



TECHNICAL SHEET

FUNCTIONAL COATING FN[®]1

Protective photocatalytic coating for durable clean facades, walls, concrete structures and other surfaces. Extends the life of the facade. It ensures active self-cleaning of the surface from dirt and color fading. Protects against settling of microorganisms - greening and blackening of the surface. It forms an impenetrable UV shield.

Functional guarantee for vertical surfaces - 10 yrs

USAGE:

For the protection of facades, walls, building structures, concrete and statues.

Extremely suitable for thermally insulated facades.

In the exterior, it provides a permanently clean surface where no soot or other dirt from the air is deposited or blackened by microorganisms. In the interior, it can be used as an antifungal protection for problematic areas.

Suitable for all porous surfaces such as concrete, raw masonry surfaces, stone, unglazed ceramics and plaster, where their specific structure is at stake and maintain a clean appearance and consistent, long-term color stability. Extends the life of facades by protecting them from degrading UV rays which can accelerate surface erosion.

PRODUCT DESCRIPTION:

FN[®]1 is a very effective functional mineral coating for the protection of building surfaces and sculptures, which operates on the basis of photocatalysis. The coating is activated by daylight and has highly effective protective and self-cleaning capabilities. It protects surfaces efficiently and long-term against dirt (soot and dust particles), microorganisms (molds, algae) and UV radiation degradation (deterioration of paint, plaster and paint color). Its protective and self-cleaning properties are inexhaustible in contrast to chemical products. It can also be used as a topcoat for both raw, untreated wood and stained wood or surfaces that have previously been treated with another glaze.

We supply it in semi-transparent form with milky haze, but it can also be colored for differently colored substrates. FN[®] 1 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) (https://youtu.be/bkved-TNRFw)

PROPERTIES:

- **Highly effective against the deposition of molds, fungi, algae and other microorganisms**
- **Maximum UV protection - against cracking and surface erosion**
- **The self-cleaning function keeps the appearance clean for a long time**
- **High breathability and vapor permeability**
- **Very suitable as a protection for exposed concrete (and other specific substrate structures)**

COATING APPEARANCE:

FN[®]1 it is translucent and suitable for all porous surfaces, where desired to use a specific substrate structure, preserving its clean appearance from algae, fungi, fungi and other microorganisms. The photocatalytic titanium dioxide ensures the coating functions even with minimal amounts. The coating thickness is optimally 5-20 microns. The layer is semi-transparent with a slightly whitish tinge. The dried coating behaves like a semi-transparent stain. The paint can be colored for differently colored substrates.

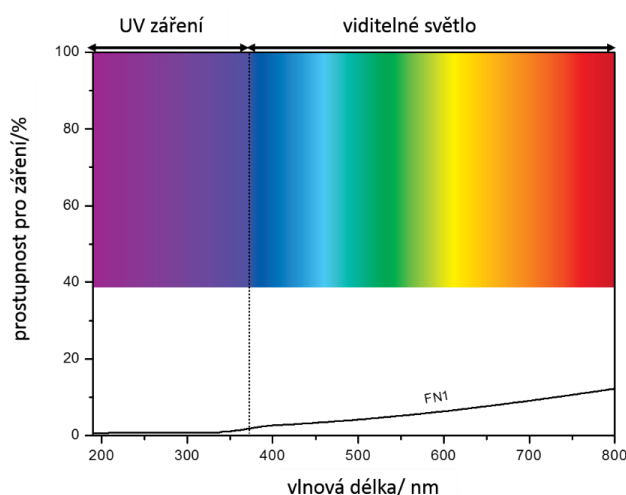
The layer is active immediately after daylight appears (exterior) or artificial light with a proportion of UVA spectrum (interior). Maximum paint efficiency is at a wavelength of 365 nm.

The coating is mature after 24 hours and fully functional after the first rain or rinsing with water.

**THE PHOTOCATALYTICAL EFFECT IS PERMANENT, UNFORCEABLE, AND INESHAUSTIBLE.
ALL PROTECTIVE FUNCTIONS ARE PROTECTED WHERE THE PAINT LAYER IS EXISTING.**

On the surface formed by the FN[®] 1 coating, which is activated by UV light, dirt, bacteria or other microorganisms won't accumulate (it acts as a barrier against microorganisms).

The optical properties FN[®]1 are illustrated by the enclosed graph, where it is clearly shown how the shielding efficiency increases dramatically with UV radiation. At UV wavelengths, photocatalyst nanocrystals absorb virtually all energy and convert it into a cleansing effect and an active barrier against microorganism deposition.



**UV-FILTR
BAREVNÁ
STÁLOST**



**SUPER SILNÝ
SAMOČISTIČÍ
EFEKT**



**PREVENČE
USAZOVÁNÍ
BAKTERIÍ**



**ZÁRUKA
FUNKČNOSTI**

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 environmental and health trends. The applied FN®1 coating layer is inert and completely safe. It does not release any substances into the environment.

RECOMMENDATIONS FOR USE:

EXTERIORS:

Certified for concrete protection and also suitable for the treatment of walls, limestone, travertine, stone, ceramic tiles, conventional types of plaster - for new construction, we recommend applying FN®1 as a first protective layer to protect the surface and reduce the concentration of viruses, bacteria, mold 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 for the first layer.

Photo of the FN®1 functional coating contrasted on a facade after 7 years



Self-cleaning protective effect on Barrandov protective barriers - 5 years after application



INTERIORS:

Masonry and plasterboard substrates - in case of problems with molds, fungi, etc., we recommend that you first treat the surfaces with anti-fungal agents, allow them to dry and then coat FN® 1 as a prevention against microorganisms. Here, a sufficient light source must be provided to activate the coating.

METHOD OF APPLICATION:

Before each application, the coating should be shaken vigorously (30 - 40 s) in the package in which it is delivered. Perfect 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, each time. For a nice look, we always apply the thinnest but consistent even layer that will dry thoroughly before re-painting.



Spraying - optimally 3x. For smooth surfaces, the manufacturer recommends spraying to form a thin, even layer.



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.



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

- Cover all areas that will not be treated with the FN® layer well
- Coats must be allowed to dry between layers
- Do not apply under 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.

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 with a thickness of only 200 nanometers is capable of providing a photocatalytic function of about fifty percent, which guarantees a long-lasting photocatalytic effect of this surface finish even in outdoor environments. The applied layer is frost-resistant and highly vapor-permeable - in winter, the substrate is not damaged by so-called defrosting.

Thinning:

Do not dilute!

Consumption:

USUAL CONSUMPTION FOR CREATING A PROTECTIVE SURFACE: 6-12 m² / l in three coats (depending on material absorbency, surface roughness and application method)

Cleaning tools:

With water - as soon as possible after use.

Plastic containers 1 and 5 liters.

STORAGE:

3 years 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. Do not freeze the liquid.

FN[®] 1 HANDLING PRECAUTIONS:

Observe the safety precautions in accordance with the safety data sheet and use a respirator or other suitable respiratory equipment with applicable regulations. Do not breathe spray any mist, always 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:

Deliver 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 deliver 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.

PATENT OWNER AND MANUFACTURER:

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***A CZECH INVENTION - PATENT PROTECTED WITH FN® TRADEMARK
MORE THAN TEN YEARS OF PRACTICAL TESTING***