

## Press release

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Hydrotect surface coating

### **Ceramic tiles with amazing characteristics**

Recently, numerous building products with innovative surfaces have been offered. There are two basic principles: hydrophobic (water-rejecting) or hydrophilic (water-friendly).

#### **Lotus effect**

The leaves of the Lotus plant serve as model for it: a knob-shaped nanostructure consisting of hydrophobic waxes prevents the adherence of water and dirt. For that, a complex structure in the nano range is required (a nanometer is one thousand millionth of a meter). That is why such surfaces are very sensitive to mechanical stress, which destroys the knob-shaped structure. Surfactants and other washing active substances also reduce the desired effect.

#### **Hydrophobic coatings**

But there are also surfaces which are ~~only~~ hydrophobic (without nanostructure) and consist of organic compounds. Their functional principle is similar to that one of a Teflon pan. The products are first of all water-repellent due to anti-adhesion properties which are sufficient to permit e.g. drops of water to roll down. For the daily use, however, the same applies to these surfaces as to the Teflon pan. The maintenance instructions must be carefully observed, and the use of aggressive or abrasive cleaning agents must be absolutely avoided.

#### **Hydrotect: special principle permits revolutionary properties**

In contrast to the hydrophobic solutions described above, there is a surface coating for ceramic tiles which is unique in its form: HYDROTECT, an innovation of the renowned German tile manufacturer DEUTSCHE STEINZEUG (brands: AGROB BUCHTAL and Jasba), is based on a special principle of action: titanium dioxide is baked onto the glaze of the tiles as catalyst, which effects a reaction between light, oxygen and air humidity. This photocatalytic effect is already

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activated at normal indoor lighting. The coating is not simply applied by spraying or any other "cold" method, but baked onto the glaze at high temperature in-plant. Compared to conventional sealing, impregnating or coating methods, Hydrotect is so robust that it can be used not only for wall but also for floor tiles.

Tiles with Hydrotect are hydrophilic, i.e. ~~water-friendly~~ and thus **extremely easy to clean**. The water is not repelled, but spreads to form a thin film on the surface. In this way, dirt is washed down and can be easily removed.

Apart from this, Hydrotect has an **antibacterial effect**: the photocatalysis produces activated oxygen, which decomposes microorganisms such as bacteria, fungi, algae, moss and germs and prevents the formation of new pathogens. While the effect decreases in the case of other methods based on the addition of certain additives, the antibacterial effect of Hydrotect reactivates itself again and again.

A third advantage is the fact that Hydrotect **eliminates unwelcome or harmful odours**, e.g. of formaldehyde, tobacco or from the kitchen, or the typical smell in sanitary areas, changing rooms and similar areas. In this way, the quality of the air is considerably improved.

Result: with Hydrotect, consumption of cleaning agents and thus their costs are considerably reduced, time and money are saved and **the environment is protected**. Since its launch some years ago, Hydrotect has excellently proved itself in practice: until today, a two-digit number of millions of square metres have been laid on walls and floors world-wide.

For further information please don't hesitate in contacting Ceramic Solution on (03) 9545 5322 or alternatively by email; [sales@ceramicsolutions.com.au](mailto:sales@ceramicsolutions.com.au)

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### Conventional tiles:

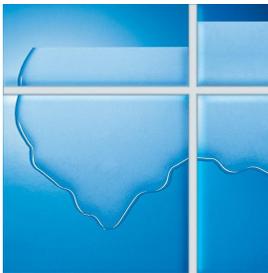


Water drops form ...

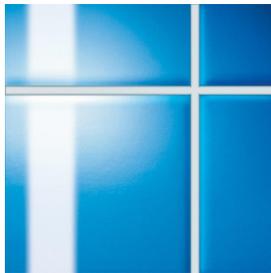


... and dirt is left on the surface after drying.

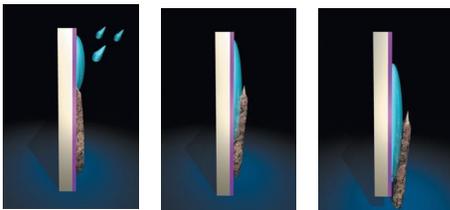
### HYDROTECT-coated tiles:



The water spreads as a thin film on the surface and lifts dirt from the surface



... which can then be easily removed. Result: a clean surface.



With HYDROTECT, dirt is washed down by the water and can then be easily wiped off.

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(Rain)water forms a thin film on HYDROTECT-coated facade tiles and detaches the dirt which is then washed down. This self-washing-effect effectively supports the perfect look of the building shell. Every shower cleans the facade, free of charge!



Areas heavily frequented by the public make great demands on cleanliness and hygiene - above all if there is water or humidity like in public swimming pools or saunas. The solution: HYDROTECT-coated tiles. They are extremely easy to clean, have an antibacterial effect and eliminate disagreeable odours, e.g. in the swimming hall or in changing and sanitary rooms.



By means of the photocatalysis, activated oxygen is produced which decomposes micro-organisms such as bacteria and fungi, but also algae, moss and germs without any chemical products and prevents their renewed formation - a convincing advantage for example in medical areas like operating theatres.