

Dynasylan® SIVO 140 and SILIKOPON® EF – The perfect team for eco-friendly corrosion protection systems

Rust is everywhere – and protecting structures from corrosion is a common challenge. Experts estimate that one-third of all iron and steel products manufactured worldwide in a year are used to replace corroded structural components. The economic damage, therefore, is enormous.

VOC (volatile organic compound) legislation has become pivotal in the area of environmental protection. The purpose of the legislation is to reduce volatile organic solvents because of their role in forming tropospheric ozone – the “summer smog” that is so damaging to the environment and human health.

The market for heavy-duty protection demands an environmentally friendly and long-lasting solution. The unique combination of a waterborne zinc-rich primer (Dynasylan® SIVO 140) and an ultra-high solid siloxane-hybrid binder (SILIKOPON® EF) formulation combines the most effective corrosion protection (C5 Class!) with easy handling in just two layers. This highly effective partnership of perfectly adjusted binders from Evonik leads to higher productivity by improved curing speed and lower total film thickness. Total costs can be significantly reduced by this two-layer system and it will be environmental friendly due to a VOC release of only 20 g/m².

The waterborne binder Dynasylan® SIVO 140 was especially designed for use in two-pack zinc-dust paints for application in areas of the heavy-duty corrosion protection (such that is needed for overhead power-line utility poles, bridges, exterior ship hulls and industrial facilities).

The almost-VOC-free (thus environmentally friendly) product was also developed for improved compatibility with additives and fillers. As it dries quickly by forming a film on the metal surface, a top-coat can be applied after a short period. This helps cut down maintenance and energy costs. Dynasylan® SIVO 140 is easy to process (similar to formulations of traditional solventborne zinc silicate paints) and shows a higher heat resistance than water-

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based organic binders. The sustainable product can easily be diluted with water without releasing undesired ethanol. It provides good adhesion to top-coats.

SILIKOPON® EF is a siloxane–epoxy hybrid resin suitable for ultra-high solids, eco-friendly coatings for extraordinary gloss and color retention and excellent weather resistance during outdoor use. Of particular significance is that it permits the production of non-isocyanate curing 2-pack formulations with a very low VOC content.

SILIKOPON EF allows two-coat corrosion protection coatings, which can replace the classic three-coat systems by reducing costs for application and the total material consumption at the same time.



Picture: ©Sean Pavone

Please visit us at the European Coatings Show, March 19 – 21, 2019 in Nuremberg: Hall 7A, Booth 323.

About Evonik

Evonik is one of the world leaders in specialty chemicals. The focus on more specialty businesses, customer-orientated innovative prowess and a trustful and performance-oriented corporate culture form the heart of Evonik's corporate strategy. They are the lever for profitable growth and a sustained increase in the value of the company. Evonik benefits specifically from its customer proximity and leading market positions. Evonik is active in over 100 countries around the world with more than 36,000 employees. In fiscal 2017, the enterprise generated sales of €14.4 billion and an operating profit (adjusted EBITDA) of €2.36 billion.

About Resource Efficiency

The Resource Efficiency segment is led by Evonik Resource Efficiency GmbH and produces high performance materials and specialty additives for environmentally friendly as well as energy-efficient systems to the automotive, paints & coatings, adhesives, construction, and many other industries. This segment employed about 10,000 employees, and generated sales of around €5.4 billion in 2017.

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