



## TECHNICAL SHEET

### FUNCTIONAL PAINT FN®1 Transparent

Protective photocatalytic coating specially developed for stone, unglazed ceramics, concrete and other substrates with porous structure.

Due to its high breathability and vapor permeability, the substrate does not freeze in winter. The coating is highly transparent. Preserves the original appearance of the substrate and protects its color for a long time.

The self-cleaning surface created is a perfect shield against UV radiation, microbiological attack and dirt scattered in the air. High efficiency has been maintained for a long time with a guarantee of 10 years on vertical surfaces.

#### USAGE:

To preserve the appearance of beautiful drawings, texture and color of the substrate (natural stone, unglazed ceramics, cladding concrete, textured plasters and other materials with porous structure) and their deterioration due to microorganisms and dirt scattered in the air as well as to protect against the degrading effects of ultraviolet radiation. It is used for exterior and interior.

It is suitable for all porous surfaces such as exposed concrete, surfaces of raw masonry, stone, artificial stone, brick, imitation of stone cladding and also for ceramics and plasters, where we want to maintain a constant color and clean appearance in the long term. It cannot be applied to a highly water-repellent surface.

Like other types of functional coatings, FN® effectively provides the air purification function 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 companies, buildings and transport operations.

#### PRODUCT DESCRIPTION:

It is a special, very effective functional mineral coating **for the protection** of surfaces made of natural facade and sculpture, which works on the basis of a purely physical phenomenon called photocatalysis. The FN®1 Transparent coating is activated by daylight and has highly effective protective and self-cleaning properties. Effectively and long-term 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.**

It can also be used as a top protective glazing on both raw, untreated masonry and on other surfaces that have previously been treated with another glazing composition.

We supply it in transparent form and, if necessary, we can supply it in color-tinted colors for dark and color-rich substrates. The paint FN 1 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) (https://youtu.be/bkved-TNRFw)

## PROPERTIES:

- **High vapor permeability and breathability - stone does not defrost and crack in winter**
- **Highly effective against mold, algae, fungi and other microorganisms**
- **Maximum UV protection - against crushing and surface erosion**
- **Self-cleaning function - protects the surface for a long time and maintains a clean appearance**
- **Very suitable as protection of exposed concrete (preserves its structure and color)**

## APPEARANCE:

FN<sup>®</sup>1 Transparent is translucent and suitable for all porous surfaces where we want to admit the specific structure of the substrate and achieve a beautiful and clean appearance as long as possible, without attack by algae, fungi, 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 80% transparent, initially with a slightly whitish tinge (creates a slightly matt waxy film).

The layer is active immediately after daylight (exterior) or artificial light with UVA spectrum (interior). The optimal wavelength of UV light for illumination from an artificial source is 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, DEEPLY BONDED AND DOES NOT WEAR OFF WITH TIME.**

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

Photocatalysis does not deposit dirt, bacteria or other microorganisms on the surface created by the FN<sup>®</sup> 1 Transparent coating, which is activated by UV light (it acts as a protective shield against microorganisms).



**UV-FILTER  
COLOR  
STABILITY**



**SUPER-STRONG  
SELF-CLEANING  
EFFECT**

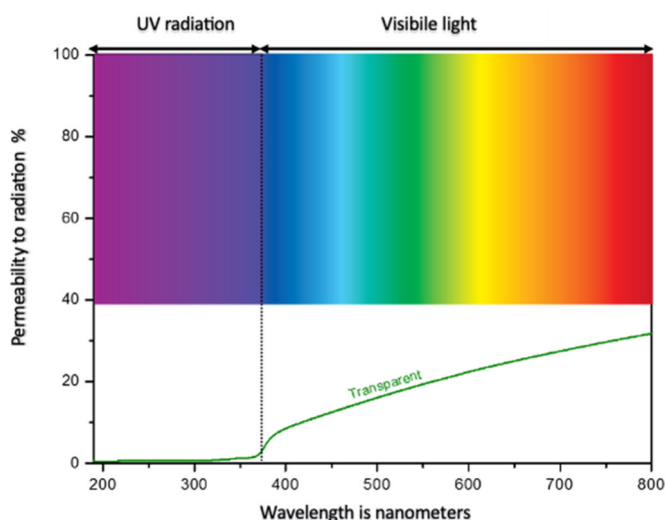


**PREVENTS  
MICROORGANISM  
BUILDUP**



**GUARANTEE OF  
EFFECTIVENESS**

**The optical properties** of the functional coating FN<sup>®</sup>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, nanocrystals absorb virtually all the energy and convert it into a self-cleaning effect and an active barrier against micro-organism settling.



## COMPOSITION:

It is a pure water-based composite paint containing a non-surface treated photocatalyst and inorganic binders. In the case of light coloring, it also contains mineral pigments. The very high concentration of photocatalyst (50 - 70 g / l) ensures long-term and flawless protection and especially high self-cleaning and antibacterial activity.

The coating does not contain any organic compounds in accordance with European and worldwide environmental and health protection trends. The applied FN<sup>®</sup>1 Transparent 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 stone and natural wall, limestone, travertine, stone, ceramic tiles, bricks, concrete brick strips and other similar types of plaster, common types of plasters** - we recommend applying FN<sup>®</sup>1 Transparent as a protective layer that will



protect the surface and reduce the concentration of viruses, bacteria, fungi and prevent the growth of lichens and other microorganisms eroding the surface.

*Statues in the Castle Park in Paskov - comparison of treated and untreated sculpture made of sandstone (2 years after application)*

## INTERIOR:

**For masonry and plasterboard substrates, artificial stone, real bricks and their imitations** - in the case of problems with mold, fungi, etc., we recommend first treating the surfaces with a mildew, let them dry and then apply FN<sup>®</sup> 1 Transparent to prevent the build-up of microorganisms. In order to achieve the full functionality of the FN NANO technology in interiors, it is necessary to ensure that an adequate amount of ultraviolet radiation with a minimum intensity of 0.2W / m<sup>2</sup> is applied on the surface treated with FN NANO.

## 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 FN<sup>®</sup> technology, it is important to have the primer perfectly matured. FN<sup>®</sup> coatings can be applied to the primer after 24 hours at the earliest. This is important for correct functionality of the coating.

It is therefore important that the paint is always 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 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 treated with FN
- The layer should be allowed to dry between individual layers
- Do not apply during rain
- For better effect we recommend thorough cleaning of surfaces before application.

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

The method of application, aids and equipment used must correspond to the specific conditions, condition and requirements of the object on which the coating is to be applied.

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 = 10m<sup>2</sup> of protective surface in three coats.

On the smooth surface in the interior of 10-12m<sup>2</sup>, on the facades and walls of houses according to the structure of the surface we have to count with higher consumption - about 6-10m<sup>2</sup> 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 **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.

**SAFETY PRECAUTIONS FOR HANDLING FN®1 TRANSPARENT 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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## DISTRIBUTOR:

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***CZECH INVENTION-PROTECTED BY PATENT AND FN® TRADEMARK***

***VERIFIED BY MORE THAN TEN YEARS OF PRACTICAL EXPERIENCE***