



TECHNICAL SHEET

FN NANO® Wood functional coating



- ⇒ **Protective photocatalytic coating for a permanently fresh wood appearance with extremely long-lasting protection against greying and blackening and degradation.**
- ⇒ **Prevents the build-up of mold, fungi, and other micro-organisms.**
- ⇒ **High vapor permeability and breathability. The coating does not peel, does not crack, and breathes.**
- ⇒ **Super strong self-cleaning effect prolongs the protection of the wood and its beautiful healthy appearance.**

PRODUCT DESCRIPTION: FN NANO® Wood is a very effective functional mineral coating for wood protection, which works on the basis of a physical phenomenon called photocatalysis. The coating is activated by the ultraviolet component found in daylight and has highly effective protective and self-cleaning properties. Unlike **chemical products**, its protective properties against wood degradation and blackening due to UV radiation and micro-organisms are **harmless and inexhaustible**. It guarantees extremely effective protection of wood.

PHOTOCATALYSIS PROVIDES:

- **Long-lasting preservation of wood structures, fences, and wood cladding**
- **High effectiveness against molds, fungi, and other microorganisms**
- **Maximal protection against UV degradation**
- **Keeps the wood looking fresh for a long time**

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

APPEARANCE OF THE COATING: FN NANO® Wood is suitable for wood surfaces where we want to preserve as much of the original look and texture as possible. It is available in a basic semi-transparent form. It can also be colored for interiors. The thickness of the coating layer is optimally 5-20 microns. The resulting layer is semi-transparent, with whitish hue. The layer is active immediately after exposure to daylight (exterior) or artificial light with UVA spectrum (interior). The maximum coating efficiency is achieved by light wavelength of 365 nm. The coating is fully functional after 24 hours of dry curing. To maintain long-term functionality during curing, it must not be exposed to rain or water.

COMPOSITION: Purely water-based composite coating. It contains an untreated photocatalyst and inorganic binders. The color variants also contain mineral pigments. The very high concentration of the photocatalyst (50-70 g/l) ensures long-lasting and flawless protection and a particularly high self-cleaning efficiency.

APPLICATION PROCEDURES: 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. 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 wooden constructions such as timber frames and wooden cladding – the mineral coating itself has the character of an anti-fungal barrier and the ability to clean the surrounding air. This effect can be enhanced by ensuring sufficient access of the ultraviolet component of daylight or artificial UVA light targeted on the treated areas. It is not washable and aesthetically unsuitable for abrasion surfaces. To ensure full functionality indoors, it is essential to ensure access of ultraviolet radiation of a minimum intensity of 0.2W/m² to the formed FN NANO® surface. **The coating is not suitable for floors, polished, lacquered furniture and furniture in general.**

EXTERIOR: Timber buildings, wooden house cladding, gazebos etc. – for new constructions, we recommend applying the functional coating FN NANO® Wood as a protective layer to protect the wood surface. If the wood is already greyed, blackened or otherwise attacked, we recommend mechanical removal of the attacked layer by sanding and then application of the FN NANO® Wood functional coating.

During the application of the coating, the nanoparticles of active substances **penetrate the porous structure of the wood, where they form a mineral and photoactive surface layer**. Even a layer just a few microns thick is able to provide sufficient photocatalytic function, which guarantees a long-lasting protective effect of this coating even in outdoor environments. The applied layer is frost-resistant and highly vapor permeable thus no damage to the substrate is caused in winter by frosting.

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)





Brush application: in the direction of the wood grain, evenly. Optimally in two coats **on untreated and cleaned surfaces**. The brush is the most suitable for most applications, allowing deeper penetration of the active substance into the wood structure. Requires some skills to make a homogenous layer.

- Cover well all surfaces that will not be treated with the FN NANO® layer
- The layer must be allowed to dry between each application
- Do not apply in rain or adverse weather conditions
- Air and substrate temperature between +10 °C and +25 °C.
- **Do not apply on water-repellent (hydrophobic) surfaces.**

The technology used must be appropriate to the specific conditions, condition and requirements of the building on which the coating is to be applied.

PRODUCT FEATURES:

Low viscosity liquid, product density: 1.088 g/cm³, without volatile organic compounds (VOC).

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

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

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

Dilution: It's not diluted.

Consumption: Typical: 8-20 m²/l in **two coats on untreated surfaces** and **three coats on treated surfaces** (depending on material specificity and surface roughness)

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

PACKAGING: Plastic containers 1 and 5 liters

STORAGE: Maximum **4 months** from the date of manufacture at 10-25°C, in unopened original packaging. The mixture must be shaken very thoroughly before use. In the case of coloured variants, it is recommended to mix the suspension with a stick blender after shaking the bottle (canister) to ensure perfect distribution of the pigment in the liquid. **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.amitj.com

DISTRIBUTOR:

FN-NANO s.r.o., Kamenné Žehrovice č.p. 23, 273 01, Czech Republic, www.fn-nano.com

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