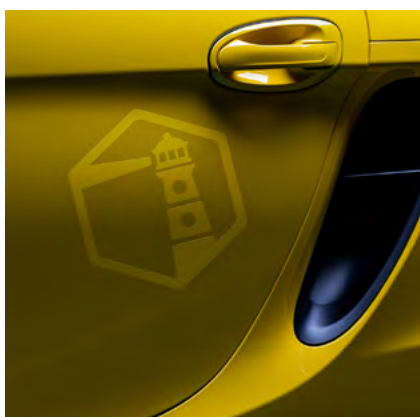


VESTANAT®

POLYURETHANE CROSSLINKERS
FOR LIQUID COATING APPLICATIONS



vesta **nat®**

GO WITH THE ORIGINAL.

 **EVONIK**
Leading Beyond Chemistry

OUR VISION

CROSSLINKERS IS THE BEST PARTNER FOR
A **SUCCESSFUL AND SUSTAINABLE FUTURE**,
PROVIDING **PIONEERING TECHNOLOGY** AND
GLOBAL REACH.



ABOUT US

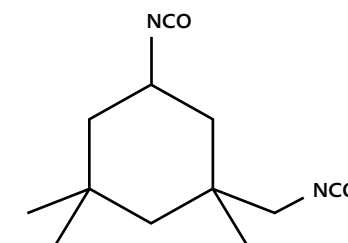
PIONEER IN ISOPHORONE CHEMISTRY

Since inventing isophorone chemistry during our search for new ways to recycle and reuse acetone, Evonik's Crosslinkers business line has continued to develop high-performance isophorone-based products that improve our customers' applications.

For over 60 years we've been your reliable partner and solution provider. With our global production sites we are uniquely placed to meet your local market demands.

Now, following another important breakthrough we've boosted our broad portfolio of VESTA products with our new reduced emission eCO series for more sustainable solvents, composites and coatings.

CROSSLINKERS INCREASE THE STABILITY
AND DURABILITY OF THE COATING SO LESS
MAINTENANCE IS REQUIRED



vestan^{at}

VESTANAT[®] grades for liquid coatings
are aliphatic polyisocyanate crosslinkers

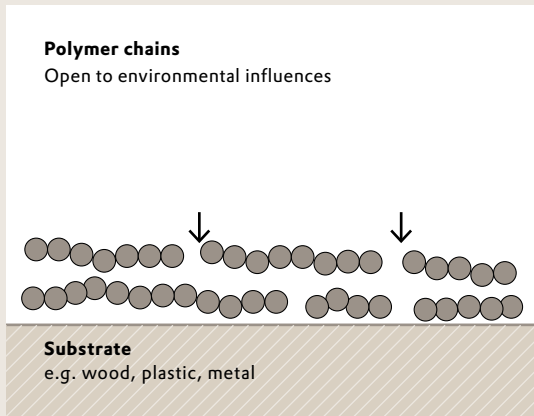
CROSSLINKING MAKES THE DIFFERENCE ...

In a well-linked network, by connecting many individuals, a continuously stable performance can be assured and often even the positive extra can be achieved.

The idea of crosslinking can be applied in the field of coating systems. Single molecules have the potential to perform outstandingly, but crosslinked molecules surpass the level of superior performance.

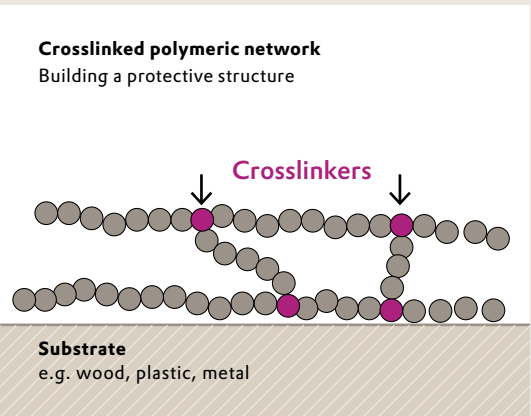
Non-crosslinked coatings

Without crosslinking, a coating will be easily influenced by environmental impacts and will consequently lead to the damaging of the substrate.



Crosslinked coatings

Crosslinkers increase the stability of the coating and improve the resistance towards environmental impacts.



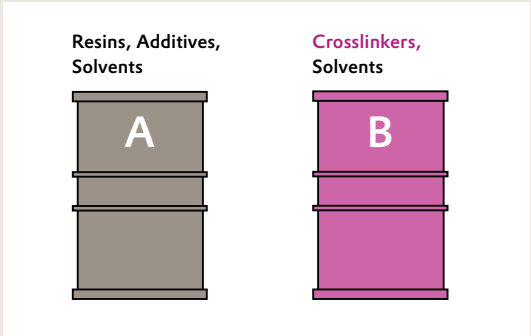
Based on a broad isophorone technology platform Evonik offers **VESTANAT®** crosslinking solutions that ensure the excellence of coatings.

VESTANAT® CROSSLINKERS FOR HIGH-PERFORMANCE PUR COATINGS

VESTANAT® crosslinkers focus on aliphatic polyisocyanate crosslinkers that are light-stable. They are based on e.g. IPDI isocyanurate trimer, for the formulation of one- (1K) and two component (2K) polyurethane systems.

Polyisocyanate crosslinkers in 2K systems

- Combination with a resin component right before application
- Reaction starts immediately after mixing the polyisocyanate with the resin component
- Reaction leads to a 3D network with a high durability

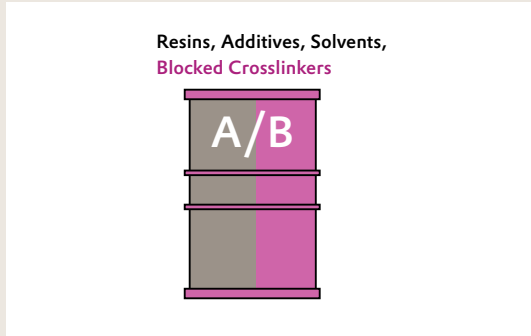


Evonik solutions for 2K systems

VESTANAT® T
Polyisocyanates; IPDI-trimer

Blocked polyurethane crosslinkers in thermosetting 1K systems

- Contains blocking agents e.g. ϵ -caprolactam
- At ambient temperature: blocked polyurethane crosslinkers cannot react with the resin component
- At elevated temperatures: the blocking agent will be released and the isocyanate group can react with the resin



Evonik solutions for 1K systems

VESTANAT® B
Blocked polyurethane crosslinker

VESTANAT® EP-DS
Waterborne blocked polyurethane crosslinker

These crosslinkers come along with ready-to-react isocyanate groups which can link with isocyanate reactive functionalities e.g. hydroxyl groups. To address the challenges of today and tomorrow we offer high performance crosslinkers for the use in high-end applications.

APPLICATIONS

Agriculture & Maintenance Automotive OEM & Car Refinish

VESTANAT® polyisocyanate crosslinkers are used for the formulation of highly weather- and chemical resistant PUR coatings. VESTANAT® T 1890 imparts faster dry times, which result into remarkably short curing cycles even at ambient temperatures.



Selection of solutions

VESTANAT® T 1890 / E / L / SN
are cycloaliphatic polyisocyanate crosslinkers with a high compatibility. The crosslinkers are used for light-stable and weather-resistant 2K PUR systems with improved physical drying properties and chemical resistance. They are available as 70% solutions in different solvents.

VESTANAT® B 1358 A
Is a blocked cycloaliphatic polyurethane crosslinker for the use e.g. in 1K automotive OEM primers generating excellent intercoat adhesion. It is characterized by an excellent balance of reactivity and storage stability.

BENEFITS

- Durability against environmental impacts
- High reactivity even at ambient temperature
- First-class chemical resistance
- Short curing cycles
- Excellent compatibility & high reactivity

Can- & Coil Coating

Blocked VESTANAT® polyurethane crosslinkers offer solutions for interior as well as exterior coating applications within the can- & coil coating industry. Highly flexible coatings with superior durability are easy to obtain, ensuring prime protection.



Selection of solutions

VESTANAT® B 1186 A
Is a cycloaliphatic blocked polyurethane crosslinker for interior BPA-NI * can coatings. According to FCN No. 1268, VESTANAT® B 1186 A is eligible for food contact applications. Please refer to FCN. No. 1268 or get directly in touch with us for further details.
* BPA-NI = Bisphenol A – not intentionally added

VESTANAT® B 1358 A
Is a cycloaliphatic blocked polyurethane crosslinker to be used for exterior can coatings.

VESTANAT® B 1481 ND
Is a cycloaliphatic blocked polyurethane crosslinker to be used for coil coating formulations due to a low tendency to yellow during curing process.

BENEFITS

- All can- & coil coating applications can be served (food / non-food)
- 1K storage-stable approaches
- Improved sterilization resistance
- High flexibility

Decorative & Industrial

Unique VESTANAT® DS grades are sophisticated blocked waterborne crosslinkers. These products are available either for anionic or cationic 1K formulations for e.g. glass, metal or textile coatings.



Selection of solutions

VESTANAT® EP-DS 1205 E
Is a blocked polyurethane crosslinker based on cycloaliphatic VESTANAT® IPDI emulsified in water without any auxiliary solvents for combinations with anionic or nonionic waterborne OH-terminated resin dispersions.

BENEFITS

- Light stability
- Co-solvent-free
- Water-based

APPLICATIONS

Specialties

Crosslinker specialties adjust your coating systems according to your individual needs and add a unique touch to your formulation. Our versatile spectrum of specialty products complement your specific application requirements. Please contact us to elaborate on your tailor-made solution.

Extract of crosslinker specialties application fields:

- OEM applications
- Maintenance
- Industrial
- Wood
- Plastic coatings



Selection of solutions

VESTANAT® T 1890/100

Is a solvent-free cycloaliphatic polyisocyanate crosslinker which can be used in 2K PUR systems e.g. for the manufacture of PUR resins or blocked polyisocyanates. Its broad solubility in all types of non-protic solvents gives our customers the chance to chose a solvent which fits best to the coating application.

VESTANAT® B 1358/100

Is a solvent-free blocked cycloaliphatic polyisocyanate crosslinker which can be used in 1K PUR stoving systems. The solvent-free delivery form offers a great choice of possible solvents to be used with the benefit of the optimization of many paint formulations.

VESTANAT® EP-B 1358 DINP

Is a cycloaliphatic blocked polyurethane crosslinker component supplied as a solution in diisononylphthalate for the combination with plastisols and organosols. It is specially developed e.g. for under-the-body coatings leading to a solid and resistant result.

VESTAMIN® A 139

Is a liquid blocked crosslinker for polyisocyanate resins based on a cycloaliphatic diamine. The product exhibits a very low reactivity towards isocyanate groups. The fast crosslinking with polyisocyanate resins occurs under the influence of moisture by releasing the original diamine.

OXYESTER® EP-HS 2272

Is a linear polyester diol, developed primarily for the use in aliphatic PUR technology, especially as a VOC-reducing co-polyol in 2K PUR high solid coatings.

OXYESTER® T 1136

Is a linear saturated polyester diol. It is mainly applied as a flexibilizing polyol in 2K PUR high solid paints or 1K stoving systems.

BENEFITS

- Plug-in tools for the enhancement of your coating formulation
- Faster curing cycles
- Lower VOC contents
- Higher flexibility momentum

Evonik’s Business Line Crosslinkers is your perfect partner for innovative product developments and tailor-made solutions!

VESTANAT® PRODUCT RANGE

FOR LIQUID COATING APPLICATIONS

Polyisocyanate crosslinkers for 2K systems

VESTANAT® T Polyisocyanates; IPDI-trimer				
	Physical form	NCO content	Viscosity at 23°C	Commercial availability
VESTANAT® T 1890 E	70 % in butylacetate	12.0 %	900 mPas	Worldwide
VESTANAT® T 1890 L	70 % in BuAc /solvent naphtha (1:2)	12.0 %	1.700 mPas	Worldwide
VESTANAT® T 1890 SN	70% in solvent naphtha	12.0 %	2.000 mPas	Worldwide
VESTANAT® T 1890/100	100 % (pellets)	17.3 %	-	Worldwide

Others				
	Physical form	OH-value / Amine value	Viscosity at 23°C	Commercial availability
OXYESTER EP-HS 2272 *	100 % (liquid)	215 mg KOH/g	1.300 mPas	Europe
OXYESTER T 1136	100 % (liquid)	107 mg KOH/g	4.000 mPas	Worldwide
VESTAMIN® A 139	100 % (liquid)	400 mg KOH/g	25 mPas	NAFTA, Europe

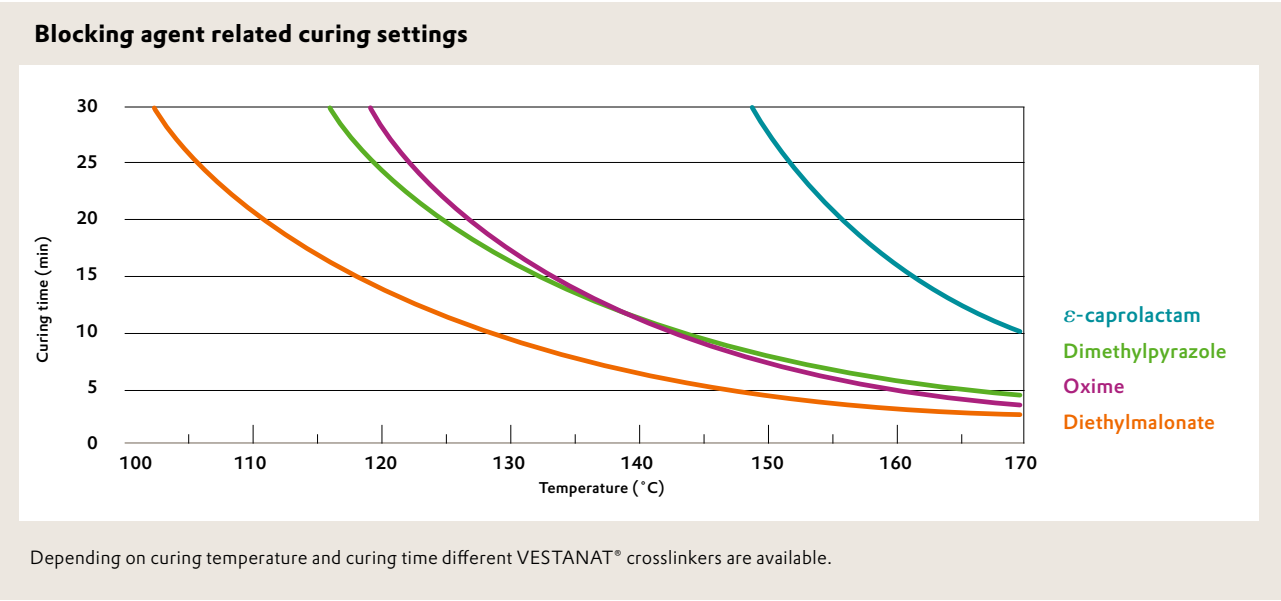
* EP = Experimental Product

Blocked polyurethane crosslinkers for 1K systems

VESTANAT® B Blocked polyurethanes; Solvent borne					
	Physical form	NCO content	Viscosity at 23°C	Blocking agent	Commercial availability
VESTANAT® B 1042 E	65 % in butylacetate	NCO equivalent approx. 630 g/eq	1.500 mPas	Diethylmalonate	Worldwide
VESTANAT® B 1358 A	63 % in solvent naphtha	8.0 %	5.000 mPas	Methylethylketoxime	Worldwide
VESTANAT® EP-B 1358 DINP *	40 % in diisononylphthalate	5.0 %	20.000 mPas	Methylethylketoxime	Worldwide
VESTANAT® B 1358/100	100 % (flakes)	12.5 %	-	Methylethylketoxime	Worldwide
VESTANAT® B 1370	60 % in BuAc/Xylene (3:5)	8.0 %	2.600 mPas	Acetoneoxime	Worldwide
VESTANAT® B 1186 A	60 % in solvent naphtha	7.1 %	1.200 mPas	ε-caprolactam	Worldwide
VESTANAT® B 1481 ND	65 % in solvent naphtha	8.5 %	2.400 mPas	ε-caprolactam	Worldwide

VESTANAT® B Blocked polyurethanes; Water borne					
	Physical form	NCO content	Viscosity at 23°C	Blocking agent	Commercial availability
VESTANAT® EP-DS 1205 E *	42 % in water	11.0 %	110 mPas	Methylethylketoxime	Europe

* EP = Experimental Product



DISCOVER MORE!

Further useful documents and information are available.

www.evonik.com/crosslinkers

GET IN CONTACT!

Our local sales representatives look forward to serving you.

www.evonik.com/crosslinkers-contact

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02-2022/hg

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