

## TECHNICAL SHEET

### FUNCTIONAL COAT FN<sup>®</sup>1 BioMax

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

Disease prevention - healthier and safer indoor environment in health care facilities.

For the removal of bacteria, spores, molds, allergens and odors.

Guaranteed functionality up to 7 years.

#### USAGE:

Functional coating FN<sup>®</sup> 1 BioMax is intended for indoor use.

It has been developed especially for the needs of healthcare facilities where it helps to achieve higher hygiene standards in preventing the spread of viral and bacterial infections, including resistant strains of bacteria. In accordance with the legislation in force, the coating allows prolongation of the painting cycle in healthcare facilities (**pursuant to Decree No. 306/2012 Coll.**).

The FN<sup>®</sup> 1 BioMax coating very effectively prevents viruses, bacteria and other microorganisms from settling, growing and multiplying on it, while being able to reduce the concentration of organic and inorganic contaminants in the air. The treated surface also protects against gradual soiling by airborne dirt.

FN<sup>®</sup> 1 BioMax is used as an effective antibacterial surface protection for interior walls. It can be applied to concrete, ceramic, stone and other common surfaces.

The treated surface also protects against gradual soiling by airborne dirt. The coating protects the substrate against UV radiation - disrupting the structure of the substrate and fading colors.

Video - [Interior Application](https://www.youtube.com/watch?v=ASAg1T-ZH8&t=89s) (https://www.youtube.com/watch?v=ASAg1T-ZH8&t=89s)



**SUPER-STRONG  
SELF-CLEANING  
EFFECT**



**PREVENTS  
GROWTH OF  
BACTERIA**



**LOW ENERGY  
CONSUMPTION**



**PREVENTS  
INFECTION**



**GUARANTEE OF  
EFFECTIVENESS**



## PRODUCT DESCRIPTION:

Functional Coating FN<sup>®</sup> 1 BioMax was developed on the basis of FN<sup>®</sup>1 Coating to **maximize its antimicrobial function** and enable its use as an **effective long-acting biocidal agent** in healthcare facilities, senior homes and homes, and elsewhere to improve protection against spread infections. FN<sup>®</sup>1 BioMax is a composite antibacterial protective coating based on titanium dioxide 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 when the daylight or artificial light with the UVA spectrum is captured.**

Its protective and self-cleaning properties are **inexhaustible, unlike chemical products**. It provides extremely effective substrate protection and is therefore often used as an effective technology **to reduce the risk of transmitting diseases indoors** - especially in healthcare facilities.

Functional coating FN<sup>®</sup> 1 BioMax is **inert, does not contain any organic substances and does not release any undesirable chemicals into the environment.**

## PROPERTIES:

- **It effectively destroys microorganisms - viruses, bacteria, fungi and other microorganisms**
- **Prevents the establishment of viruses and bacteria - reduces the risk of transmitting infections**
- **Very suitable for allergy sufferers and asthmatics**
- **With a photocatalytic effect, it cleans the air of organic pollutants**
- **High UV protection - against deterioration and degradation of paint**
- **Self-cleaning function - protects the surface from dirt scattered in the air**
- **High breathability and vapor permeability, concrete certified**

## APPEARANCE:

FN<sup>®</sup> 1 BioMax is semi-transparent. The basic version has a white shade, it is also possible to order colored shades. The coating thickness is optimally 5-20 microns.

The layer is active immediately after the incident of daylight or artificial light with a share of the UVA spectrum (interior), the antibacterial effect is assured 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 aged after 24 hours.

**THE PHOTOCATALYTIC EFFECT IS PERMANENT, INEXHAUSTIBLE AND DOES NOT FADE WITH TIME.**

**ALL PROTECTIVE FUNCTIONS ARE PRESERVED FOR THE WHOLE EXISTENCE OF THE COATING.**

Dirt, bacteria or other microorganisms do not deposit on the surface created by the FN<sup>®</sup> 1 coating that is activated by UV light (it acts as a barrier against microorganisms). It is also a highly efficient technology for air decontamination.

Manufacturer's recommendations for the use of FN<sup>®</sup> 1 BioMax antibacterial functional coating in medical facilities pursuant to Decree No. 306/2012 Coll .:

- Renewal of the FN<sup>®</sup> 1 BioMax once every five years - surgery and operating theaters, acute bed intensive care workplaces, collection rooms, laboratories, infectious wards, pediatric and neonatal wards.
- Renewal of FN<sup>®</sup> 1 BioMax once every seven years - other except premises of non-health care facilities

### APPLICATION OF FN<sup>®</sup> 1 BioMax RADIALY REDUCES VIRUSES, BACTERIA, Fungi and Other MICRO-ORGANISMS.

Reviews of the National Institute of Public Health - Antimicrobial Activity FN<sup>®</sup> 1 BioMax: <http://fn-nano.com/wp-content/uploads/2018/01/szu-stimeni-antimikrobiani-aktivity-biomax.pdf>

SZU - CEM, NRL laboratories for disinfection and sterilization performed testing of antibacterial effectiveness of FN<sup>®</sup> 1 BioMax sample according to ISO 22196 modified test method. At a test temperature of 36 ° C - 1 ° C, relative humidity of the environment greater than 90% and for 5 hours, the following results were obtained for individual microbes:

(K = control 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

All of these microbes reduced the number of microorganisms by 5 log orders, which provides a bactericidal effect. The biocidal function of the composition is enhanced by a strong self-cleaning effect and air purification based on the photocatalytic effect of titanium dioxide.

### COMPOSITION:

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

The coating does not contain any organic compounds in accordance with European and worldwide environmental and health protection trends. The applied FN<sup>®</sup> 1 BioMax coating is inert and completely safe. **It does not release any substances into the environment.**

## RECOMMENDATIONS FOR USE:

### INTERIOR:

#### Areas of application:

**Surfaces with permanent antibacterial surface suitable for medical facilities.**

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

**GARAGES, CELLARS, BUNKERS** - sanitary treatment and air purification from microbes, viruses, toxins, car fumes and odors.

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

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



Motol Hospital - hematology



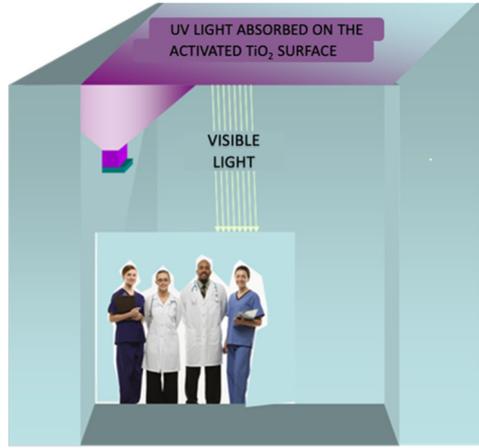
Eye Clinic Gemini - surgery. hall

### For masonry and plasterboard substrates

In the interior, FN® 1 BioMax functional coatings are usually applied to the ceiling for greater efficiency and can also be applied to room walls.

FN® 1 BioMax cannot be colored, therefore it is only available in white.

**It sets a higher standard of protection for medical staff and patients.**



## METHOD OF APPLICATION:

**Prior to each application, the coating should be thoroughly shaken in the package in which it is supplied. Perfect shaking is required to achieve even mixing of the insoluble dust component in the coating. This is necessary to ensure the proper functioning of the protective coating. Before applying FN® technology, it is important to have the primer perfectly matured. FN® coatings can be applied to the primer after 24 hours at the earliest. This is important for correct functionality of the coating.**

It is therefore important that the paint is always 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 pouring.

To achieve a nice appearance, we always apply as thin as possible, but continuous and even layer, which is allowed to dry before the next coat.



Spraying - optimally three coating layers. On smooth surfaces, the manufacturer recommends spraying to create a thin, even layer.



Roller application optimally in three coats is suitable for virtually all surfaces. Even application requires some skill.



Brush application (for hard-to-reach areas) optimally in three coatings is suitable for hard-to-reach areas, deeper diffusion of the active substance and for the treatment of areas that may be affected by mold, for example.

- Cover all areas that are not treated with FN®
- The layer should be allowed to dry between individual layers
- Do not apply on wet surfaces
- For better effect we recommend thorough cleaning of surfaces before application.

### **Do not apply to water-repellent (hydrophobic) surfaces.**

The method of application, aids and equipment used must correspond 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 so-called de-icing.

### COATING:

*After application, however, not earlier than 24 hours after application, the coating should be activated by gently spraying. You can spray, for example, with a hand-held sprayer and is carried out with plain plain or distilled water. This will greatly increase its efficiency.*

### **Dilution:**

Do not dilute!

### **Consumption:**

**USUAL CONSUMPTION FOR CREATING A PROTECTIVE SURFACE:** 7 - 10 m<sup>2</sup> / l in three coats (depending on material absorbency, surface roughness and application method)

**Cleaning tools:**

Water - as soon as possible after use.

**PACKAGING:**

Plastic containers 1 and 5 liters

**STORAGE:**

Not more than 3 years from the date of manufacture in the cold, in the unopened original package. Before use, mix thoroughly by shaking in the original container. Do not allow to freeze!

**SAFETY PRECAUTIONS FOR HANDLING FN®1 BIOMAX COAT:**

Observe safety precautions in accordance with the safety data sheet and applicable regulations, wear a respirator or other suitable respiratory equipment. Do not breathe spray mist, wear respirator, safety goggles and helmet or other means to protect eyes, face and skin. In case of contamination, rinse thoroughly with water and treat with cream. In case of irritation, consult a doctor.

**WASTE DISPOSAL:**

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

**NOTICE:**

The information given is based on the current state of knowledge and experience and has been compiled to the best of our knowledge, but in no case can it be construed as a legal guarantee of any kind.

**OWNER OF PATENT AND MANUFACTURER:****Advanced Materials – JTJ s.r.o.**

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**CZECH INVENTION-PROTECTED BY PATENT AND FN® TRADEMARK  
VERIFIED BY MORE THAN TEN YEARS OF PRACTICAL APPLICATIONS**