

Simply Indestructible!

The VESTANAT® EP-M Family for
outstanding scratch and chemical resistance

 **vestan**at

VESTA – Developed in Germany.
Available globally.



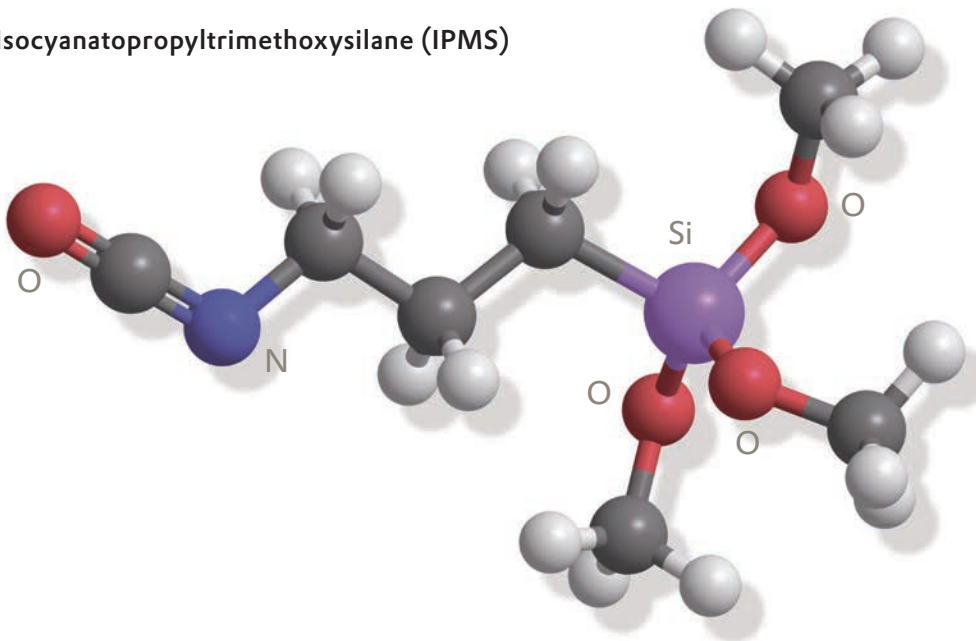
 **EVONIK**
POWER TO CREATE

About us

For more than 55 years Evonik's Business Line Crosslinkers has been the reliable partner and solution provider in the field of isophorone chemistry. With global production sites, we are uniquely placed to satisfy our customers' demands. Our portfolio of VESTA products showcases high performance materials that enhance the quality of our customers' applications.

VESTA – Developed in Germany. Available globally.

Isocyanatopropyltrimethoxysilane (IPMS)



Benefits at a glance

- Outstanding scratch resistance
- Up to 100% active matter
- Fast curing cycles
- High chemical resistance
- Room temperature curing

Evonik has developed a new crosslinking concept for high performance, scratch resistant coatings based on adducts of isocyanatosilanes. This class of silane-urethane hybrid crosslinkers exhibits an outstanding performance profile with regard to both mechanical and chemical properties.

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M Family - Simply Indestructible!

A toolbox for custom-designed solutions

The technology platform opens up a wide range of possibilities to formulate scratch resistant low temperature cure coatings for a plethora of substrates such as wood, plastic and metals and many more. The temperature sensitivity of the substrate and the desired curing conditions determine the choice of crosslinker.

VESTANAT® EP-IPMS

Monomeric IPMS is an isocyanate-functionalized trimethoxysilane to make non-isocyanate crosslinkers to combine PUR chemistry with moisture curable silane technology.

VESTANAT® EP-M Family

The VESTANAT® EP-M product range based on IPMS and PUR crosslinkers. Combines PUR properties with glass-like hardness in a single, NCO-free component. The products are curable at elevated temperatures above 80°C.

VESTANAT® EP-MF Family

The VESTANAT® EP-MF product range transforms the unique hybrid properties of IPMS-based adducts into isocyanate-free, moisture-curable systems for room temperature applications with drying times of less than one hour.

Only believe in what you can see!

VESTANAT® EP-M grade based clearcoat

Standard 2K PUR clearcoat

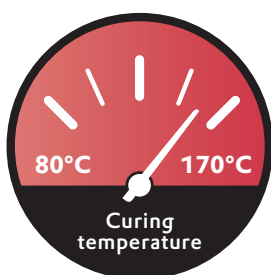


Try it!



Too good to be true?
Come and see for yourself!

VESTANAT® EP-M grades



VESTANAT® EP-M grades are silanes for curing at elevated temperatures (>80°C). These grades are used in combination with suitable binders and enable a formulation for highly scratch resistant coatings.

Benefits at a glance

- Outstanding scratch resistance
- Excellent chemical resistance
- Full performance in combination with appropriate resins
- Booster for 2K PUR systems

VESTANAT® EP-M 60, M 95, M 222 and M 222 X

With the different types of **VESTANAT® EP-M 60, M 95, M 222 and M 222 X** a broad range of properties like viscosity, scratch resistance or flexibility can be tailored. For best results the coating requires a catalyst such as VESTANAT® EP-CAT 11 B. Its full compatibility with standard 2K PUR systems also allows the product to be used as booster for scratch resistance and durability.

Properties

VESTANAT®	EP-M 60*	EP-M 95*	EP-M 222*	EP-M 222 X*
Active matter content	100%	100%	85%	85%
Viscosity at 23°C [mPas]	200 - 400	500 - 700	3000 - 5000	5000 - 7500
Solubility	Ketones, Esters, Aromatics	Ketones, Esters, Aromatics	Ketones, Esters, Aromatics	Ketones, Esters, Aromatics
Scratch resistance	++	+	+/o	+/o
Chemical resistance	++	+	+/o	+/o
Flexibility	+/o	+	++	++

* EP = Experimental Product

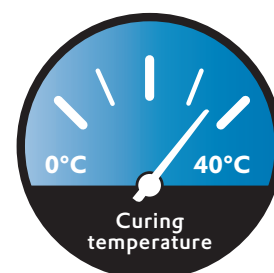
VESTANAT® EP-MF grades



Benefits at a glance

- Ready-to-use 1K self crosslinking system
- Fast curing cycles even at room temperature
- 100% active ingredient
- Excellent chemical resistance
- Outstanding scratch performance

VESTANAT® MF grades are solvent free, ready-to-use crosslinkers. They can be used as single binder but they are also compatible with a variety of co-binding agents, such as acrylic polyols. The coatings can be cured at ambient temperature and are suitable for all kinds of substrates.



Properties

VESTANAT®	EP-MF 201*	EP-MF 202*	EP-MF 203*	EP-MF 204*	EP-MF 205
Active matter content	100%	100%	100%	100%	82%
Viscosity at 23°C [mPas]	200 - 300	2000 - 3000	100 - 200	1500 - 2500	600 - 800
Solubility	Aromatics, Solvent naphtha, Glycol ethers	Aromatics, Solvent naphtha, Glycol ethers	Aromatics, Solvent naphtha, Glycol ethers	Aromatics, Solvent naphtha, Glycol ethers	Aromatics, Solvent naphtha, Glycol ethers
Hardness [König] 1d/final	> 120	> 120	> 130	> 130	> 130
Touch dry at 23°C (approx.)	1 hour	2 hours	< 1 hour	1.5 hours	1.5 hours
Appearance (distinction of image)	+	+ / o	++	+	+

* EP = Experimental Product

VESTANAT® EP-MF grades



VESTANAT® EP-MF 203

This crosslinker enables coatings with high reactivity and fast return-to-service times. It makes them conspicuous through short curing cycles at ambient temperature. VESTANAT® EP-MF 203 is the next generation product with even enhanced drying behavior and scratch resistance.

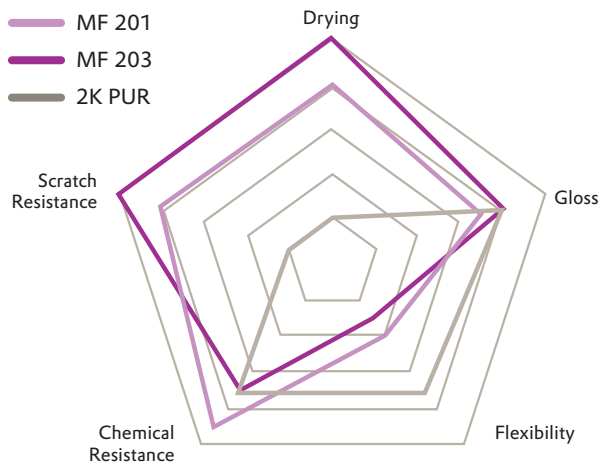
VESTANAT® EP-MF 204

This crosslinker has a higher content of urethane structures. It offers a more balanced profile between flexibility and scratch resistance. VESTANAT® EP-MF 204 is the next generation product with greater enhanced drying behavior and scratch resistance.

VESTANAT® EP-MF 205

This crosslinker has the highest flexibility of the entire EP-MF product range. A harmoniously tuned mechanical property profile allows for silyl-polyurethane coatings with a hardness and simultaneously high flexibility.

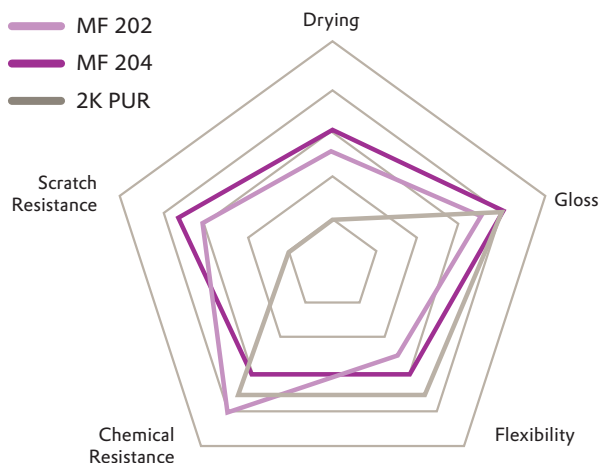
VESTANAT® EP-MF grades



High performance grade: VESTANAT® EP-MF 203

- Silane content and crosslinking density are the highest among the MF-range
- Outstanding scratch and also chemical resistance
- Solvent-free
- Touch dry within one hour possible

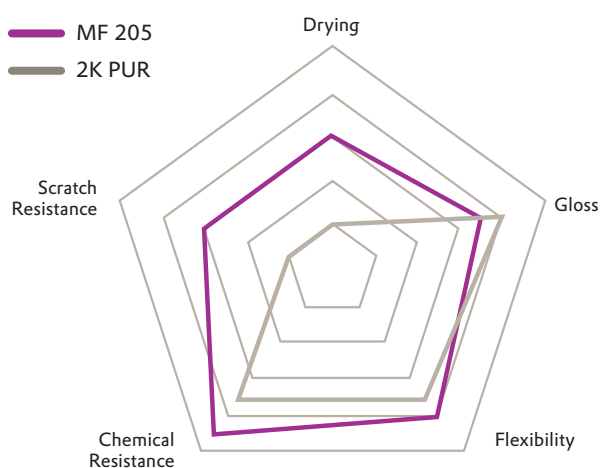
VESTANAT® EP-MF 203 is the optimized solution with improved viscosity and drying behavior.



Optimum balance between performance and flexibility: VESTANAT® EP-MF 204

- Increased content of PUR chains
- Carefully adjusted balance between extraordinary mechanical performance and well tuned flexibility
- Solvent-free
- Touch dry times of less than 120 minutes

VESTANAT® EP-MF 204 is the improved next generation product with better drying behavior and applicability.



VESTANAT® EP-MF 205 with unprecedented flexibility and efficiency

NEW!

- PUR-like flexibility paired with the typical hardness and resistance of the MF Family
- Touch dry times of 90 minutes possible
- Moderate silane content for optimum balance between performance and price

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02.2018/kr/hg