CERTIFIED cradle to cradle SILVER

KEIM SOLDALIT®-ME

FOR CLEAN AIR AND BEAUTIFUL FACADES

KEIM SOLDALIT-ME® – CLEAN IN EVERY RESPECT

AIR POLLUTION DAMAGES THE ENVIRONMENT AND HARMS PEOPLE

Our standard of living today typically involves heavy traffic, industrial mass production and the consumption of massive amounts of energy – and it is precisely these factors that are the main sources for air pollution. Traffic is a major contributor to this. Car engines pollute our air with nitrogen oxides, carbon monoxide, sulphur dioxide and particulate matter.

Studies have shown that the air we breathe is contaminated with particulate matter and nitrogen oxides, which damage our health. Nitrogen oxides are particularly harmful for human beings and the environment, as the gas nitrogen dioxide is an irritant that attacks the mucous membranes and leads to inflammation of the respiratory tract and lungs. Nitrogen oxides play a central role in the formation of low-lying ozone and acid rain.

CLEAN AIR IS A CIVIL RIGHT!

Keeping our air clean is one of the most urgent challenges facing towns and communities in particular. There have been detailed discussions about banning vehicles as a way to reduce nitrogen oxides and these types of ban have already been introduced in some areas. But, by themselves these new traffic regulations alone will not be enough to solve the problem.

"PHOTOCATALYSIS" – A NEW APPROACH TO THE PROBLEM

Advances in technology are providing new solutions to environmental problems. The principle of photocatalysis offers an innovative approach to reduce pollutants such as nitrogen oxides in the air.

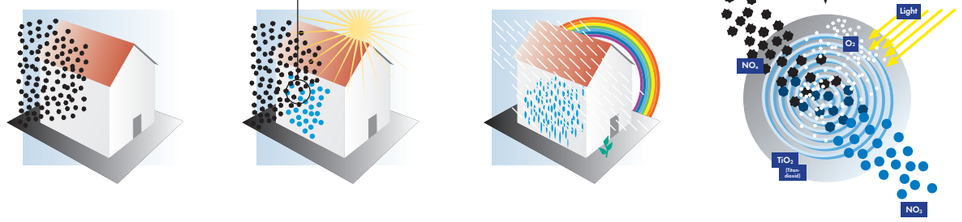
"We cannot solve our problems with the same thinking we used when we created them."
Albert Einstein

PHOTOCATALYSIS – NATURE IS LEADING THE WAY

USING THE POWER OF THE SUN

In a similar way to how photosynthesis works in plants, an active process is also initiated by light during photocatalysis. Whilst photosynthesis uses sunlight to produce a substance (glucose), photocatalysis breaks down or converts substances.

The term photocatalysis describes a principle of action in which a substance (= "catalyst") is stimulated by light (= "photo") to trigger or accelerate a chemical reaction without consuming itself in the process.



Nitrogen oxides are deposited on the surface of the paint.

When exposed to light the nitrogen oxides are turned into harmless nitrate (NO_3) by means of oxidation. Furthermore, ozone is converted into oxygen during the described reaction.

The easily soluble nitrate (NO3) is then washed off the surface by rain.

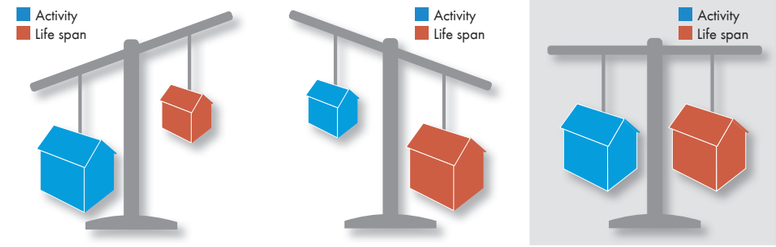
The catalyst titanium dioxide is not consumed. As long as the crystals are supplied with energy by electromagnetic waves (light), the process remains active.

PHOTOCATALYSIS IN BUILDING MATERIALS – A SPECIAL PIGMENT FOR BETTER AIR

In principle, photocatalysis can also be used in building materials. The active photocatalytic pigment (= catalyst) can even break down things like harmful gases. This process converts the gases into small, harmless components.

PHOTOCATALYSIS IN PAINTS – A CHALLENGE FOR RESEARCH AND DEVELOPMENT

The R+D departments at the leading paint manufacturers have been working for an extended time on the challenge of using photocatalysis in paints. The special characteristic of the photocatalyst is that it attacks organic substances, and does not stop with just organic binding agents. This means that the photocatalytic process virtually destroys itself as it breaks down the binding agents in the surface. The consequences are chalking and premature weathering, with a correspondingly shorter life expectancy for the coating. It reacts differently to inorganic, silicate binding agents. This is because the binder is not attacked by the photocatalyst.



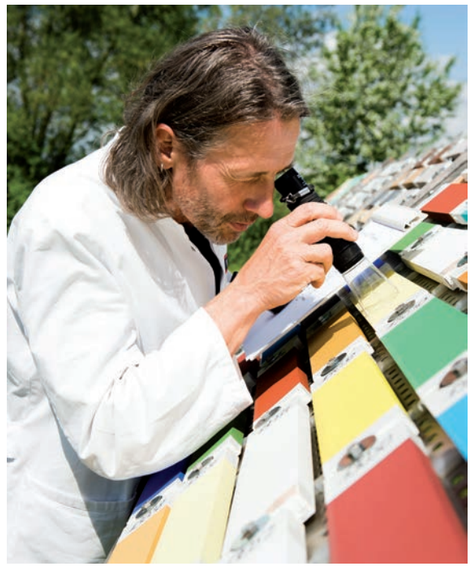
Either ... good activity (sufficient pigments), but very reduced life span

or ... good life span, no optimal activity (insufficient pigments)

Good life span, optimal activity

Inorganic, silicate binding agents are particularly suitable for effective and long-lasting photocatalytic coatings.

KEIM SOLDALIT-ME® – FACADE PROTECTION CAN ALSO BE SUSTAINABLE



KEIM SOLDALIT-ME – BECAUSE IT MAKES SENSE!
As well as improving our air quality, there are additional good reasons to choose KEIM Soldalit-ME as a facade coating: The photocatalytic effect protects against premature growth of microorganisms, because the dirt particles they normally feed on are immediately rinsed out and washed off. This is an additional benefit for the silicate surface, which is already very resistant to dirt. The additional cost compared to a standard coating is minimal and it brings a real added bonus – a plus for people and the environment.

With KEIM Soldalit-ME you are not just getting a long-lasting, clean facade with paint that won't fade, you're also doing your part in keeping the air clean!

KEIM – OUR MANY YEARS OF EXPERIENCE IS PAYING OFF
As part of our research and development programme, KEIMFARBEN has already spent many years looking at photocatalytic pigments and the different ways they can be included to produce durable, non-fading paint whilst at the same time optimising the efficiency of the photocatalytic process. KEIM Soldalit-ME uses selected photocatalysts to create a stable matrix of inorganic binding agents.
The result is a high-performance coating with a photocatalytic action that also has an extremely high level of colour stability. The abbreviation ME is short for MiNOx Effect ("minimised NOx") and symbolises the pollution-reducing function of the product.
KEIM Soldalit-ME offers an exceptionally economical and efficient way of combining sustainable façade protection with active, environmental benefits.

CRADLE TO CRADLE CERTIFIED®
KEIM takes responsibility for society and for the environment. The certificate Cradle to Cradle Certified® confirms our commitment and the use of environmentally friendly, healthy and recyclable materials, a climate-friendly and responsible production process and the use of renewable energy.

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