

## TECHNICAL SHEET

### FUNCTIONAL COATING FN NANO<sup>®</sup> WOOD

Protective photocatalytic coating for enduring wood appearance with extraordinary long-term protection against molds, fungi and other microorganisms

#### USAGE:

To protect the wood and maintain its beautiful appearance without fading, darkening and cracking - especially exteriors.

It acts as a barrier to UV radiation and microorganisms.

Ideal for wooden buildings, fences, wood panneling; wherever it's desired to preserve the beautiful wood veneer or exposed natural wood, long term. Also suitable for stained or glazed wood.

#### PRODUCT DESCRIPTION:

An effective functional mineral **coating for wood** protection, which works on the basis of a physical phenomenon called photocatalysis. The coating is activated by light and has highly effective protective and self-cleaning capabilities. Its protective properties against degradation and blackening of wood due to UV radiation and microorganisms **are inexhaustible**.

It can be used as a top coat for both raw, untreated wood and stained wood or surfaces that have already been treated with another glaze.

It comes in a transparent form, but can also be colored for differently colored wood types. FN<sup>®</sup> WOOD protective mineral coating is inert, contains no organic substances and does not release any unwanted chemicals into the environment.

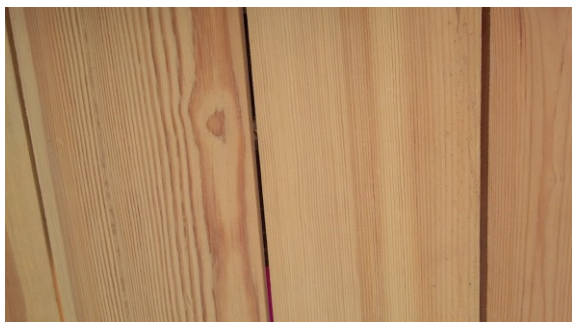
#### PROPERTIES:

- Highly effective against mold, fungus and other microorganisms
- Maximum underlying UV protection
- Protects wood against graying, blackening and degradation
- Maintains a lasting fresh appearance of wood
- High transparency
- High breathability and vapor permeability



## PROPERTIES:

FN NANO® WOOD is highly transparent and suitable for wooden surfaces where it is desired to keep the original appearance as much as possible. The photocatalytic titanium dioxide ensures the coating functions even with minimal amounts. The coating thickness is optimally 5-20 microns. The layer is almost transparent, with a slightly whitish translucence.



The layer is active immediately after daylight hits it. The coating is fully functional after drying for 24 hours. While drying, it must not be exposed to rain or water to maintain long-term function.

On the light-activated surface of FN NANO® WOOD coating, dirt, **bacteria and other microorganisms do not settle** due to photocatalysis (it acts as a barrier against microorganisms).

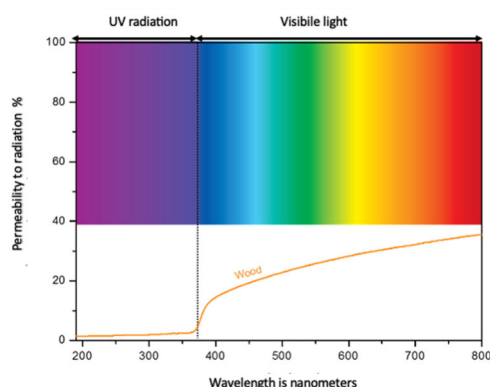
**THE PHOTOCATALYTIC EFFECT IS PERMANENT, DEEPLY BONDED AND DOES NOT WEAR OFF WITH TIME. THE PROTECTIVE FUNCTIONS ARE SELF-PERPETUATING AND LONGER LASTING.**

The **optical properties** of the functional coating FN NANO® WOOD are illustrated by the graph, which shows a high UV absorption which is in turn is transformed for the self-cleaning effect.

## COMPOSITION:

Pure water based composite coating. Contains uncoated photocatalyst and inorganic binders. The color variants also contain mineral pigments. Very high concentration of photocatalyst (50 - 70g / l) ensures long-term and faultless protection and especially high self-cleaning efficiency.

The coating does not contain any organic compounds in accordance with European and global standards. The applied FN NANO® WOOD coating is mineral and completely safe. It does not emit any substances into the environment.



## USAGE RECOMMENDATIONS:

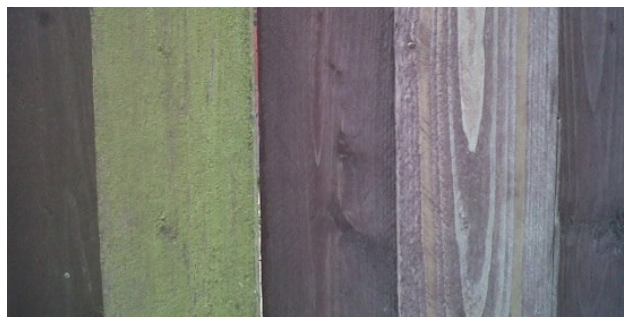
### EXTERIORS:

**Wooden constructions, timber cladding, gazebos, etc.** - in the case of new constructions, we recommend applying FN NANO® WOOD as a protective layer that will protect the wood surface against dirt, graying, blackening, microorganism penetration and mold as well as UV harm and color fading.

If the wood is already faded, darkened or otherwise affected, we recommend mechanical removal of the affected layer (sanding) and then applying our functional coating FN NANO® WOOD.



Can be applied (see photo, left) on both natural wood and already painted or lacquered wood.



Temporary remediation restoration of damaged Wood: If you do not want to remove the harmed surface, both FN NANO® WOOD and low-cost FN®1 can be used to preserve and progressively improve (Fig. left).

### INTERIORS:

For natural wood structures such as exposed timber and timber panelling, we recommend FN NANO® WOOD coating to prevent mildew and microorganism deposits. This mineral coating itself has the character of a mildew barrier and this effect is even multiplied by providing a sufficient light source to activate it.

The coating is unsuitable for floors, polished furniture and furniture in general.





## APPLICATION:

The coating must be thoroughly agitated before each application to uniformly distribute the photocatalyst in the binder solution. Before applying FN<sup>®</sup> technology, it is important to have any prior applications (such as wood stain) matured and dry. In the case of application on freshly applied wood stain, apply not earlier than 24 hours or only after the underlying application is perfectly dry, since it is important for the correct functionality of the coating.

In practice, this means that only a small amount of the already thoroughly mixed coating is poured and then applied. Shake the container thoroughly before re-pouring. Always apply a thin, even layer that is thoroughly dry before applying the next layer. The final coat must form a thin continuous layer. When applying, avoid the formation of both dry and clearly wet areas on the coated surface.



**Brush application:** optimally in two coats on treated surfaces and in three coats on untreated surfaces. The brush is most suitable for most applications, allowing deeper penetration of the active substance into the wood structure.

Consistent application requires some skill.

- Cover all untreated areas with the FN<sup>®</sup> layer well
- Layers must be allowed to dry between applications
- Never apply in the rain
- Minimum air and substrate temperature of + 10° C (50°F)
- Apply to fresh and clean surfaces

The technology used must correspond to the specifications, conditions and requirements of the object on which the coating is to be applied.

During application of the coating, the nanoparticles of active substances **penetrate into the porous structure of the wood where they form a mineral and photoactive coating**. Even a layer of just a few microns is able to provide sufficient photocatalytic function, which guarantees many years of protective effect of this surface treatment even in outdoor environments. The applied layer is frost-resistant and highly vapor-permeable - in winter, the substrate is not damaged by defrosting.

### **Thinning:**

Do not dilute.

### **Consumption:**

**USUAL CONSUMPTION FOR CREATING A PROTECTIVE SURFACE: 8-20 m<sup>2</sup> / l in two coatings on untreated surfaces and in three coatings on treated surfaces** (depending on material absorbency and surface roughness)

### **Cleaning:**

Water - as soon as possible after use.

## PACKAGING:

Plastic containers of 1 to 5 liters.

## STORAGE:

Maximum **4** month from date of manufacture at 10-25°C, in unopened original packaging. Before use, mix thoroughly by shaking in the original container. For color variations, it is recommended to mix the suspension (paint) with a stick mixer after thorough mixing in the bottle (canister) for more than 2 months from the date of manufacture to ensure perfect pigment distribution in the liquid.

## FN NANO® WOOD HANDLING PRECAUTIONS:

Observe safety precautions in accordance with the safety data sheet and applicable labor protection regulations. Keep out of the reach of children. Do not eat or smoke while working. Use a respirator or other suitable respiratory equipment when spraying. 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.

Hand over the empty packaging to a collection point for packaging waste.  
Follow the instructions on the safety data sheet and local regulations.

### Notice:

*The information provided is based on current knowledge and experience and has been compiled to the best of our knowledge, but in no way may be construed as a legal guarantee of any kind.*

## PATENT HOLDER AND MANUFACTURER:

**Advanced Materials – JTJ s.r.o.**  
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## DISTRIBUTOR:

**FN-NANO s.r.o.**  
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