of liquid water. This effect occurs without the formation of surface films, therefore with a minimum reduction of permeability.

In summary, a correct application of **NANO SILO W** allows to obtain:

- an elevated penetration depth
- a significant reduction of water absorption
- excellent water vapor permeability
- absence of film-forming effects
- absence of chromatic variation or yellowing over time
- excellent treatment durability

USE

NANO SILO W is recommended for protection of historical-artistic-monumental construction materials, such as:

- natural stones with carbonate or silicate base
- artificial stones, concrete and cements
- lime plasters
- bricks and terracotta

APPLICATION METHODS

The surface to be treated must be **dry, clean**, restored by any efflorescing salt present and, in the case of the presence of microorganisms, these must be removed with Biotin T or New Des 50.



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The atmospheric temperature must be between 5°C and 35°C and, in the case of high temperature, the surface to be treated must not be exposed to direct sunlight.

Before applying **NANO SILO W** carry out a preliminary test in order to determine the level of dilution.

In principle, in the case of very absorbent surfaces, such as tuff or sandstone or other degraded porous materials, the undiluted product is applied.

In the case of low-porosity materials such as new stone or plaster, marble, granite and stoneware, **NANO SILO W** can be diluted with demineralized water up to a maximum of 1:1, and applied by brush, roller or spray, possibly in 2 coats wet on wet.

The water repellent effect develops after a reaction that requires 24 hours; in this period the surface must not be wet.

At the end of the application, wash the instruments with water.

WARNINGS

Due to existing material's heterogeneity it is absolutely necessary to carry out some preliminary tests on samples of the material to be treated in order to verify the quantity of product to apply (usually between 0,1 and 0,2 l/m², or 5-10 m² with a liter of concentrate). If it's considered appropriate to apply a second hand, this must be done wet on wet, because once dried the first hand, the waterproof effect will prevent a following application.

PHYSICAL DATA

Active principles	Functionalized silica nanoparticles
Solvent	Water
Viscosity (at 20°C)	1 mPa.s
Density (Kg/L)	1,00 ± 0,05

CONTRACT SPECIFICATIONS

Water repellent protective product based on functionalised silica nanoparticles, which have a high penetration depth, no film-forming effects, absence of chromatic variations and yellowing over time, resistance to UV rays, high reduction of water absorption, high water vapor permeability, even after aging.

PACKAGING

NANO SILO W is available on pack size of 1 and 10 L.

STORAGE

Months 6 in original containers hermetically closed and protected from humidity.

Information contained in this data sheet is based on our state of knowledge and on laboratory testing at the above-specified date. The User should determine, by preliminary tests, the suitability of the product for his intended purpose, and should observe the laws and regulations regarding health and safety.

C.T.S. S.r.l. guarantees the constant quality of the product but is not accountable for any damages caused by the incorrect use of a material. The product is intended **for professional use only**. In addition, the components and packaging can change at any time, without any obligation of prior notice.