



## TECHNICAL SHEET

### FN NANO®3 FUNCTIONAL COATING

- ⇒ Interior low-cost and noiseless "air purifier"
- ⇒ A photocatalytic coating specially developed to create surfaces with maximum air purification efficiency and to protect against the build-up of microorganisms
- ⇒ The created self-cleaning surface performs the function of air purification with long-term efficiency
- ⇒ Guarantee of functionality in the interior – 15 years <sup>[1]</sup>



**PRODUCT DESCRIPTION:** This is a special ceiling coating whose protective functions are based on the use of the physical phenomenon of photocatalysis and on other physical properties of the materials it contains. The functionality of the coating is virtually inexhaustible, unlike chemical products. FN NANO®3 functional coating is an aqueous suspension of patent-protected mineral substances with a high content of photoactive titanium dioxide (TiO<sub>2</sub>). The high TiO<sub>2</sub> content and the optimized mineral binder in the coating layer guarantee extremely effective protection of the substrate. It is also designed for the harsh conditions of medical and industrial production. It serves to create the upper mineral active photocatalytic layer providing the function of air purification and reduction of viruses and microorganisms. It is used primarily indoors as a composition for ceilings. It is used as a highly efficient low-cost technology for cleaning air from a wide range of pollutants and odors. It creates a functional layer on the ceiling and walls, which, in addition to cleaning the air, effectively prevents the deposition of microorganisms. The product will be appreciated especially by those who have various allergies, asthma, etc., to whom this coating will help create a healthier and cleaner environment where there are more people (shopping malls, airport halls, office buildings...), as well as at home, in school facilities. It is supplied in basic white form and **cannot be colored**.

#### PHOTOCATALYSIS PROVIDES:

- Cleaning of odors, allergens, VOCs, viruses and bacteria from the air
- High effectiveness against mold and micro-organisms
- Lower transmission of airborne infectious diseases and reduced risk of asthma
- Ecological solution without chemical action, purely physical effect

**THE PHOTOCATALYTIC EFFECT IS PERMANENT, INEXHAUSTIBLE AND DOES NOT DIMINISH OVER TIME  
ALL PROTECTIVE FUNCTIONS ARE MAINTAINED THROUGHOUT THE LIFE OF THE COATING.**

**APPEARANCE OF THE COATING:** FN NANO®3 is white and has a relatively high opacity. Transparency is about 30-40 %. The thickness of the coating layer is optimally 10-40 microns. The layer formed is white and relatively soft, so **we recommend applying the coating on the ceiling and surfaces where there is no risk of abrasion damage**. The coating is white in color and is suitable for all common types of plaster and brick or plasterboard substrates. The layer is active immediately after the impact of the ultraviolet component contained in daylight or artificial light with a proportion of the UVA spectrum. The maximum efficiency of the coating is achieved by light wavelength of 365 nm. The coating is mature after 24 hours.

**COMPOSITION:** Aqueous composite suspension of untreated titanium dioxide and proprietary inorganic binders. It contains very high concentrations of 100-110 g/l of photocatalyst, which ensures its long-term flawless protective function as well as high self-cleaning efficiency.

#### METHOD OF APPLICATION:

Before each application, the coating must be shaken very thoroughly (30 - 40 seconds) in the original container. Perfect shaking is necessary to achieve even mixing of the insoluble particles in the coating. This is crucial to ensure the proper function of the protective coating. Before applying the FN NANO® technology, the primer must be perfectly cured. On fresh painting, apply at the earliest after 24 hours, but better after 48 hours. It is not suitable for application on a base of clay glued paints!

It is important that the coating is always in motion and does not sediment. In practice, this means pouring off only a small amount of already thoroughly mixed coating before applying. Shake again before pouring. To achieve a nice appearance, always apply as **thin but continuous and even a coat** as possible, allowing it to dry completely before the next layer.

#### COMMON APPLICATION PROCEDURE:

**INTERIOR: For masonry and plasterboard substrates** – We recommend first removing the biological contamination and allowing the substrate to dry thoroughly. Then we use the system solution <sup>[1,2]</sup> (sealant FN® Primer, silicate paint FN® Sensitive and functional coating FN NANO®3). In case of problems with mold, fungi, etc., we recommend to first remove biological contamination, let it dry thoroughly and then apply one coat FN NANO® 1 as a prevention against the deposition of microorganisms, then apply two more coats of functional coating FN NANO® 3. To ensure full functionality in interiors, it is necessary to ensure access of ultraviolet radiation with a minimum intensity of 0.2W/m<sup>2</sup> to the created FN NANO® surface. A detailed procedure for the application of FN NANO® functional coatings is published on the website in the section FN NANO® Technology/Hints and Tutorials. ([www.fn-nano.com](http://www.fn-nano.com))





**Spraying** – in three layers to form a thin uniform layer. Pneumatic spraying or high-pressure airless spraying can be used



**Roller application** – in three coats is suitable for virtually all surfaces. Requires some skills to make a homogenous layer.



**Brush application** – in three coats, it is suitable for hard-to-reach areas, deeper diffusion of the active substance and for treating areas that may be affected by mold, for example.

- Cover all surfaces that will not be treated with FN NANO® layer
- The layer must be allowed to dry between coats
- Do not apply in adverse weather conditions.
- Air and substrate temperature between + 10 °C and + 25 °C and relative air humidity maximum 75%.
- **Do not apply on a water-repellent (hydrophobic) surface.**

**Dilution:** Don't dilute!

**Consumption:** Typically, 1 liter= 7-10 m<sup>2</sup> of the final film (3 layers). Depending on the absorbency of the substrate, material consumption may vary.

**Cleaning tools:** With water – as soon as possible after use.

#### PRODUCT FEATURES:

Low viscosity liquid, product density: 1.0751 g/cm<sup>3</sup>, without volatile organic compounds (VOC).

High vapor permeability of the coating (class V1- High),

The thickness of the film is optimally 5-20 micrometers.

It does not contain any organic compounds (ISO 16000-10, ISO 16000-11). The applied coating is completely safe.

The coating is frost-resistant after maturing, it is not washable.

Adhesion to concrete 5 MPa (ČSN EN 1542: 2000)

Non-flammable liquid in the sense of ČSN 65 0201

**PACKAGING:** Plastic containers 1 and 5 liters

**STORAGE:** Maximum 3 years from date of manufacture at 10-25°C, in unopened original packaging. Before use, the mixture must be mixed very thoroughly by shaking in the original packaging. **Must not freeze!**

**SECURITY MEASURES AND ECOLOGY:** The coating does not contain any organic compounds in accordance with European and world trends in environmental and health protection. The applied coating is inert and completely safe. It does not release any harmful substances into the environment. More detailed information can be found on the packaging and in the Safety Data Sheet of the product – available on request.

#### More information:

*The information provided in this technical sheet is compiled on the basis of laboratory knowledge and our professional experience in order to achieve the best possible results at a professional level when using the product. Depending on the homogeneity and contamination of the substrate, optical defects may occur in the final coating. We do not accept any liability for damage caused by incorrect use of the product or its improper selection. Therefore, we recommend professionally and correctly testing our materials to see if they are suitable for the intended purpose of use under the given conditions.*

*This data sheet expires when an update is issued. The manufacturer reserves the right to make subsequent changes and additions.*

*Last updated: September 2021.*

#### THE OWNER OF THE PATENT AND THE MANUFACTURER:

Advanced Materials-JTJ, s.r.o., Kamenné Žehrovice č.p. 23, 273 01, Czech Republic, [www.amjtj.com](http://www.amjtj.com)

#### DISTRIBUTOR:

FN-NANO s.r.o. , Kamenné Žehrovice č.p. 23, 273 01, Czech Republic, [www.fn-nano.com](http://www.fn-nano.com)

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

<sup>[1]</sup> The 15-year guarantee only applies to interior applications in compliance with the specified application procedure by a professional certified company.

<sup>[2]</sup> Technical data sheet can be downloaded in the section FN NANO® Technology/Documents - technical data sheets [www.fn-nano.com](http://www.fn-nano.com)