HEXION™
Responsible Chemistry

Information Sheet

VeoVa Silane Technology
High-Performance Isocyanate-Free Coatings Made Affordable



VeoVa Silane Technology

The unique combination of VeoVa™ vinyl esters and Silane monomers in the VeoVa™ Silane technology enables polymer chemists to develop a variety of self-crosslinking systems with exceptional performance. In turn, these VeoVa Silane systems allow formulators to create high-performance protective coating solutions for many markets and applications in:

- Protective and Marine
- Agricultural, Construction and Earthmoving (ACE)
- Industrial
- Transportation
- Wood

At a Glance

VeoVa Silane technology is a new protective coatings platform, offering:

- Versatility
- High performance
- Flexibility of 1- or 2K formulations
- Isocyanate-free
- Affordability

Versatility

Customize a unique solution to your customers' needs

The VeoVa Silane technology allows polymer designers to tailor the resin system for the desired end-use, from rigid, fast-curing topcoats to softer and extremely flexible ones. By using Hexion's extensive toolbox and working with our regional technical support teams, you can control differentiation from your competitors and deliver exclusive solutions to your market.

High-performance

Worry-free systems

VeoVa Silane systems can be polymerized and formulated into high-performance solutions for various end-markets. VeoVa Silane coatings match or exceed the performance of other systems, such as 2K polyurethanes and acrylic- or epoxy-polysiloxanes.

1- or 2K

Balance cure speed and pot life

VeoVa Silane resins can be used in 1- or 2K topcoats, allowing the formulator to balance the requirements for cure speed and pot life. This truly 1K technology provides ease of use for professional painters. Additionally, it has a very long pot life, thus less waste is generated, reducing both cost and environmental impact.

Isocyanate-free

Care for people and the environment

The moisture cure mechanism of VeoVa Silane polymers does not require the use of isocyanate crosslinkers. This promotes a healthier and safer working environment.

Affordability

Performance doesn't have to be costly

VeoVa Silane systems are based on vinyl chemistry. The use of vinyl monomers enables the building of systems with lower cost compared to acrylic- and epoxy polysiloxane systems, while delivering the required performance. You take control of the cost-performance balance.

Delivering High Performance

The following graphs and pictures show some examples of the performance achieved by the VeoVa Silane technology.

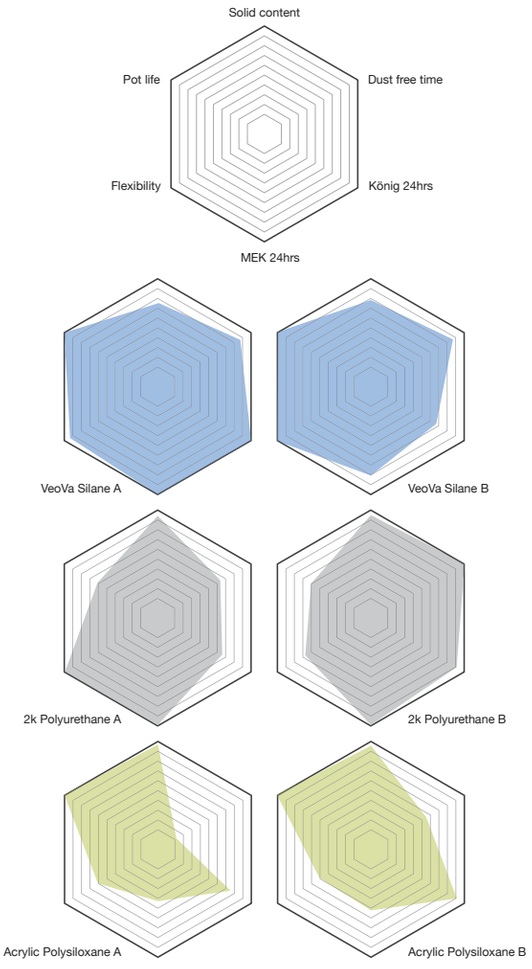
VeoVa Silane prototypes:

- VeoVa Silane A is a high-performance prototype based on VeoVa monomers.
- VeoVa Silane B is a cost-optimized prototype combining VeoVa and vinyl acetate monomers.

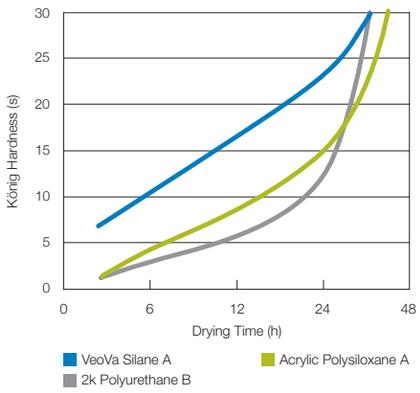
Benchmark commercial protective coatings:

- 2K Polyurethane A is based on an acrylic polyol formulated with HDI trimer.
- 2K Polyurethane B is a fast-drying paint formulated for protective coatings.
- Acrylic Polysiloxane A is a moisture-curing, high-durability, 1K protective coating from supplier A.
- Acrylic Polysiloxane B is a moisture-curing, high-durability, 1K protective coating from supplier B.
- An Epoxy Polysiloxane.

VeoVa Silane systems can be formulated to combine extremely long pot lifes with very fast property development immediately after application. The moisture cure mechanism ensures fast and efficient crosslinking and the development of MEK resistance. Professional painters will appreciate the very short dust-free time and early hardness development of VeoVa Silane coatings, which allow for high productivity.



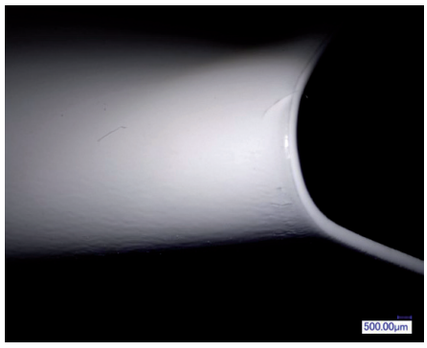
Hardness Development



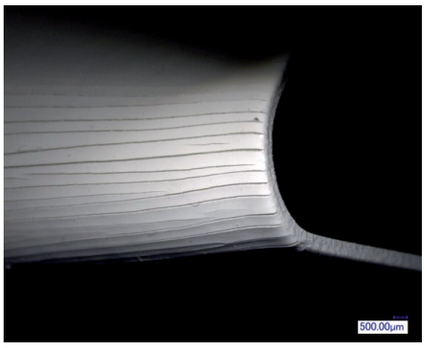
During the first hours of drying, a VeoVa Silane topcoat develops surface hardness very quickly. After only a few hours of drying, the painted structure can be handled or touched without damaging the coating.

Flexibility

The pictures below compare the conical mandrel flexibility of a topcoat based on VeoVa Silane technology and the commercial Acrylic Polysiloxane A. Both systems were applied over the same solventborne epoxy primer.



Flexibility of VeoVa Silane B topcoat

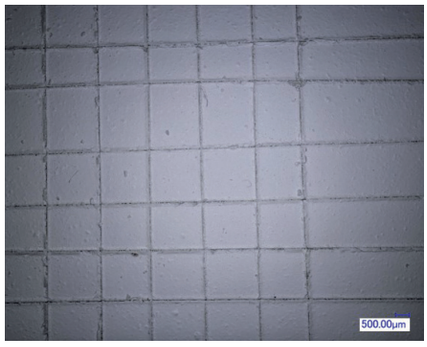


Flexibility of Acrylic Polysiloxane A topcoat

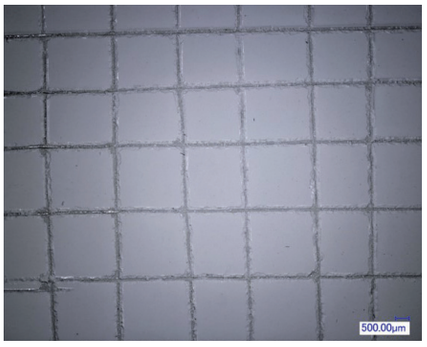
VeoVa Silane resins can be formulated to provide fast early hardness development while keeping high flexibility and excellent adhesion.

Adhesion

The pictures below compare the crosshatch adhesion of a topcoat based on VeoVa Silane technology and the commercial Acrylic Polysiloxane A. Both systems were applied over the same solventborne epoxy primer.

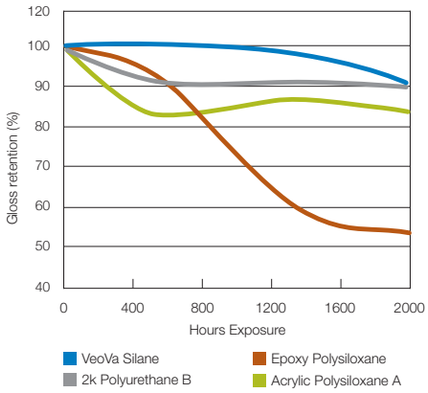


Adhesion of VeoVa Silane A topcoat



Adhesion of Acrylic Polysiloxane A topcoat

Accelerated Weathering Resistance

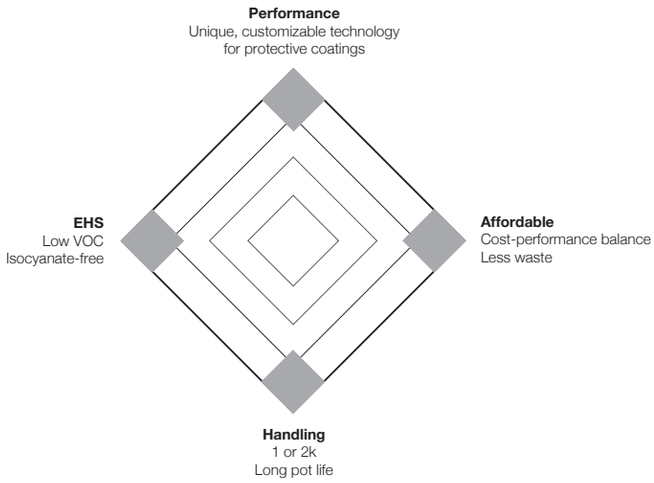


The structure of VeoVa monomers provides superior durability to coatings exposed to accelerated weathering (QUV-A).

Summary

High-performance isocyanate-free coatings made affordable

The VeoVa Silane technology and extensive formulation toolbox allow you to be in control of the performance that you deliver. Our worldwide technical experts are available to help you design tailor-made solutions.



Hexion's Versatic business has global commercial presence and has a strong commitment to the development of customer solutions. We achieve this by operating regional technical laboratories, which support customers with starting-point formulations and application guidance.

For more information please contact Erik Pras, Global Marketing Director – Versatics Business Unit, at +31 10 295 4583, by email at erik.pras@hexion.com, or your local Hexion representative.

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