

NANOTER CRYSTAL

MANUAL



Nanotechnological ultra-thin waterproofing

- Very good insulating properties, moisture repellent
- Resistant to weather and UV radiation
- Color transparent matt (base C) reflectivity up to 70 % (by different spectra 42 - 70%)
or white (base A), tintable in light tones (RAL), reflectivity up to 90 %
(by different spectra 72 - 90%)
- Temperature resistance -50 °C +100 °C (up to 140 °C for short periods)
- Good adhesion and elongation, crack-proof
- Ability to repel mold and plant organisms

Properties of NANOTER CRYSTAL (hereinafter product or surface coating)

Ready-to-use, odorless, non-breathable, non-toxic, fireproof, nanomaterial coating is based on an acrylic copolymer dispersion, contains polyethylene wax and special polymers allowing repel water and dirt from the finish layer. Possesses long-term resistance to exposure to standing water. As it polymerizes, the surface coating forms a permanent and dirt-resistant, weatherproof coating. Possesses vapor permeability on the facade. The product is easy to apply and has good coverage, and is tintable in light tones. In the system with acrylic primer, it provides various surfaces with long-term protection against weather conditions.

Places of use

The product is intended for use in outdoor and indoor work. Due to the properties of the product, it is especially suitable for covering the surfaces of facades (including log houses), roofs, and damp rooms.

The "Intelligent Shield" additive in the product gives the coating resistance to mold. After covering the moldy structures, it suppresses the growth and kill of mold and fungi. Mold resistance is natural, does not contain harmful biocides.

CRYSTAL based on base C (transparent) is especially suitable for surfaces to be renovated (e.g., wood, limestone), where it is not recommended to change the natural color and structure of the substrate.

Substrate

Suitable for thermal insulation and finishing of lime, lime cement, and cement plaster, concrete, frost-resistant silicate, and clay brick masonry, light block walls, as well as wood, metal, and plastic surfaces.

Surface preparation

The surface to be covered must be stable, dry, and free from dirt, oil, grease, moss, and loose particles. To clean the surface, use cleaning agents designed for the surface to be coated. Remove loosely bonded layers to a firm surface, clean cracks, and repair with a filler similar to the surrounding surface. Remove salts and other chemical compounds deposited on the surface with a strong fiber brush or other means suitable for the substrate. When choosing a suitable cleaning method, make sure that it does not damage the substrate. Before coating the

surface, make sure that it is completely dry (the required minimum drying time depends on the type of substrate and drying conditions).

Pre-treatment of unstable surfaces

Highly absorbent, slightly friable sandy or chalky pre-finished lime, lime cement, and cement plaster, as well as absorbent surface previously covered with lime or silicate paint to be impregnated with one layer of acrylic primer. Up to 10% of the product may be added to the mixture to facilitate application. For best results, apply the mixture with a brush, roller or high-pressure spray machine.

Priming

Prime the surface with one coat of acrylic primer. If, after priming, the site repairs previously made on the substrate have a different shade from the surrounding surface (due to different surface absorbency), the repaired areas must be covered with a 1:10 mixture of one layer of the product and water to obtain a more uniform color tone. Allow the surface to dry properly.

Finishing

Apply the product in layers, taking into account the desired purpose, surface properties, and position (vertical or horizontal), the tools used, and the working environment.

The recommended final layer thickness is according to the user's wishes and purpose:

In normal conditions from 0.25 to 0,5 mm,

or for the bestest water resistance (Hydrostop) from 1 to 2.5 mm..

The thinner the layer, the better the transparency. The thicker the layer, the better the heat-, hydro- and sound- insulating properties but the material may lose part of its transparency.

Technical specifications

Place of use	external and internal work
Consumption for 1 mm layer	1 l/m ² depending on the absorbency of the surface (for 0,25 mm layer - 0,25-0,3 l/m ²)
Drying time	1 mm to 24 h, 2 mm to 48 h
Thinner	water
Tinting	RAL tinting system
Tools	brush, roller or airless sprayer (high - pressure spray machine)
Cleaning of tools	with water immediately after use
Storage	in unopened containers (5 ... 45 °C)
Packaging	10 L / 20 L

Product preparation

The product is ready for use. After opening the container, immediately before covering the surface, mix the product until it has a uniform consistency (there is no more liquid layer at the bottom of the container).

NB! Stir slowly by hand or with a mixing drill at a maximum of 200-250 rpm.

If necessary, dilute with clean water to 2.5 to 10% by volume (depending on the unit temperature, the properties of the surface to be covered, and the tool used).

Recommendations for product application:

Required air and surface temperature during surface treatment and drying + 10 .. 40 °C (preferably + 18 ± 2 °C), relative humidity 40-80% (preferably 60-65%).

NB! Avoid covering the surface in cold and humid (rain, fog, dew), as well as in windy weather, as well as in direct sunlight.

At lower temperatures and/or high humidity, the drying time of the coating is significantly extended. If the temperature drops below +7 °C, the product stops drying, and there is a risk of the poor-quality coating. Do not apply the product on surfaces heated by the sun. When covering in hot weather, take measures to prevent the coated surface from drying out too quickly. Allow the coated surface to dry properly between coats. Cover large areas without interruptions, make interruptions only at corners.

Recommended tools

Brush. The brush is used if the desired layer thickness is 0.2 to 0.4 mm. When using a brush, pre-dilute the product with clean water, optimally 10 % by volume.

Roller. The roller is used if the desired layer thickness is 0.3 to 0.5 mm. When using a roller, pre-dilute the product with clean water, optimally 10 to 15% by volume.

High pressure sprayer. Used for covering larger surfaces. Simultaneous application in a layer 0.2 to 1.5 mm thick, depending on the technical parameters of the sprayer used.

Recommendations for using the sprayer:

- remove all filters (prevent the passage of microspheres);
- the device must be free of any residue before handling the product;
- use working pressure 40... 80 bar;
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NB! Adjust the spray pressure so that the working pressure when applying the product does not exceed 100 bar.

- hose length 15...45 m;
- use only the pistols provided;
- use nozzles with an aperture of 0.025 to 0.035 (last two digits of the nozzle marking);
- pre-dilute the product depending on the sprayer used;
- mix the product in the container every 5 to 10 minutes during operation;
- turn the pressure regulator to zero before stopping the sprayer completely.



The spray width is determined by the spray angle at a distance of 30 cm from the surface. The angle is determined by the first digit of the nozzle marking.

For example, it is recommended to use a nozzle 327 once for a 30° spray angle and a nozzle 529 for a 50° angle. Use larger nozzles and a wider spray angle for large surfaces, smaller nozzles, and a narrower spray angle for small surfaces and pipes.

Subsequent surface care

The surface covered with the product can be cleaned with water, if necessary, also with a neutral cleaning agent. After using the cleaner, rinse the surface thoroughly with water. Avoid cleaning agents containing organic solvents (e.g., alcohol). It is recommended to use lukewarm water for washing. Use a sponge or soft brush as a tool. Avoid rubbing and polishing the surface.

Important note

Cover the surrounding surfaces before using the product. Splashes on uncovered surfaces must be removed immediately with water. Wear a respirator, goggles, and gloves when working and follow the safety requirements of the work environment.

The difference in color from the original color may be due to a different surface structure, the method of application of the product or the angle of incidence of light, as well as the absorbency of the substrate or weather conditions during coating.

Occupational safety (see safety data sheet for details)

Keep out of reach of children. Avoid contact with skin, eyes, and inhalation. When consulting a physician, take the packaging or label of the product with you. If you feel unwell, call a poison control center or doctor.

Environmental protection and waste management

At the end of the work, close the container carefully. Do not spill the product; empty it into drains or the aquatic environment. Take liquid residues to a collection point for harmful substances, dispose of only completely emptied containers.



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The information given in the product specification has been obtained under laboratory conditions and may therefore vary depending on the method of application of the product to the surface, weather conditions, etc. The information provided can be used as a guide in selecting products and working methods. The manufacturer accepts no liability for damage caused by non-observance of the instructions for the use of the product or improper use of the product. Contact the manufacturer for more information. The manufacturer reserves the right to make changes to the information provided without prior notice.