



Sto Ltd. | Interiors

Active interior paint StoClimasan Color

StoClimasan Color: Turning light into fresh air.



StoClimasan Color – the interior paint that continuously degrades harmful substances and reduces odours.

Did you know that there's a paint which cleans the air? Yes, it's true – the active paint from Sto! And we are delighted that Sto has been the company to achieve this innovative leap.

Research and development are a very special focus at Sto. The company unremittingly questions the status quo with a characteristic inquisitiveness that drives its ongoing experimentation and modernisation efforts. Such an approach is crucial, if we are to keep improving and building on our past achievements. While this is not always a simple task, it is clearly a worthwhile endeavour – as demonstrated by Sto's long-standing unrivalled innovative leadership.

Today, we would like to present one of our latest technological feats – the first active interior paint on the market to incorporate a photocatalytic process that actively improves the indoor climate: StoClimasan Color.

StoClimasan Color – the perfect interior coating with active air-purifying effect.



Lights on for clean air: StoClimasan Color – actively improving the indoor climate.

StoClimasan Color is an active paint. This means that it sets to work for you in your home: StoClimasan Color employs visible light to degrade pollutants, odours, etc. which accumulate in the home.

StoClimasan Color's air-purifying effect is based on the natural principle of photosynthesis in green plants. Photosynthesis serves to produce oxygen and glucose, using chlorophyll as a catalyst.

Our new innovation also employs a catalyst. Under the effects of light – be it daylight or artificial interior lighting – the catalyst is activated, organic substances are continuously degraded and the pollution in the air is reduced.

The result is a verifiable marked improvement in the quality of room air.

This paint is thus a particular boon at heavily frequented locations, such as medical practices, restaurants, hotels, clinics, etc.



An unflagging commitment to progress: Sto's research and development team is unremitting in its efforts to evolve better solutions.



Dr. Peter Grochal, Development Manager at Sto, is responsible for the development of new products.

FAQ – Questions to Dr. Peter Grochal, Development Manager at Sto

How exactly does StoClimasan Color work?

StoClimasan Color incorporates special pigments, Visible Light Catalysts (VLC) which become active under the influence of visible light and set to work breaking down harmful organic substances and odorous substances into small, harmless constituents. This process continues as long as sufficient light is available.

What is photocatalysis?

Catalytic processes which are triggered by light! The term 'catalysis' refers to the acceleration of a chemical conversion process by a substance (catalyst) which is not consumed itself.

In photocatalysis, the desired effect only ensues after the actual catalyst has been excited by light (sun, lamps). A photocatalyst is thus inactive in the dark. The best-known example of a photocatalytic process is photosynthesis, whereby the photocatalyst chlorophyll enables glucose and oxygen to be formed from water and carbon dioxide under the effect of light. Other examples of catalysis are exhaust gas purification for combustion engines and metabolic processes (e.g. using enzymes, vitamins as biocatalysts).

Does StoClimasan Color work on all substrates?

StoClimasan Color can be used on all interior surfaces, including ceilings, just like a conventional interior paint.

Do I need to install additional light sources?

No, standard indoor light sources are fully adequate. As a general principle, the greater the light intensity, the better the effect will be.

What substances does StoClimasan Color degrade?

Organic substances are degraded over varying time spans.

What organic compounds occur indoors?

The most diverse range of substances can occur inside buildings. Measurements are carried out with the aid of "Molhave's mixture". This consists of 22 substances from the areas of solvents, plasticisers, ketones, esters, alcohols and many more besides.

What happens if there is no light?

The process will become inactive as soon as the room turns dark or inadequate light is available.

Do I actually need to ventilate my rooms any more?

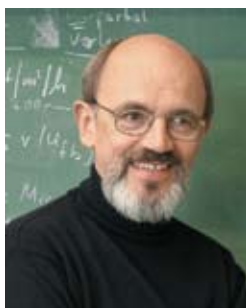
It is always a good idea to air rooms. As a general principle it is to be assumed that the outside air is better than the air indoors. StoClimasan Color does not improve or alter the humidity situation indoors. Humidity needs to be expelled by cross-ventilation.

Is the paint more susceptible to soiling than other coatings?

No.

Can I clean or wash surfaces finished in StoClimasan Color?

Yes. StoClimasan Color has been formulated as a matt interior paint of wet abrasion category 2 in accordance with BS EN 13300. This means that StoClimasan Color surfaces can be cleaned with a damp cloth.



Prof. Dr. Horst Kisch, Institute for Inorganic Chemistry, University of Erlangen-Nuremberg.

Applying the effects of photocatalysis indoors

For 25 years now, we have been carrying out research on special photocatalytic pigments which are activated by visible light and which, in contrast to conventional photocatalysts, do not require ultraviolet light. In 2003 we achieved a breakthrough in this area.

The photocatalytic pigment, Visible Light Catalysts (VLC), which we have developed is able to use conventional lighting and diffuse daylight in rooms to degrade harmful substances such as formaldehyde and carbon monoxide as well as odours. Long-term tests with the VLC pigment have confirmed its sustained catalytic effect.

A further challenge in the development process was to create a pigment as white as possible, so as to enable light colours for interior coatings.

In collaboration with Sto, this photocatalytic principle was applied in a high-performance interior paint with unusual speed. This technology provides an excellent means of degrading harmful substances and odours, improving the quality of room air. The process is entirely eco-friendly, requiring only light and oxygen from the air. The principle of photocatalysis has been successfully implemented for building interiors for the first time in the interior paint StoClimasan Color.

Prof. Dr. Horst Kisch

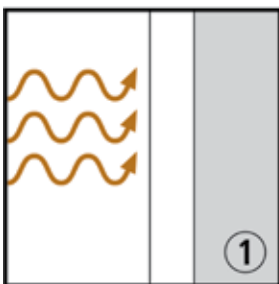


StoClimasan Color keeps the air fresh in classrooms and break rooms at the Georg-Friedrich-Kolb school centre in Speyer.

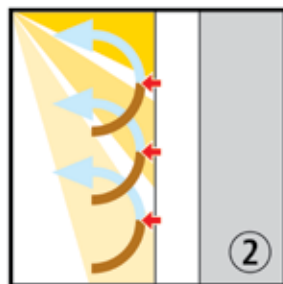
The photocatalytic effect of StoClimasan Color

StoClimasan Color incorporates a special photocatalyst which is able to continuously degrade organic compounds, including carbon monoxide and water, under the influence of light. Organic compounds are highly prevalent in indoor

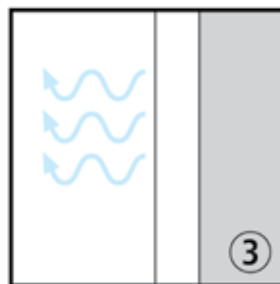
areas. They originate from building materials, furniture, items of daily use and a host of other sources. StoClimasan Color is able to degrade these substances on a continuous basis:



Substances which are suspended in the room air become deposited on the painted surfaces of walls and ceilings.



Normal room lighting activates the catalyst in the paint, breaking the substances down into their constituent matter on the surface.



The quality of the room air is noticeably improved as a result.

Sto Ltd.

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