

Robust, flexible, and fast drying: the new clear coating technology from Evonik

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Evonik has developed a new clear coating system that dries at room temperature and is particularly abrasion-resistant. A new two-component polysilane coating system is what allows this advantageous combination of properties.

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Two-component (2K) PUR coatings were formerly regarded as the global benchmark for high-grade coatings. They are particularly weather- and chemical-resistant, and the hardness-to-elasticity ratio is right. Another advantage is that they cure at room temperature. In certain applications, however, the abrasion resistance of the coating films leaves much to be desired. The new polysilane system developed by Evonik offers many of the advantages of 2K PUR coatings, and it is at the same time especially tough.

With this development, Evonik has solved a problem that persisted for a long time. In the past, many silane-based coatings lacked the desired flexibility, due to their high crosslinking density and high SiO₂ content. Evonik's new coatings show none of the unwanted brittleness. This result was achieved by developing a resin concept based on oligomeric silane resins in combination with acrylate polyols with a balanced ratio of organic and inorganic components. An important feature is that, because of the high reactivity of polysilanes toward water and polyols, these coatings are processed as two-component systems. Evonik has also developed a novel catalyst concept for its new coatings. Thanks to this development, the polysilane coatings cure rapidly even at room temperature. The new coatings thus provide a genuine alternative to the current standard.

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Crosslinkers

Evonik Industries is a leading producer of high-performance crosslinkers for all important advanced coating technologies.

Aliphatic PUR crosslinkers from Evonik for exterior applications are distinguished by outstanding stability in a very wide range of systems such as liquid one- and two-component PUR coatings and powder coatings. The latest developments with uretdione-based crosslinkers of the **VESTAGON® BF** series result in powder coatings that cure at relatively low temperatures and are particularly suitable for temperature-sensitive substrates.

Aliphatic diamines of the **VESTAMIN®** brand name form the starting materials for commonly used epoxy resin curing agents for industrial floorings and other applications.

Functional silanes of the **Dynasytan®** series serve as curing agents in specialty applications and allow excellent bonding on mineral substrates.

About Evonik

Evonik is the creative industrial group from Germany. In our core business of specialty chemicals, we are a global leader. In addition, it has energy and residential real estate operations. Our performance is shaped by creativity, specialization, reliability and continuous self-renewal.

Evonik is active in over 100 countries around the world. In fiscal 2010 more than 34,000 employees generated sales of around €13.3 billion and an operating profit (EBITDA) of about €2.4 billion.

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