JUST WIPE AND THE STAINS ARE GONE!

Whether on walls, floors or terraces – no one likes to see stains. But coffee, sauces or oil marks can be difficult to remove, especially from mineral surfaces. Thanks to WACKER’s new PRIMIS® SAF 9000 series of dispersions, dirt now no longer penetrates flooring or wall paints.
Decorative mineral flooring in business premises and homes, or concrete flooring in railway stations and on terraces have to put up with a great deal of wear and tear. They are a magnet for stubborn stains, such as coffee, greasy food residues, red wine or ketchup. And however much you try to clean off the dirt, there is always a residue. To prevent this, mineral surfaces are given protective treatment.

To meet this need, WACKER developed its PRIMIS® SAF 9000 series of dispersions. Concrete flooring and decorative self-leveling floor screeds are easy to protect against stains with the aid of these specialty acrylic-based aqueous dispersions. They contain high-molecular-weight polymer particles that are less than 0.1 micrometers in size on average. Being so small, the polymer particles penetrate the fine micropores in the surface, instead of covering them. On drying, the particles form a film inside the pores, preventing the ingress of dirt. It can simply be wiped off. The advantage is that the surface’s mineral appearance is hardly changed and the floor retains its familiar feel.

The high molecular weight of the polymer provides another benefit – after drying, the film deposited in the pores mechanically reinforces the surface and protects it against abrasion – an important advantage for flooring subject to heavy traffic in stores, warehouses or industrial buildings.

Another advantage is that the dispersions quickly soak into the floor, and can therefore be walked on after only about an hour.

ALL-ROUNDER
WACKER’s developers did a lot of testing in the lab – coffee, balsamic vinegar, blackcurrant juice, cola, salad oil, ketchup and mustard – all these substances left stains on untreated mineral surfaces that even thorough cleaning couldn’t shift. If, on the other hand, the surface was treated with a dispersion of the PRIMIS® SAF 9000 series, the dirt could be easily removed almost completely.

In the special dispersions series, there are currently two products: PRIMIS® SAF 9000 and
PRIMIS® SAF 9000. The latter shows improved performance with regards to abrasion resistance and dirt pick-up resistance. Both have a solids content of 42 percent and, in principle, the user only needs to dilute them with water.

The treatment of mineral surfaces is very simple. "The dispersion can be distributed on the surface using a sponge or mop," says Dr. Martin Schierhorn, Marketing Manager for Construction Dispersions at WACKER, "and you can walk on it as soon as it is dry." If necessary, several coats can be applied. The first will be more dilute than conventional products. "I would have liked a wall paint like this when my children were small," says Dr. Abdulmajid Hashemzadeh, one of the chemists at WACKER who developed PRIMIS® SAF 9000. The composition of the dispersion is chosen so that the film is not easily penetrated by either hydrophilic or oleophilic substances – not by coffee and not by lipstick. "This property profile is very attractive to the market," adds Martin Schierhorn, since water-based dirt is easier to remove from hydrophobic substrates, while grease-based stains are easier to remove from hydrophilic surfaces. Reconciling these two properties posed major challenges to the WACKER chemists. "Years of research were needed to combine all these properties in one product," says Abdulmajid Hashemzadeh.

HARD SURFACE

The remarkable resistance of the new WACKER co-binder is impressively demonstrated by the pencil marks. With a conventional paint coat, the pencil lead leaves a small groove. If the wall paint contains PRIMIS® SAF 9000, on the other hand, the pencil has difficulty penetrating into the wall paint, since the new dispersion is a hard and very resistant polymer.

"I would have liked a wall paint like this when my children were small," says Schierhorn.

In the WACKER test lab, technician Manuela Mühlthaler demonstrates how effective the new dispersion is. Her colleagues have disfigured a test wall with marker pen, lipstick and pencil. This colorful mess is given a second wash. "This property profile is very attractive to the market," adds Martin Schierhorn, since water-based dirt is easier to remove from hydrophobic substrates, while grease-based stains are easier to remove from hydrophilic surfaces. Reconciling these two properties posed major challenges to the WACKER chemists. "Years of research were needed to combine all these properties in one product," says Abdulmajid Hashemzadeh.

As marketing manager, Martin Schierhorn knows that the paint manufacturers, first and foremost, demand additives that allow easy surface cleaning and can be additionally processed into environmentally friendly, odorless paints and, not least, are easy to apply. In numerous lab tests, it was possible to show that the dispersion not only makes it possible to formulate easy-to-clean interior wall paints, but also offers advantages for exterior paints by eliminating "snail trails." They occur when it rains shortly after the paint has been applied to the plaster, leaching out the emulsifier. Adding the new WACKER dispersion prevents the water-soluble salts in the paint migrating to the surface and drying. PRIMIS® SAF 9000 can also be used as a sole binder, e.g. for marble chip plasters. The polymer envelops the small, often multicored quartz sand grains and protects them. From a distance, such a wall looks like marble because the eye cannot distinguish the individual chips. Here, too, the new dispersion has a decisive advantage. It remains transparent when moist – as has been demonstrated in the WACKER lab by the developers.

SPECIAL EASY TO CLEAN

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Conventional binders, on the other hand, turn white, as water penetrates into the polymer matrix over time. PRIMIS® SAF 9000 contains only a small amount of water-soluble component, and therefore "water whitening" is avoided. Consequently the colors retain their full brilliance, even when walls are subject to rain for relatively long periods. And the protective coating adheres reliably, even when wet. PRIMIS® SAF 9000 is thus also suitable for surface treatment for "Stucco Veneziano", based on brightly colored lime paints. The addition of dispersion ensures that this high-quality finish is effectively protected against dirt pick-up and moisture.

EASY-TO-CLEAN TREND

"The protection of mineral surfaces against dirt pick-up is definitely a global trend in the construction and paint industry." Dr. Martin Schierhorn, Marketing Manager at WACKER POLYMERS

WACKER is one of the world’s leading and most research-intensive chemical companies, with total sales of €4.6 billion. Products range from silicones, binders and polymer additives for diverse industrial sectors to bioengineered pharmaceutical actives and hyperpure silicon for semiconductor and solar applications. As a technology leader focusing on sustainability, WACKER promotes products and ideas that offer a high value-added potential to ensure that current and future generations enjoy a better quality of life based on energy efficiency and protection of the climate and environment.

EXPERTISE AND SERVICE NETWORK ON FIVE CONTINENTS

Spanning the globe with 4 business divisions, we offer our customers highly-specialized products and comprehensive service via 24 production sites, 18 technical competence centers, 13 WACKER ACADEMY training centers and 48 sales offices in Europe, North and South America, and Asia – including a presence in China. With a workforce of some 13,450, we see ourselves as a reliable innovation partner that develops trailblazing solutions for, and in collaboration with, our customers. We also help them boost their own success. Our technical centers employ local specialists who assist customers worldwide in the development of products tailored to regional demands, supporting them during every stage of their complex production processes, if required. WACKER e-solutions are online services provided via our customer portal and as integrated process solutions. Our customers and business partners thus benefit from comprehensive information and reliable service to enable projects and orders to be handled fast, reliably and highly efficiently. Visit us anywhere, anytime around the world at: www.wacker.com

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All figures are based on fiscal 2016.
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