
# TECHNICAL SHEET

## FUNCTIONAL COATING FN®1

### Transparent

**Protective photocatalytic coating specially developed for stone, unglazed ceramics, concrete and other substrates with a porous structure. (Not for wood.) Due to its high breathability and permeability, the substrate does not freeze in winter. The coating is highly transparent. It preserves the original appearance of the substrate and protects its color for a long time.**

**The self-cleaning surface delivers is a perfect UV shield, against microbiological attack and dirt scattering from the air. It retains high efficiency for a long time with a 10-year guarantee on vertical surfaces.**

## USAGE:

**To preserve the design, structure and color of the substrate (natural stone, unglazed ceramics, cladding concrete, structured renders and other porous materials) and their degradation due to the settling of microorganisms and dirt dispersed in the air and also to protect against the degrading effects of ultraviolet radiation. It can be used for both the exterior and interior.**

**Suitable for all porous surfaces, such as exposed concrete, raw masonry, stone, artificial stone, brick, stone cladding, and ceramics and plaster, where desired to maintain a consistent color or natual look over the long term. (It cannot be applied to a strongly water repellent surface.)**

**As with other types of FN® functional coatings, it effectively provides air purification for harmful and odorous substances and protects against microorganisms. It can be used as an effective part of environmental measures to reduce the environmental impact of business operations, building operations and transport.**

## PRODUCT DESCRIPTION:

A special, very effective functional mineral coating for the protection of surfaces from natural facades and sculptures, which is based on a purely physical phenomenon called photocatalysis. FN® 1 Transparent coating is activated by daylight and has highly effective protective and self-cleaning properties. Effectively protects surfaces against dirt (soot and dust particles), microorganisms (molds, algae) and UV radiation degradation (decay and erosion of stone, decomposition of paint, plaster, paint dyeing) **unlike in chemical products**..

It can also be used as a top coating for both raw, untreated masonry as well as other surfaces that have previously been treated with another glaze.
We supply it in a transparent form and, if necessary, we can supply it with color shading in the case of dark and rich colors. FN® 1 Transparent coating is inert, contains no organic substances and does not release any unwanted chemicals into the environment.

Video - How to create a self-cleaning facade (https://youtu.be/bkved-TNRFw)

## PROPERTIES:

- **High breathability and vapor permeability – won't not freeze or crack in winter**
- **Highly effective against the deposition of molds, algae, fungi and other microorganisms**
- **Maximum UV protection - against cradking and surface erosion**
- **Self-cleaning function - protects the surface for a long time and keeps the appearance clean**
- **Very suitable as protection of exposed concrete (preserves its structure and color)**
- **Suitable for darker and richly colored façade colors (we recommend ordering the colored tint).**

## COATING APPEARANCE:

FN®1 Transparent is transparent and suitable for all porous surfaces, where we want to admit a specific substrate structure and achieve a beautiful and clean appearance for as long as possible, without algae, fungus, fungi and other microorganisms. The photocatalytic titanium dioxide ensures the coating functions even in minimal amounts. The coating thickness is optimally 5-20 microns. The layer formed is transparent, with a slightly whitish tinge in the beginning (it creates a slightly matt like waxy film).

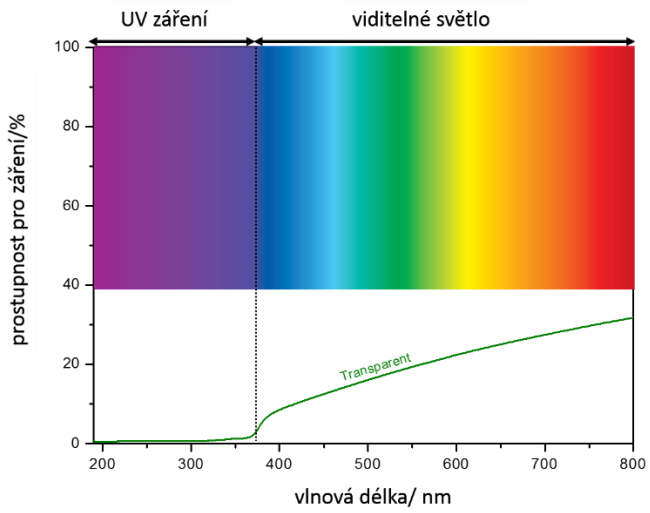
The layer is active immediately after the impact of daylight (exterior) or artificial light with a proportion of UVA spectrum (interior). The optimal wavelength of UV light for illumination from an artificial source is 365 nm. The coating is mature after 24 hours and fully functional after the first rain or rinsing with water.

**THE PHOTOCATALYTICAL EFFECT IS PERMANENT, DURABLE, AND LONG-LASTING.**
**ALL PROTECTIVE FUNCTIONS ARE PROTECTED WHERE THE PAINT LAYER IS EXISTS.**

The surface created by FN® 1 Transparent Coating, which is activated by UV light, dirt, bacteria and other microorganisms do not settle due to photocatalysis (it acts as a shield against microorganisms).




The **optical properties** of the FN®1 Transparent functional coating are illustrated by the enclosed graph, where it can be seen how the shielding efficiency increases dramatically when switching to UV. At UV wavelengths, nanocrystals absorb virtually all energy and convert it into a self-cleaning effect and an active barrier against microorganism deposition.




## COMPOSITION:

A water-based composite coating that contains a uncoated photocatalyst and inorganic binders. In the case of light coloring, it also contains mineral pigments. Very high concentration of photocatalyst (50 - 70 g / liter ensures long-term and faultless protection and especially high self-cleaning and antibacterial efficiency).
The coating does not contain any organic compounds in accordance with European and global environmental and health trends. The applied coating of FN®1 Transparent is inert and completely safe. It does not release any substances into the environment.

## RECOMMENDATIONS FOR USE:

***EXTERIOR:***

**Certified for concrete protection and also suitable for stone and natural wall, lime, travertine, stone, ceramic tiles, bricks, concrete brick and other similar tiles, common types of plaster - we recommend applying FN®1 Transparent for new construction as a protective layer that will protect the surface and reduce the concentration of viruses, bacteria, molds and prevent the growth of lichens and other surface-eroding microorganisms.**

**In case of already dirty and attacked facade by microorganisms we recommend first washing it, treatment with penetration and then applying our functional coating FN® 1 Transparent. For darker or rich façade colors, we recommend using a tinted version that matches the façade shade as a protective layer in 3 layers to create a self-cleaning surface.**

**Statues in the chateau park in Paskov - comparison of treated and untreated sandstone statues (2 years after application)**

***INTERIOR:***

**For masonry and plasterboard substrates, artificial stone, genuine bricks and their imitation** - in case of existing problems with molds, fungi, etc., we recommend that you first treat the surfaces with anti-fungal agents, let them dry and then apply FN® 1 Transparent as a prevention against microorganism deposits. Here, a sufficient light source for its activation must be provided for the paint to functioní.

## METHOD OF APPLICATION:

**Before each application, the coating should be shaken vigorously in the package in which it is delivered. Robust 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.
For best results, always apply the thinnest but **a consistent even layer that will dry thoroughly before re-painting**.

 Spraying - optimally 3x. For smooth surfaces, it is recommended to spray thin, even layers.

 Brush application in one to three layers is very suitable for poorly accessible areas, deeper diffusion of the active substance and for the treatment of areas that may be affected by mold, for example..

 Roller application in one to three layers is suitable for practically all surfaces. Even application requires some skill.

- Cover all areas to be treated with the FN® layer well
- The layer must be allowed to dry between applications
- Do not apply in rain
- 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.

During application of the coating, the nanoparticles of the active substance penetrate into the porous structure of the substrate where they bind in the layer of inorganic binders. Even an island-like layer of only 200 nanometers is capable of providing about fifty percent of the photocatalytic function, which guarantees many years of functionality and efficiency in the surface. The applied layer is frost-resistant and highly vapor-permeable - in winter, the substrate is not damaged by so-called defrosting.

***Dilution:***
Do not dilute!

***Consumption:***
USUAL CONSUMPTION FOR CREATING A PROTECTIVE SURFACE: 6-15 m2 / l in three coats (depending on material absorbency, surface roughness and application method)

***Tool cleaning:***
Water – soon after use.

## PACKAGING:

Plastic containers 1 and 5 liter

## STORAGE:

Up to 4 months from date of production at 10-25 ° C, in 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..

## HANDLING FN®1 TRANSPARENT 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.

## WASTE DISPOSAL:

Hand over the empty packaging to 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.*

## OWNER AND PATENT HOLDER:

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***PATENTED CZECH TECHNOLOGY, PROTECTED BY THE FN® TRADEMARK***

***OVER 10 YEARS OF PROVEN TECHNOLOGICAL SUCCESS***