



TECHNICAL SHEET

FUNCTIONAL COATING FN[®]1

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

Guaranteed functionality on vertical surfaces - 10 years.

USE:

For protection of facades, walls, building structures, exposed concrete and stone sculptures.

Particularly suitable for insulated facades.

The exterior ensures a permanently clean surface on which soot and other dirt from the air won't settle and cause the surface to blacken, or become green from microorganism growth. In the interior it can be used as a mold protection for problematic areas.

Suitable for all porous surfaces such as concrete, raw masonry, stone, unglazed ceramics and plasters, where we want to admit their specific structure and maintain a long-lasting clean appearance and color consistency. It extends the lifespan of facades by perfectly protecting them from the degrading effects of UV radiation, which accelerates surface erosion and causes discoloration.

PRODUCT DESCRIPTION:

The functional coating FN[®]1 has been specially developed for the protection of concrete, for which it is also certified, on the surface of which the coating layer is attached. It is designed for outdoor use. It can also be applied to surfaces made of raw masonry, stone, ceramics, plaster and common building materials that do not repel water.

It works on the basis of a physical phenomenon called photocatalysis. The coating is activated by ultraviolet light which is contained in daylight and has highly effective protective and self-cleaning properties. It effectively and durably protects surfaces against dirt deposits (soot and dust particles), microorganisms (molds, algae) and against degradation by UV radiation (decomposition of binder paints, plasters and dyeing). Its protective and self-cleaning properties are inexhaustible, unlike chemical products.

We supply it in a semi-transparent form with milky turbidity (Transparency approx. 60-65%), but it can also be colored for variously colored types of substrates. The FN[®]1 coating is inert,

does not contain any organic substances and does not release any undesirable chemicals into the environment.

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

PROPERTIES:

- **Highly effective against mold, fungi, algae and other microorganisms**
- **Maximum UV protection - against fading and surface erosion**
- **The self-cleaning function maintains a clean appearance over the long term**
- **✓High breathability and vapor permeability**
- **Very suitable as protection of exposed concrete (works well with the specific structure of the substrate)**

APPEARANCE:

FN[®]1 is translucent and suitable for all porous surfaces where desired to exhibit the specific structure of the substrate, maintaining its clean appearance without attack by algae, molds, fungi and other microorganisms. Photocatalytic titanium dioxide ensures the function of the coating even in minimal quantities. The coating thickness is optimally 5-20 microns. The created layer is semi-transparent with a slightly whitish tinge. The dried coating behaves as a semi-transparent glazing. The paint can be colored for different colors.

The layer is active immediately after daylight (exterior) or artificial light with UVA spectrum (interior). Maximum coating efficiency is UV range of 365 nm.

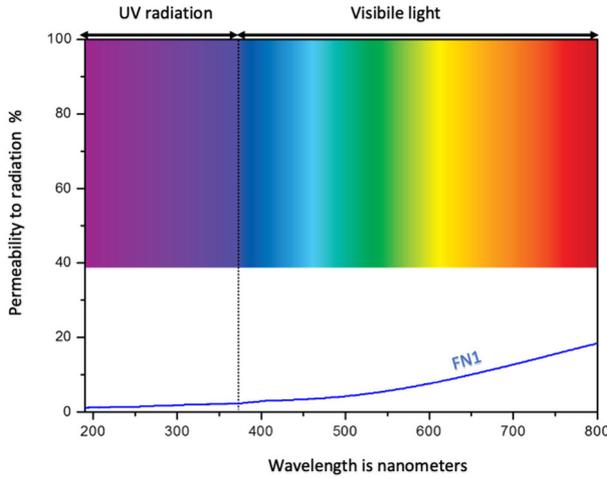
The paint is matured after 24 hours and fully functional after the first rain or rinsing with water.

The photocatalytic effect is permanent, inexhaustible and does not fade with time

ALL PROTECTIVE FUNCTIONS ARE PRESERVED FOR THE WHOLE EXISTENCE OF THE COATING.

Dirt, bacteria or other microorganisms do not deposit on the surface created by the FN[®] 1 coating that is activated by UV light (it acts as a barrier against microorganisms).

The optical properties of the functional coating FN[®]1 are illustrated by the enclosed graph, which illustrates how the shielding efficiency increases dramatically when it passes into ultraviolet (UV) radiation. At UV wavelengths, photocatalyst nanocrystals absorb virtually all of the energy and convert it into a cleansing effect and an active barrier against the build-up of microorganisms.



COMPOSITION:

Pure water-based composite paint. Contains uncoated photocatalyst and inorganic binders. Color variants also contain mineral pigments. The 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 worldwide environmental and health protection trends. The applied FN[®]1 coating 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 treatment of walls, limestone, travertine, stone, ceramic tiles, common types of plasters - in new buildings we recommend applying a functional coating FN[®]1 as the first protective layer that will protect the surface and reduce the concentration of viruses, bacteria, and prevent the growth of lichens and other surface-eroding microorganisms.

In case of already dirty and contaminated facade with microorganisms, we recommend first washing it, penetrating it and then applying our functional coating FN[®]1 for the first layer.



Photo of the efficiency of functional coating FN[®] 1 on the facade for 7 years

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



**SUPER-STRONG
SELF-CLEANING
EFFECT**



**UV-FILTER
COLOR
STABILITY**



**PREVENTS
MICROORGANISM
BUILDUP**



**GUARANTEE OF
EFFECTIVENESS**

INTERIOR:

For masonry and plasterboard substrates - in case of problems with mold, fungi, etc., we recommend first treating the surfaces with a biocide, let them dry and then apply the first FN® 1 coating to prevent the build-up of microorganisms. FN®2 or FN®3. To ensure full functionality in interiors, it is necessary to ensure the access of ultraviolet radiation with a minimum intensity of $0.2W / m^2$ to the created FN NANO surface.

METHOD OF APPLICATION:

Prior to each application, the coating should be thoroughly shaken in the package in which it is supplied. Perfect shaking is required to achieve even mixing of the insoluble dust component in the coating. This is necessary to ensure the proper functioning of the protective coating. Before applying the FN® technology, we must have a primer that is perfectly cured. For fresh painting, we apply at the earliest after 24 hours, but better after 48 hours.

It is important that the paint is always being mixed well. In practice, this means that only a small amount of the already thoroughly mixed paint is poured and then applied. Shake again before pouring.

To achieve a nice appearance, we always apply as thin as possible, but continuous and even layer, which is allowed to dry before the next coat.



Spraying - optimally three coating layers. On smooth surfaces, the manufacturer recommends spraying to create a thin, even layer.



Roller application optimally in three coats is suitable for virtually all surfaces. Even application requires some skill.



Brush application (for hard-to-reach areas) optimally in three coatings is suitable for hard-to-reach areas, deeper diffusion of the active substance and for the treatment of areas that may be affected by mold, for example.

- Cover all areas that are not intended to be treated with FN with protective a covering.
- The layer should be allowed to dry between individual layers
- Do not apply during rain
- Minimum air and substrate temperature is + 10°C
- For a good appearance, do not apply a roller or brush to surfaces that are hotter (eg, from the sun) than 40°C.
- For better effect we recommend thorough cleaning of surfaces before application.

Do not apply to water-repellent (hydrophobic) surfaces.

During application of the coating, nanoparticles of the active substance penetrate into the porous structure of the substrate, where they bind in the layer of inorganic binders. An islet-like layer of only 200 nanometers is capable of providing a photocatalytic function of approximately fifty percent, which guarantees many years of functionality and efficiency of this coating even in outdoor environments. The applied layer is frost-resistant and highly vapor-permeable - in winter, the substrate is not damaged by so-called de-icing.

**Dilution:**

Do not dilute!

Consumption:

Typically 1 liter = 10m² of protective surface in three coats.

On the smooth surface in the interior of 10-12m², on the facades and walls of houses according to the structure of the surface we have to count with higher consumption - about 7-10m² of painted surface of 1 l in 3 paint layers on average.

Cleaning tools:

Water - as soon as possible after use.

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, 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. **DO NOT ALLOW TO FREEZE!**

SAFETY PRECAUTIONS FOR HANDLING FN1 COAT:

Observe the safety precautions in accordance with the safety data sheet and applicable labor protection regulations. Keep out of reach of children. Do not eat or smoke while working. Wear respirator or other appropriate respiratory equipment when spraying. Do not breathe spray mist, wear respirator, safety goggles and helmet or other means to protect eyes, face and skin. In case of contamination, rinse thoroughly with water and treat with cream. In case of irritation, consult a doctor.

WASTE DISPOSAL:

Dispose of the used empty packaging to a collection point for packaging waste. Dispose of packaging with product residues at a place designated by the municipality for the disposal of hazardous waste or hand over to a person authorized to handle hazardous waste. Observe the safety data sheet and local regulations.

NOTICE:

The information given is based on the current state of knowledge and experience and has been compiled to the best of our knowledge, but in no case can it be construed as a legal guarantee of any kind.

OWNER OF PATENT AND MANUFACTURER:

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CZECH INVENTION-PROTECTED BY PATENT AND FN® TRADEMARK

VERIFIED BY MORE THAN TEN YEARS OF PRACTICAL EXPERIENCE