



TECHNICAL SHEET

FUNCTIONAL COATING FN[®]1 BioMax

Biocidal antibacterial photocatalytic coating with antimicrobial function for effective air purification with long-term effect.

Disease prevention - a healthier and safer internal environment in healthcare facilities. To remove bacteria, spores, molds, allergens and odors.

Functional guarantee – 7 years.

USAGE:

Functional coating FN[®]1 BioMax is designed for indoor use.

Especially developed for the needs of healthcare facilities to achieve higher hygiene standards and prevent the spread of viral and bacterial infections, including resistant bacterial strains. The coating allows, in accordance with the applicable legislation, to extend the periods between painting in healthcare facilities.

The FN[®]1 BioMax coating **effectively prevents viruses, bacteria and other microorganisms from settling, growing and reproducing**, while also being able to **reduce the concentration of organic and inorganic contaminants in the air**. The treated surface also **protects against airborne contaminants**.

FN[®]1 BioMax is used as an **effective antibacterial surface protection for walls in interiors**. It can be applied to concrete, ceramic, stone and other common surfaces, including wood. The coating protects the substrate against UV radiation damage to the substrate structure and color fading.

Video – [Video Interior Application \(https://youtu.be/fEX6pKIArf0\)](https://youtu.be/fEX6pKIArf0)





POPIS VÝROBKU:

FN[®]1 BioMax functional coating has been developed based on FN[®]1 coating to **maximize its antimicrobial function** and enable it to be used as an **effective long-acting biocidal agent** in healthcare facilities, retirement homes, and other locations to protect against contagious infections. FN[®]1 BioMax is a titanium dioxide-based composite antibacterial protective coating with an effective biocide and a very strong photocatalytic effect. The antibacterial effect of the active biocidal substance is enhanced by the photocatalytic effect, which is activated by the impact of daylight or artificial light with the proportion of the UVA spectrum.

Its protective and self-cleaning properties **are inexhaustible in contrast to chemical products.**

It guarantees extremely effective substrate protection and is therefore often used as an effective technology to reduce the risk of transmission of diseases in the interior - especially in healthcare facilities.

FN[®] 1 BioMax functional coating is inert, contains no organic substances and does not release any unwanted chemicals into the environment.

PROPERTIES:

- **It effectively disposes of microorganisms - viruses, bacteria, fungi and other microorganisms**
- **Prevents virus and bacteria from settling - reduces the risk of transmission of diseases**
- **Very suitable for allergy sufferers and asthmatics**
- **The photocatalytic effect cleans the air from organic pollutants**
- **High UV protection - against scratching and degradation of the substrate**
- **Self-cleaning function - protects the surface from dirt scattering in the air**
- **High breathability and vapor permeability, certified for concrete**

COATING DESCRIPTION:

FN[®]1 BioMax is semi-transparent. The basic version has a white translucent tint, it is also possible to order colored tints to match underlying colors. The coating thickness is optimally 5-20 microns.

The layer is active immediately after the impact of daylight or artificial light with the proportion of UVA spectrum (interior), the antibacterial effect is ensured even in the absence of light radiation by a chemical biocidal substance. The optimal wavelength of UV light for illumination from an artificial source is 365 nm.

The coating is ready 24 hours after application.

THE PHOTOCATALYTICAL EFFECT IS PERMANENT, UNFORCEABLE, AND INEXHAUSTIBLE. ALL PROTECTIVE FUNCTIONS ARE PROTECTED WHERE THE COATING COVERS THE SURFACE.

On the surface treated by FN[®] 1 BioMax coating and with sufficient UV light, dirt, bacteria or other microorganisms do not settle due to photocatalysis, it acts as a barrier against

microorganisms while at the same time, it is a highly efficient air decontamination technology.

Manufacturer's recommendation for the use of the FN[®] 1 BioMax antibacterial functional coating in medical facilities according to Decree No. 306/2012 Coll.:

- FN[®] 1 BioMax renewal once every five years - operating and operating theaters, acute intensive care inpatient departments, sampling rooms, laboratories, infectious departments, pediatric and neonatal wards.
- Reapplication of FN[®] 1 BioMax once every seven years – in locations other than health care facilities.

APPLICATION OF FN[®] 1 BioMax RADICALLY LIMITS THE APPEARANCE OF VIRUSES, BACTERIA, MOLD AND OTHER MICROORGANISMS.

JUDGMENT OF THE NATIONAL HEALTH INSTITUTE - Antimicrobial Activity FN[®] 1 BioMax: <http://fn-nano.com/wp-content/uploads/2018/01/szu-stanoveni-antimikrobialni-aktivity-biomax.pdf>

NIPH - CEM Laboratories, NRL for Disinfection and Sterilization Tested the Antibacterial Effectiveness of FN[®] 1 BioMax Sample by a Test Method Modified to ISO 22196. At a test temperature of 36 ± 1 °C, greater than 90% RH, and 5 hours results for individual microbes:

(K = check in log - reference glass, P = test sample, K - P = decrease)

Staphylococcus aureus	K 6,86	P -	> 6,86
Pseudomonas aeruginosa	K 6,5	P 1	5,50
Escherichia coli	K 6,89	P -	> 6,89

In all of these microbes, the number of microorganisms was reduced by 5 log orders to provide a bactericidal effect. Biocidal function of the composition is enhanced by strong self-cleaning effect and air purification based on titanium dioxide photocatalytic effect.

COMPOSITION:

Pure water based composite coating. Contains uncoated photocatalyst (50-70 g / l), inorganic binders and an effective biocidal agent, thereby ensuring its long-term flawless protective function as well as a particularly high self-cleaning efficiency.

The coating does not contain any organic compounds in accordance with European and global environmental and health trends. The FN[®]1 BioMax coating is inert and completely safe. **It does not release any substances into the environment.**

RECOMMENDATIONS FOR USE:

INTERIOR:

Areas of use:

Surfaces with permanent antibacterial surface suitable for medical equipment.

HOSPITALS, PUBLIC BUILDINGS, BANKS, SCHOOLS - creating a healthier environment, reducing the risk of epidemics, eliminating odors and allergens.

GARAGE, CELLARS, BUNKERS - Sanitary treatment and air purification from microbes, toxins, car exhausts and odors.

ANIMAL PRODUCTION - reducing the risk of epidemics, reducing odor.

FOOD PRODUCTION - reduction of bacteria, fungi, yeasts, molds and other microorganisms.



Nemocnice Motol - hematology

Eye clinic Gemini – surgery



For brick and plasterboard substrates – In the case of mold, fungus, etc. problems, we recommend that you first treat the surfaces with anti-fungal agents, allow them to dry and then apply one coat of FN® 1 BioMax to prevent the build-up of microorganisms. Subsequently, apply two more layers with FN® 2 or FN® 3 functional coating to create active antimicrobial protection and self-cleaning air nano-cleaner. Here it is necessary to provide sufficient light source for the long-term functionality of the coating to activate it.



METHOD OF APPLICATION:

Before each application, the coating should be shaken vigorously (30 - 40 s) in the package in which it is delivered. Perfect shaking is needed to achieve even mixing of the insoluble dust component in the coating. This is necessary to ensure proper operation of the protective coating.

It is therefore important that the coating is still in motion. In practice, this means that only a small amount of the already thoroughly mixed paint is poured and then applied. Shake again before re-pouring. To get a nice look, always apply the thinnest but consistent even layer that will dry thoroughly before applying the next coating.



Stříkáním - optimálně 3x. Na hladké plochy doporučuje výrobce nanesení nátěru stříkáním pro vytvoření tenké rovnoměrné vrstvy.



Spraying - optimally 3x. For smooth surfaces, the manufacturer recommends spraying to form thin, even layers.



Brush application in one to three layers is very suitable for poorly accessible areas, places where are uneven surfaces and for the treatment of areas that may be affected by mold, for example.

- Cover all areas that will not be treated with the FN[®] layer well
- The layer must be allowed to dry between layers
- Do not apply on wet surfaces
- For better performance, we recommend that you clean the surfaces thoroughly before applying the coating
- Do not apply on a water-repellent (hydrophobic) surface.

The method of application, equipment and equipment used must conform to the specific conditions, condition and requirements of the object on which the coating is to be applied.

The applied layer is frost-resistant and highly vapor-permeable - in winter, the substrate is not damaged by defrosting.

Paint activation:

After application, wait at least 48 hours after application, and then coating must be activated by gently spraying with water. You can spray, for example, with a hand-held sprayer and by using plain water or distilled water. This opens the surface with nano crystals and significantly increases its efficiency.

Thinning:

Do not thin!

Consumption:

USUAL CONSUMPTION FOR CREATING A PROTECTIVE SURFACE: 7-10 m² / l in three coatings (depending on material absorbency, surface roughness and application method)

Tool cleaning:

Water – soon after use.

Packaging:

Plastic containers of 1 and 5 liters



STORAGE:

Valid up to 2 years from the date of production in cool, unopened original packaging. Before use, mix thoroughly by shaking in the original container. For colored variants, we recommend mixing the suspension (paint) with a rod mixer after thorough mixing in the bottle (canister) for more than 2 days from the date of manufacture to distribute the pigment perfectly in the liquid. Do not allow to freeze!

HANDLING PRECAUTIONS FN®1 BIOMAX COATING:

Observe the safety precautions in accordance with the safety data sheet and use a respirator or other suitable respiratory equipment with applicable regulations, and do not breathe spray mist. Wear protective goggles and hood or other means to protect eyes, face and skin. If contaminated, rinse thoroughly with water and apply cream. In case of irritation seek medical advice.

WASTE DISPOSAL:

Dispose of the empty packaging at a collection point for packaging waste. Dispose of packaging with product residues in a place designated by the municipality to store hazardous waste or hand it over to a person authorized to handle hazardous waste. Follow the safety data sheet and local regulations.

NOTICE:

These figures are based on the current state of knowledge and have been compiled to the best of our knowledge, but in no way may they be considered a legal guarantee of any kind.

PATENT OWNER AND MANUFACTURER:

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OVER TEN YEARS OF PRACTICAL EXPERIENCE