

Surface modification: Scratch-resistant coatings—not just for cars

- New VESTANAT® EP-M product family for scratch-resistant high-tech coatings
- High gloss paints with improved abrasion resistance
- Pleasant feel in car interiors thanks to coatings with Evonik additives

Car paints have to stand up to plenty—whether road dirt, road salt, UV radiation, or mechanical influences. The decisive factor is the outer clear coat layer: The coating must be transparent and glossy, but it also has to be durable and flexible, so it does not simply flake off in response to impacts or bumps. Modern clear coats based on polyurethanes are already extremely resistant to chemical influences. Over time, however, they are not immune to mechanical stresses, such as trips to the car wash.

Evonik Industries, one of the world market leaders in specialty chemicals, has now developed a product range of crosslinkers to further improve the scratch resistance of clear coats. The new product family is called VESTANAT® EP-M. This technology platform combines the benefits of silane chemistry with those of polyurethanes because the internal structure of these products still contains urethane compounds. They have a positive influence on the coatings and thus contribute to the outstanding mechanical characteristics. The scratch resistance of the products was tested in a wet abrasion test (Crockmeter test)—with the best results.

VESTANAT® EP-M is ringing in a new era of scratch-resistant high-performance coatings. This technology has met with great interest, especially among automobile manufacturers. However, it also opens up countless possibilities for a number of substrates, such as wood, plastic, metal, and many others.

As an expert in surface modification, Evonik also has other components for coating automobile bodies and interiors in its product range. For instance, the TEGO® product range provides high-performance additives for leather coatings. They create a low-friction surface and thus ensure a particularly pleasant feel. In contrast, TEGO® Glide and Flow improve flow, reduce the tendency

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toward scratching, and prevent pigment flooding and flotation. This makes it possible to produce high-gloss vehicle coatings.

Under the brand VESTAGON®, Evonik offers curing agents for powder coatings; for example, they give car wheel rims the best weather resistance and comprehensive protection against corrosion. This technology does without solvents—reducing environmental pollution and conserving energy.

Furthermore, Evonik provides a wide range of silica-based matting agents, which can be used to determine the gloss level of paints. Many of them, such as the additives of the ACEMATT® brand, are used in interior and exterior car paints.

Under the brand VISIOMER® Evonik provides a broad portfolio of methacrylate monomers for scratch-resistant and low VOC automotive coatings.

Evonik experts provide support to their customers along the entire value chain—no matter where they are located in the global coatings industry. In combination with decades of experience in the coatings industry, this makes it possible for Evonik to think along and, as a creative problem solver, be a partner to its customers. That is what we mean by "One Partner. Many experts."

Company information

Evonik, the creative industrial group from Germany, is one of the world leaders in specialty chemicals. Profitable growth and a sustained increase in the value of the company form the heart of Evonik's corporate strategy. Its activities focus on the key megatrends health, nutrition, resource efficiency and globalization. Evonik benefits specifically from its innovative prowess and integrated technology platforms.

Evonik is active in over 100 countries around the world. In fiscal 2014 more than 33,000 employees generated sales of around €12.9 billion and an operating profit (adjusted EBITDA) of about €1.9 billion.

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