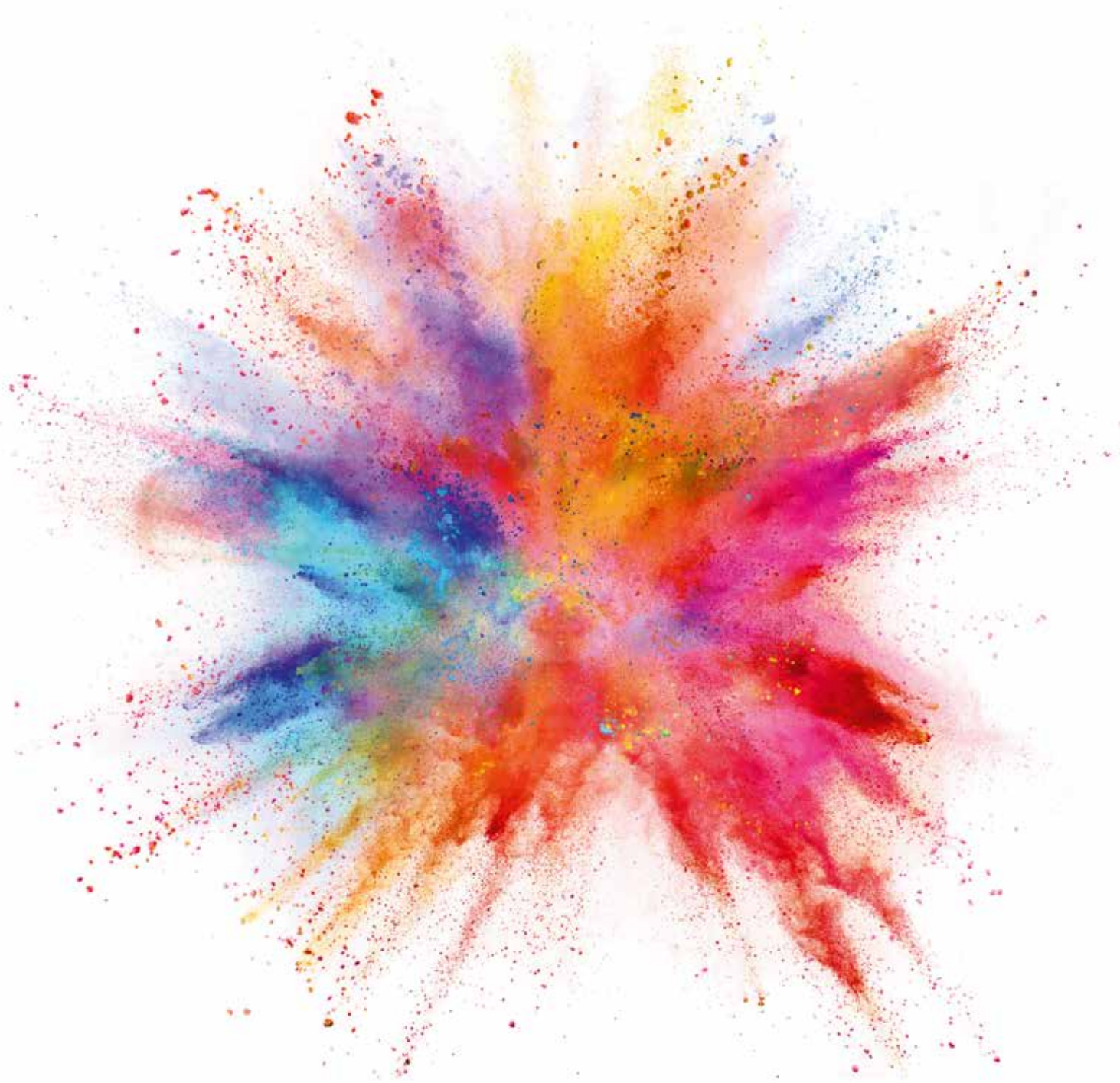


**COATING ADDITIVES**

# **PRODUCT OVERVIEW**



# Meeting up to the challenges of a changing world.


## SUPERIOR PRODUCTS AND SERVICES OFFERING

From highly specialized tools to multifunctional solutions, we offer a full range of high-quality products that add real value to your formulations. Discover our digital services to make your regulatory work easier – now and in the future.

## DIGITALIZATION

COATINO® offers product recommendations, coating formulations and learning journeys. Use guided searches, compare products and order additive and resin samples directly.

## SUSTAINABILITY GOES DEEPER THAN THE SURFACE!

It's about using safe materials and consistently saving time, materials, and energy. Evonik's holistic sustainability approach is based on two main pillars: We minimize the footprint by using resources more efficiently and minimizing emissions, and we go one step further: We develop products and technologies that also reduce the environmental impact of our customers and end users to maximize the handprint. That's what Evonik calls sustainability. Find now our products with a clearly positive sustainability profile, marked with a green badge  next to the product name.

## COATING ADDITIVES OF EVONIK.

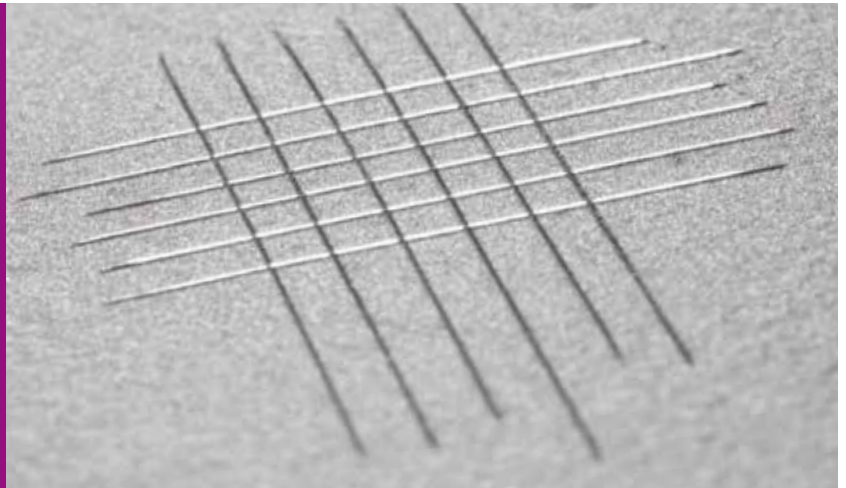
HOME OF ACEMATT®, AEROSIL®, COATINO®, SURFYNOL® AND TEGO®. AND MUCH MORE.

**ACEMATT<sup>®</sup>, ADDID<sup>®</sup>,  
AERODISP<sup>®</sup>, AEROSIL<sup>®</sup>,  
AEROXIDE<sup>®</sup>, AIRASE<sup>®</sup>,  
ALBIDUR<sup>®</sup>, CARBOWET<sup>®</sup>,  
COATINO<sup>®</sup>, DYNOL<sup>™</sup>,  
NANOCRYL<sup>®</sup>, NANOPOL<sup>®</sup>,  
NANOPOX<sup>®</sup>, SILIKOFTAL<sup>®</sup>,  
SILIKOPHEN<sup>®</sup>, SILIKOPON<sup>®</sup>,  
SILIKOPUR<sup>®</sup>, SILIKOTOP<sup>®</sup>,  
SIPERNAT<sup>®</sup>, SPHERILEX<sup>®</sup>,  
SURFYNOL<sup>®</sup>, TEGO<sup>®</sup>,  
TEGOMER<sup>®</sup>, ZETASPERSE<sup>®</sup>**

- 03** ABOUT COATING ADDITIVES
- 06** ADHESION RESINS
- 07** COMPATIBILIZERS
- 08** DEFOAMERS/DEAERATORS –  
NON-AQUEOUS FORMULATIONS
- 09** DEFOAMERS/DEAERATORS –  
WATERBORNE FORMULATIONS
- 12** FILM ENHANCERS
- 13** ADDITIVES FOR POWDER COATINGS
- 14** HYDROPHOBING AGENTS
- 15** INTERMEDIATES
- 16** MATTING AGENTS
- 17** MORE SPECIALITIES
- 18** NANOCOMPOSITES
- 19** PU-THICKENERS
- 20** RADIATION-CURING ADDITIVES
- 21** SILICA-BASED RHEOLOGY CONTROL  
ADDITIVES
- 22** SILICONE HYBRID RESINS
- 22** THERMAL INSULATION
- 23** SILICONE RESINS
- 23** SILICONE MODIFIED PU EMULSIONS
- 24** SILICONE POLYESTER RESINS
- 25** SLIP AND FLOW ADDITIVES
- 26** SPECIALTY FILLERS AND EXTENDERS
- 27** SPECIALTY POWDERS
- 28** SUBSTRATE WETTING ADDITIVES
- 30** WETTING AND DISPERSING ADDITIVES –  
AQUEOUS FORMULATIONS
- 32** WETTING AND DISPERSING ADDITIVES –  
NON-AQUEOUS FORMULATIONS
- 34** COATINO®

## ADHESION RESINS

The **TEGO® Addbond** range of products comprises special, widely compatible polyester resins which improve the adhesion of the most diverse coating and printing ink formulations.



Product		Waterborne	UV	Solventborne	Adhesion to metal	Adhesion to plastic	Remarks
TEGO® Addbond 2220 ND		●	●	●	●	◐	
TEGO® Addbond 2325		●	●	●	◐	●	especially suitable for acrylic based coating systems
TEGO® Addbond DS 1300	✓	●	●	●	●	◐	
TEGO® Addbond HS		●	●	●	●	◐	
TEGO® Addbond HS MPA		●	●	●	●	◐	
TEGO® Addbond LP 1600	✓	●	●	●	◐	◐	solvent-free
TEGO® Addbond LP 1611	✓	●	●	●	◐	◐	solvent-free
TEGO® Addbond LTH		●	●	●	●	●	solid
TEGO® Addbond LTW		●	●	●	●	◐	
TEGO® Addbond LTW-B		●	●	●	●	◐	

✓ sustainable   ● not recommended   ◐ recommended   ● highly recommended

## COMPATIBILIZERS

Pigment concentrates are widely used to achieve and adjust the desired color appearance. Sometimes the compatibility between the pigment concentrate and the base paint is not optimal. Compatibilizers are low-molecular-weight substances designed to improve the compatibility between the pigment concentrate and the base paint. A perfect color acceptance is achieved.



Product	Direct grind	Post-addition	Addition to colorant	Color strength	Color acceptance	Carbon blacks	Organic pigments	Inorganic pigments/fillers
TEGO® Color Aid 7060	●	●	●	●	●	●	●	●
TEGO® Color Aid 7062	●	●	●	●	●	●	●	●
TEGO® Color Aid 7066	✓	●	●	●	●	●	●	●

## DEFOAMERS/DEAERATORS

### Non-aqueous formulations

Entrapped air should be avoided in solventborne coatings during production, filling into containers and application onto substrates. An air free film guarantees an excellent optical appearance and durability of the coating. The brand **TEGO® Airex** offers a range of products to the formulator finding the right balance of effectiveness against bubbles and compatibility with the solventborne coating system. All problems of entrapped air can be solved by using different technologies e.g. silicone-based and silicone-free.



Product		Solventborne	Radiation-curing	2-pack solvent-free	Pigmented	Clear	Spray application	Airless spray	Brush/roller application	Flexo/gravure printing	Floor coating
TEGO® Airex 900	✓	⊗	●	●	●	●	●	⊗	●	●	●
TEGO® Airex 910		●	●	●	⊗	●	●	●	⊗	●	●
TEGO® Airex 920	✓	⊗	●	⊗	●	●	⊗	⊗	●	●	●
TEGO® Airex 921	✓	⊗	●	⊗	●	●	●	⊗	●	●	⊗
TEGO® Airex 922	✓	⊗	●	⊗	●	●	⊗	⊗	●	●	●
TEGO® Airex 923	✓	⊗	●	⊗	●	●	⊗	●	●	⊗	⊗
TEGO® Airex 931		●	●	●	●	●	●	⊗	●	⊗	⊗
TEGO® Airex 944	✓	●	●	●	●	⊗	●	●	●	●	●
TEGO® Airex 962		●	●	⊗	⊗	●	●	⊗	⊗	●	⊗
TEGO® Airex 971		⊗	●	⊗	●	●	⊗	⊗	●	●	●
TEGO® Airex 978	✓	●	●	●	●	●	⊗	⊗	●	●	●
TEGO® Airex 990	✓	●	⊗	●	●	●	●	●	⊗	●	●
TEGO® Airex 991	✓	●	⊗	●	●	●	●	●	●	●	⊗
TEGO® Foamex N		●	●	●	●	●	⊗	●	●	⊗	⊗

✓ sustainable   ● not recommended   ⊗ recommended   ● highly recommended



## DEFOAMERS/DEAERATORS

### Waterborne formulations

The prevention and elimination of foam is essential in the production, filling and application of waterborne coatings. Foam free films ensure excellent appearance and durability of the coating. The **TEGO® Foamex**, **TEGO® Airex**, **SURFYNOL®** and **AIRASE®** brands offer the formulator a variety of products to find the right balance of effectiveness against foam and compatibility with the coating system. The full spectrum of foam issues, such as macro-foam, micro-foam or the need for fast foam breakdown, can be solved by using different technologies, e.g. silicone-based and silicone-free, including the concept of molecular defoamers.



Product		Grinding stage	Let-down stage	Clear coatings	Spray application	Airless spray	Brush/roller application	Printing Inks
AIRASE® 5100	✓	●	●	●	●	●	●	●
AIRASE® 5355	✓	●	●	●	●	●	●	●
AIRASE® 8070		●	●	●	●	●	●	●
SURFYNOL® 118		●	●	●	●	●	●	●
SURFYNOL® DF-110 BC		●	●	●	●	●	●	●
SURFYNOL® DF-110 D		●	●	●	●	●	●	●
SURFYNOL® DF-220	✓	●	●	●	●	●	●	●
SURFYNOL® MD 20	✓	●	●	●	●	●	●	●

## Defoamers/deaerators – Waterborne formulations

Product		Grinding stage	Let-down stage	Clear coatings	Spray application	Airless spray	Brush/roller application	Printing Inks
TEGO® Airex 901 W		●	◐	◐	●	●	◐	◐
TEGO® Airex 901 W N	✓	●	◐	◐	●	●	◐	●
TEGO® Airex 902 W		●	●	●	●	●	●	◐
TEGO® Airex 902 W N	✓	●	●	●	●	●	●	◐
TEGO® Airex 904 W		●	●	◐	●	●	●	●
TEGO® Airex 904 W N	✓	●	●	◐	●	●	●	●
TEGO® Airex 906 W		◐	●	◐	●	●	◐	◐
TEGO® Foamex 10	✓	◐	●	◐	◐	●	●	●
TEGO® Foamex 11	✓	●	●	●	◐	●	●	●
TEGO® Foamex 1488	✓	◐	●	●	◐	◐	◐	●
TEGO® Foamex 18	✓	◐	◐	◐	◐	◐	●	●
TEGO® Foamex 2		◐	●	◐	●	●	●	●
TEGO® Foamex 20	✓	◐	●	◐	◐	◐	●	●
TEGO® Foamex 24	✓	◐	●	●	●	◐	●	●
TEGO® Foamex 26		●	◐	◐	●	●	●	●
TEGO® Foamex 27	✓	●	◐	●	●	◐	●	●
TEGO® Foamex 3062	✓	●	●	●	●	◐	◐	●
TEGO® Foamex 32	✓	●	◐	◐	●	◐	●	●
TEGO® Foamex 34	✓	●	◐	◐	●	◐	●	●
TEGO® Foamex 6		●	●	●	●	●	●	●
TEGO® Foamex 800	✓	●	●	●	◐	◐	◐	●
TEGO® Foamex 8030	✓	●	●	◐	◐	◐	●	●
TEGO® Foamex 8050	✓	◐	◐	●	◐	◐	●	●
TEGO® Foamex 805 N	✓	●	●	●	●	◐	◐	●

✓ sustainable  
 ● not recommended  
 ◐ recommended  
 ● highly recommended

## Defoamers/deaerators – Waterborne formulations

Product		Grinding stage	Let-down stage	Clear coatings	Spray application	Airless spray	Brush/roller application	Printing Inks
TEGO® Foamex 810		●	◐	◐	●	●	◐	◐
TEGO® Foamex 811	✓	●	●	●	●	●	◐	●
TEGO® Foamex 812	✓	●	◐	◐	●	◐	●	●
TEGO® Foamex 815 N	✓	●	●	◐	◐	◐	◐	◐
TEGO® Foamex 822	✓	●	●	●	●	◐	●	◐
TEGO® Foamex 823	✓	●	●	●	●	◐	●	◐
TEGO® Foamex 825	✓	◐	●	●	●	◐	●	●
TEGO® Foamex 830	✓	●	●	●	◐	◐	◐	●
TEGO® Foamex 832	✓	◐	●	◐	◐	◐	●	●
TEGO® Foamex 835	✓	●	●	◐	◐	◐	◐	●
TEGO® Foamex 840	✓	◐	●	●	●	◐	●	●
TEGO® Foamex 842	✓	◐	●	●	◐	◐	◐	●
TEGO® Foamex 843	✓	◐	●	◐	◐	◐	◐	●
TEGO® Foamex 844	✓	●	●	◐	◐	◐	◐	●
TEGO® Foamex 845	✓	●	●	●	●	◐	●	●
TEGO® Foamex 852	✓	●	●	●	●	◐	●	●
TEGO® Foamex 8820	✓	●	◐	◐	●	◐	◐	●
TEGO® Foamex 883		◐	◐	◐	◐	◐	◐	◐
TEGO® Foamex 8850	✓	◐	●	●	◐	●	◐	●
TEGO® Foamex 9		●	◐	●	◐	◐	●	●

✓ sustainable  
 ● not recommended  
 ◐ recommended  
 ● highly recommended

## FILM ENHANCERS

**TEGO® Variplus** resins are widely used to improve the property profile of many coatings and printing inks. These non-saponifiable, neutral, hard resins have low molecular weight, low inherent color and good light and heat resistance. Their excellent compatibility with the major binders and their good solubility in the solvents commonly used in these systems make them highly versatile.



Product	Solventborne	Waterborne	Radiation-curing	Hardness	Gloss	Adhesion	Pigment stabilization
TEGO® Variplus 1201 TF	●	●	●	●	●	●	●
TEGO® Variplus AP	●	●	●	◐	●	◐	●
TEGO® Variplus CA N	●	●	◐	◐	●	●	◐
TEGO® Variplus DS 50	✓	●	●	●	◐	◐	◐
TEGO® Variplus SK	✓	●	◐	●	●	●	●

✓ sustainable  
 ● not recommended  
 ◐ recommended  
 ● highly recommended

## ADDITIVES FOR POWDER COATINGS

These specialty grades from the **AEROXIDE®**, **AEROSIL®** and **TEGO®** product portfolios are tailor-made and known to improve the overall performance of powder coatings. Properties such as free-flow, anti-caking and pigment dispersing are improved.



Product		Free-flow	Anti-caking	Positive charging	Negative charging	Pigment dispersing	Degassing	Flow & Leveling	Gloss & DOI	Remarks
TEGO® Powder Aid D01	✓	●	●	●	●	●	●	●	●	use in combination with standard flow & leveling, degassing additives in premix
AEROXIDE® Alu C	✓	●	●	●	●	●	●	●	●	
AEROXIDE® Alu 130	✓	●	●	●	●	●	●	●	●	fine particle fumed aluminum oxide
AEROXIDE® Alu C 805	✓	●	●	●	●	●	●	●	●	hydrophobic treatment
AEROSIL® COK 84		●	●	●	●	●	●	●	●	fumed silica and aluminum oxide blend

✓ sustainable  
 ● not recommended  
 ● recommended  
 ● highly recommended

## HYDROPHOBING AGENTS

Hydrophobing agents are designed to make waterborne exterior paints hydrophobic. Used in silicone resin paints and plasters silicone resin emulsions like **TEGO® Phobe 1659** is characterized by an efficient reduction of the water absorption. Linear polysiloxanes like **TEGO® Phobe 1409** lead to an excellent water beading effect on exterior coatings.



Product		Waterborne	Solventborne	Reduced water uptake	Water-beading effect	Impregnation	Remarks
TEGO® Phobe 1401 N		●	●	◐	●	●	
TEGO® Phobe 1409	✓	●	●	◐	●	●	for ecolabel compliant formulations, excellent beading effect
TEGO® Phobe 1500 N		●	●	◐	●	●	outstanding beading effect
TEGO® Phobe 1650		●	●	●	●	●	good early water-resistance
TEGO® Phobe 1659	✓	●	●	●	◐	●	for ecolabel compliant formulations, low dirt-pick up
TEGO® Phobe 6010	✓	●	●	●	●	●	
TEGO® Phobe 6510	✓	●	●	●	●	●	for impregnation of alkaline substrates
TEGO® Phobe 6600	✓	●	●	●	●	●	for impregnation of neutral to alkaline substrates

✓ sustainable   ● not recommended   ◐ recommended   ● highly recommended

## INTERMEDIATES

The **TEGOMER**<sup>®</sup> range of products consists of linear, reactive polydimethylsiloxanes with various terminal functional groups. They are specifically designed to modify binders such as polyurethanes, acrylic resins, polyesters and epoxides.



### Product

### Non-volatile content

### Remarks

**TEGOMER<sup>®</sup> D 3403**

99 %

emulsifier, non-ionic alternative to dimethylolpropionic acid

**TEGOMER<sup>®</sup> H-C 5002**

100 %

hydroxy functional polyacrylate, with excellent flexibility



## MATTING AGENTS

The level of gloss is necessary for the appearance of coatings. The brand **ACEMATT®** offers a variety of products to the formulator finding the right balance of effectiveness for matting properties and easy incorporation into the coating system. The full spectrum of matting levels such as semi-gloss, mat and semi-mat can be reached by using the precipitated and thermal silica based matting agents.



Product	Waterborne	Solventborne	UV	Clears	Matting efficiency	Transparency	Low viscosity increase	Smoothness/Haptic	Sedimentation behaviour	Remarks
ACEMATT® 790	●	●	●	●	●	●	●	●	●	especially recommended for coil and general industrial coatings
ACEMATT® 810	●	●	●	●	●	●	●	●	●	especially recommended for coil and general industrial coatings
ACEMATT® 3300	✓	●	●	●	●	●	●	●	●	especially recommended for soft-feel applications
ACEMATT® 3400	✓	●	●	●	●	●	●	●	●	especially recommended for soft-feel applications with high surface smoothness
ACEMATT® 3600	✓	●	●	●	●	●	●	●	●	
ACEMATT® HK 125	●	●	●	●	●	●	●	●	●	
ACEMATT® HK 390	✓	●	●	●	●	●	●	●	●	super fine surface haptics
ACEMATT® HK 400	●	●	●	●	●	●	●	●	●	
ACEMATT® HK 440	●	●	●	●	●	●	●	●	●	
ACEMATT® HK 520	✓	●	●	●	●	●	●	●	●	improved orientation in coating systems effectively prevents mottling
ACEMATT® OK 390	✓	●	●	●	●	●	●	●	●	super fine surface haptics
ACEMATT® OK 412	●	●	●	●	●	●	●	●	●	
ACEMATT® OK 500	●	●	●	●	●	●	●	●	●	
ACEMATT® OK 520	✓	●	●	●	●	●	●	●	●	universal use in nearly all coating systems
ACEMATT® OK 607	●	●	●	●	●	●	●	●	●	
ACEMATT® OK 607 LC	●	●	●	●	●	●	●	●	●	especially recommended for automotive e-coats
ACEMATT® TS 100	✓	●	●	●	●	●	●	●	●	
SIPERNAT® 622 LS	✓	●	●	●	●	●	●	●	●	especially recommended for printing ink applications

✓ sustainable   ● not recommended   ● recommended   ● highly recommended



**MORE SPECIALITIES**

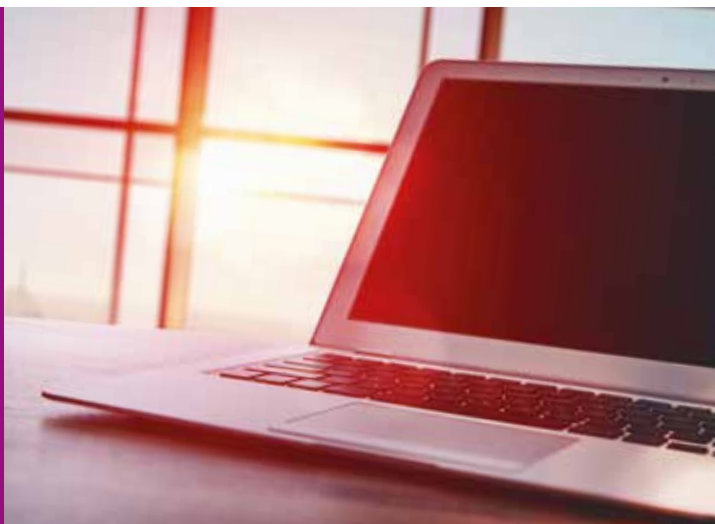


Product		Waterborne	UV	Solventborne	High solid	Remarks
ADDID® 230		●	●	●	●	anti-static additive to increase the conductivity of coatings
ADDID® 900		●	●	●	●	amino functional alkoxy silane for adhesion promotion on e. g. siliceous, oxidic, metallic and ceramic substrates
ADDID® 911		●	●	●	●	epoxy functional alkoxy silane for adhesion promotion on e. g. siliceous, oxidic, metallic and ceramic substrates
ALBIDUR® 1223	✓	●	●	●	●	especially recommended in combination with SILIKOPON® EF and SILIKOPON® ED
ALBIDUR® PU 5640		●	●	●	●	
TEGO® Humectant 7000		●	●	●	●	
TEGO® Humectant 7005	✓	●	●	●	●	ultra-low VOC
TEGO® Protect 5000 N		●	●	●	●	hydroxyfunctional polydimethylsiloxane
TEGO® Protect 5001		●	●	●	●	hydroxyfunctional silicone polyacrylate
TEGO® Protect 5100 N		●	●	●	●	emulsion of a hydroxyfunctional polydimethylsiloxane

✓ sustainable  
 ● not recommended  
 ● recommended  
 ● highly recommended

## NANOCOMPOSITES

Evonik's silica nanocomposites are colloidal silica sols in various binders and solvents. They are low viscosity products that are highly transparent and do not exhibit any sedimentation. The fact that this can be achieved without impairing optical clarity makes silica nanocomposites particularly suitable for highly scratch-resistant, steel wool-resistant clear coats for plastics (e.g. PC, PMMA, PET) and wood.



Product	Monomer/Solvent	SiO <sub>2</sub> -content [w/w%]	Dynamic viscosity, 25°C [mPas]	Nano-silica particle size	Waterborne	UV radical	UV cationic	Solventborne
NANOCRYL® C 130	cyclic trimethylolpropaneformalacrylate (CTFA)	50	275	20 nm	●	●	●	●
NANOCRYL® C 140	hexanedioldiacrylate (HDDA)	50	175	20 nm	●	●	●	●
NANOCRYL® C 150	trimethylolpropantriacyrylate (TMPTA)	50	3,300	20 nm	●	●	●	●
NANOPOL® C 750	✓ water	50	25	20 nm	●	●	●	●
NANOPOL® C 764	✓ methoxypropylacetate	50	20	20 nm	●	●	●	●
NANOPOL® C 784	✓ n-butylacetate	50	20	20 nm	●	●	●	●
NANOPOX® C 620	EEC	40	4,000	20 nm	●	●	●	●

✓ sustainable   ● not recommended   ● recommended   ● highly recommended

## PU THICKENERS

The **TEGO® Viscoplus** product range consists of associative polyurethane thickeners that meet the latest industry requirements. All **TEGO® Viscoplus** products are liquid and free from organic solvents, alkylphenoethoxylates and organotin compounds. Each **TEGO® Viscoplus** product has a different rheological profile. The different products can be easily combined due to their excellent compatibility.



Product		Waterborne	Newtonian	Newtonian, high-shear	Pseudoplastic	Strong pseudoplastic	Remarks
TEGO® Viscoplus 3000	✓	●	●	◐	●	●	effective independent from pH value
TEGO® Viscoplus 3010	✓	●	●	●	●	●	effective independent from pH value, especially for ICI-viscosity
TEGO® Viscoplus 3030	✓	●	●	●	●	◐	effective independent from pH value
TEGO® Viscoplus 3060	✓	●	●	●	●	●	effective independent from pH value

## RADIATION-CURING ADDITIVES

The **TEGO® Rad** product range consists of cross-linkable, organo-modified siloxane acrylates tailor-made for radiation-curing formulations. This range enables the ink and coatings formulators to introduce durable surface effects to their formulations. Especially, when stable slip and release-effects are desired the **TEGO® Rad** product range is the prime choice.



Product		Radiation-curing (100%)	Waterborne UV	Low foaming	Substrate wetting	Leveling	Slip	Release
TEGO® Rad 2100		●	●	●	◐	●	●	●
TEGO® Rad 2200 N	✓	●	●	●	●	●	●	◐
TEGO® Rad 2250	✓	●	●	●	●	●	●	◐
TEGO® Rad 2300	✓	●	●	◐	●	◐	●	◐
TEGO® Rad 2500		●	●	●	●	●	●	◐
TEGO® Rad 2650		●	●	●	●	●	●	●
TEGO® Rad 2700		●	●	●	●	●	●	●
TEGO® Rad 2800		●	●	●	●	●	●	●

✓ sustainable  
 ● not recommended  
 ◐ recommended  
 ● highly recommended

## SILICA-BASED RHEOLOGY CONTROL ADDITIVES

The rheological properties of paints and coatings can be controlled as needed with either hydrophilic or hydrophobic **AEROSIL®** grades. Additions of 0.3–1.0%, based on the total formulation, are typical in almost all solvent and waterborne systems, as well as in high-solids coatings. Incorporation of **AEROSIL®** particles into a coating generally results in pseudoplasticity, often associated with a thixotropic effect.



Product		Waterborne	Solventborne	UV	Rheology control	Scratch resistance	
AERODISP® W 7520	✓	●	●	●	●	●	
AERODISP® W 7520 N	✓	●	●	●	●	●	
AERODISP® W 7520 NF	✓	●	●	●	●	●	food contact status
AERODISP® W 7520 P	✓	●	●	●	●	●	
AERODISP® WF 7620	✓	●	●	●	●	●	
AERODISP® WR 8520	✓	●	●	●	●	●	
AEROSIL® 200		●	●	●	●	●	
AEROSIL® 300		●	●	●	●	●	
AEROSIL® 380		●	●	●	●	●	
AEROSIL® E 805	✓	●	●	●	●	●	easy-to-disperse i.e. incorporation by dissolver is sufficient
AEROSIL® E 812	✓	●	●	●	●	●	easy-to-disperse i.e. incorporation by dissolver is sufficient
AEROSIL® E 972	✓	●	●	●	●	●	easy-to-disperse i.e. incorporation by dissolver is sufficient
AEROSIL® R 106		●	●	●	●	●	
AEROSIL® R 202		●	●	●	●	●	
AEROSIL® R 208		●	●	●	●	●	
AEROSIL® R 805		●	●	●	●	●	
AEROSIL® R 812		●	●	●	●	●	
AEROSIL® R 812 S		●	●	●	●	●	
AEROSIL® R 816		●	●	●	●	●	effective independent from pH value
AEROSIL® R 972	✓	●	●	●	●	●	effective independent from pH value
AEROSIL® R 972 V	✓	●	●	●	●	●	effective independent from pH value
AEROSIL® R 974		●	●	●	●	●	

✓ sustainable   ● not recommended   ● recommended   ● highly recommended

## SILICONE HYBRID RESINS

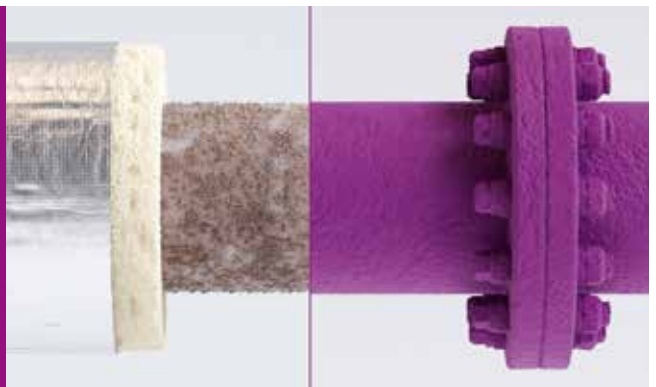
Ultra-low VOC, isocyanate-free **SILIKOPON**® resins provide excellent chemical resistant coatings with very good gloss and color retention. They are excellent topcoat binders for high-quality two-layer corrosion protection coatings. Excellent chemical and mechanical resistance make them ideal resins for heavy-duty finishes. **SILIKOTOP**® is a binder system designed for use in high solids systems and top coats. It has a very low VOC content, processing viscosity and solvent requirement. **SILIKOTOP**® is also effective as a co-binder.



Product	Non-volatile content	Remarks
<b>SILIKOPON</b> ® EC	53 %	stoving system, solventborne, for stoving enamels (heat resistant up to 650 °C, depending on formulation), excellent adhesion, and resistance to solvents
<b>SILIKOPON</b> ® ED	98 %	for 2-pack isocyanate-free curable high solids topcoats with excellent color and gloss retention, outstanding anti-corrosion and mechanical resistance
<b>SILIKOPON</b> ® EF	98 %	for 2-pack isocyanate-free curable high solids top coats with a low VOC content (100-250 g/l), with good corrosion, excellent gloss, weathering resistance, and anti-graffiti effect
<b>SILIKOTOP</b> ® E 900	90 %	top coats, enhanced flexibility, tough elasticity
<b>SILIKOTOP</b> ® E 901	90 %	top coats, excellent weather resistance, also for direct-to-metal applications

## THERMAL INSULATION

The product range **TEGO**® **Therm** consists of specially designed components for the application in thermal insulation coatings. The product range comprises of microporous silica-based materials with superior thermal insulation performance and waterborne silicone-based binder with excellent heat stability.



Product	Adhesion to metal	Adhesion to plastic	Recoatable	Smoothness/haptic	Spray application	Water beading effect	
<b>TEGO</b> ® Therm HPG 4000	✓	⊗	⊗	⊗	●	⊗	silica-based granules with particle size $d_{50} \sim 300 \mu\text{m}$
<b>TEGO</b> ® Therm HPG 6806	✓	⊗	⊗	●	●	⊗	silica-based granules with particle size $d_{50} \sim 30 \mu\text{m}$
<b>TEGO</b> ® Therm L 300	✓	●	⊗	●	●	⊗	Liquid waterborne silicone hybrid binder with solid content = 50 %

## SILICONE RESINS

High heat resistance up to 850 °C.

**SILIKOPHEN®**, pure air-drying silicone resins with good compatibility with other binders, and provide excellent corrosion protection. For use in ovens, grills, mufflers, exhaust coatings, and industrial facilities, e.g. pipelines.



Product		Non-volatile content	Active content	Remarks
<b>SILIKOPHEN® AC 1000</b>	✓		100%	solvent-free, ambient curing, low smoke and odor development
<b>SILIKOPHEN® AC 900</b>	✓		90%	high solids, solventborne, ambient curing, good flexibility during the heating and the cooling process
<b>SILIKOPHEN® P 40/W</b>	✓	50%		water-reducible, good compatibility with organic resins
<b>SILIKOPHEN® P 50/X</b>		50%		solventborne, good air-drying
<b>SILIKOPHEN® P 80/X</b>		80%		solventborne, good air-drying, for low VOC formulations
<b>SILIKOPHEN® P 80/MPA</b>		80%		solventborne, good air-drying and BTEX-free, for low VOC formulations
<b>TEGO® Cure 100</b>	✓		100%	reactive, ambient curing polysiloxane, pre-catalyzed with amines, for the use as a hardener

## SILICONE MODIFIED PU EMULSIONS

**SILIKOPUR®** is a waterborne, silicone-modified 1-pack polyurethane emulsion. It provides very flexible coating systems without any tackiness. **SILIKOPUR®** generates fast drying films at ambient temperature with excellent adhesion on many substrates. Additionally, it boosts the abrasion resistance with flexible grinds.



Product		Silicone content	Properties
<b>SILIKOPUR® 8081</b>	✓	33%	waterborne silicone modified polyurethane emulsion, high flexibility

✓ sustainable   ● not recommended   ● recommended   ● highly recommended




## SILICONE POLYESTER RESINS

Heat resistant up to 250°C.

With **SILIKOFTAL®** resins, Evonik offers a wide range of silicone polyesters for decorative applications.

Excellent gloss retention, chemical resistance (alkaline detergents), and FDA-compliance are their main features.



Product	Silicone content	Remarks
<b>SILIKOFTAL® HTF MPA/MBA</b>	50%	High flexibility and low thermoplasticity. Product can be used in compliance with FDA 175.300 and/or BfR 15.*
<b>SILIKOFTAL® HTL 3/MPA</b>	30%	Extraordinary yellowing resistance up to 250°C and a very good boiling water resistance. Product can be used in compliance with FDA 175.300 and/or BfR15.*
<b>SILIKOFTAL® HTT</b>	80%	Retains hardness from room temperature to 150°C. Longterm heat resistance up to 250°C good detergent resistance. Product can be used in compliance with FDA 175.300 and/or BfR 15.*
<b>SILIKOFTAL® HTW 3</b>	 30%	Waterborne, low VOC, product can be used in compliance with FDA 175.300 and/or BfR 15.*

\* Products can be subject to any applicable limitations. For detailed information, please refer to our RDS.



## SLIP AND FLOW ADDITIVES

Slip and flow additives improve the flow/leveling and optical appearance. Siloxanes prevent cratering. Slip and anti-blocking of a coating can be adjusted.



Product	Waterborne	Solventborne	UV	Compatibility	Low foaming	Recoatable	Leveling	Slip	Antiblocking	Anti-crater
TEGO® Flow 300	●	●	◐	●	●	●	●	●	●	◐
TEGO® Flow 370	●	●	●	●	●	●	●	●	●	◐
TEGO® Flow 375	✓	●	◐	●	◐	●	●	●	●	◐
TEGO® Flow 380	●	●	◐	●	●	●	●	●	●	◐
TEGO® Flow 425	●	●	●	●	●	●	●	◐	●	◐
TEGO® Flow ATF 2	●	●	●	●	◐	●	●	◐	●	●
TEGO® Glide 100	●	●	●	●	●	◐	●	◐	●	●
TEGO® Glide 110	●	●	●	●	●	●	◐	◐	●	●
TEGO® Glide 130	◐	●	●	●	●	●	◐	◐	●	●
TEGO® Glide 407	●	●	●	◐	●	●	◐	◐	●	●
TEGO® Glide 410	●	●	◐	●	●	●	●	●	◐	●
TEGO® Glide 432	✓	◐	●	●	●	●	●	●	◐	◐
TEGO® Glide 435	✓	●	●	◐	◐	●	◐	◐	◐	◐
TEGO® Glide 440	✓	●	●	◐	●	●	◐	◐	◐	●
TEGO® Glide 450	●	●	◐	●	●	◐	◐	◐	●	◐
TEGO® Glide 466	●	●	●	◐	●	●	●	◐	●	●
TEGO® Glide 490	●	●	●	◐	●	●	◐	●	●	●
TEGO® Glide 492	●	●	●	◐	●	●	◐	●	◐	●
TEGO® Glide 494	●	●	●	◐	●	●	◐	●	◐	●
TEGO® Glide 496	✓	●	●	●	●	●	◐	●	◐	●
TEGO® Glide A 116	●	●	●	●	●	●	◐	●	◐	●
TEGO® Glide B 1484	●	●	●	◐	●	●	◐	◐	●	●
TEGO® Glide ZG 400	◐	●	◐	●	●	●	◐	◐	●	●

## SPECIALTY FILLERS AND EXTENDERS

**SPHERILEX®** precipitated silicas are specialty fillers used to improve the durability and appearance of coatings.

**SIPERNAT®** silicate extenders can be used to replace a portion of the TiO<sub>2</sub> while enabling a coating to retain its hiding power and film properties.



### Specialty fillers

Product		Solventborne	Waterborne	TiO <sub>2</sub> extension	Burnish/scrub resistance	Matting	Remarks
SPHERILEX® DP-0110	✓	●	●	●	●	●	Spherical amorphous precipitated silica; d <sub>50</sub> : 4.4 μm, N <sub>2</sub> BET: <12 m <sup>2</sup> /g, oil absorption: 50 ml/100 g
SPHERILEX® DP-0111	✓	●	●	●	●	●	Spherical amorphous precipitated silica; d <sub>50</sub> : 6 μm, N <sub>2</sub> BET: <12 m <sup>2</sup> /g, oil absorption: 40 ml/100 g
SPHERILEX® DP-0112	✓	●	●	●	●	●	Spherical amorphous precipitated silica; d <sub>50</sub> : 10 μm, N <sub>2</sub> BET: <12 m <sup>2</sup> /g, oil absorption: 50 ml/100 g
SPHERILEX® DP-0115	✓	●	●	●	●	●	Spherical amorphous precipitated silica; d <sub>50</sub> : 15 μm, N <sub>2</sub> BET: <12 m <sup>2</sup> /g, oil absorption: 45 ml/100 g

### Extenders

Product		Solventborne	Waterborne	TiO <sub>2</sub> extension	Burnish/scrub resistance	Matting	Remarks
SIPERNAT® 800	✓	●	●	●	●	●	Synthetic amorphous sodium aluminosilicate; d <sub>50</sub> : 8 μm, N <sub>2</sub> BET: 125 m <sup>2</sup> /g
SIPERNAT® 820 A	✓	●	●	●	●	●	Synthetic amorphous sodium aluminosilicate; d <sub>50</sub> : 7 μm, N <sub>2</sub> BET: 85 m <sup>2</sup> /g
SIPERNAT® 833	✓	●	●	●	●	●	Synthetic amorphous sodium aluminosilicate; d <sub>50</sub> : 4 μm, N <sub>2</sub> BET: 110 m <sup>2</sup> /g
SIPERNAT® 835	✓	●	●	●	●	●	Synthetic amorphous sodium magnesium aluminosilicate; d <sub>50</sub> : 5 μm, N <sub>2</sub> BET: 80 m <sup>2</sup> /g
SIPERNAT® 898	✓	●	●	●	●	●	Synthetic amorphous sodium aluminosilicate; d <sub>50</sub> : 6 μm, N <sub>2</sub> BET: 130 m <sup>2</sup> /g

✓ sustainable   ● not recommended   ● recommended   ● highly recommended

## SPECIALTY POWDERS

These special grades out of the **AEROSIL®** and **AEROXIDE®** product family are custom-tailored and used to improve different coatings properties as their traditional grades do (e.g. rheology control and free-flow).



Product		Solventborne	Waterborne	UV/Solvent-free	Free-flow	Scratch resistance	Remarks
AEROSIL® R 8200		●	●	●	●	●	Hydrophobic more than scratch resistance
AEROSIL® R 9200	✓	●	●	●	●	●	High loadings possible, low rheological effect
AEROSIL® E 9200	✓	●	●	●	●	●	Easy-to-disperse grade of AEROSIL® R 9200
AEROSIL® OX 50		●	●	●	●	●	Low rheological effect
AEROSIL® TT 600		●	●	●	●	●	Matting and transparency effect in artificial leather coatings
AEROXIDE® TiO <sub>2</sub> P 25		●	●	●	●	●	Fine-particulate pure titanium dioxide (TiO <sub>2</sub> ) with high specific surface area; Photocatalytic activity

## SUBSTRATE WETTING ADDITIVES

Substrate wetting additives enable uniform wetting for coatings and printing inks, even on very low energy or contaminated surfaces. Good wetting is a essential prerequisite for optimum adhesion. Defects in the coating surface such as cratering and poor leveling are minimized or improved.



Product		Waterborne		Solventborne		Silicone-free	Static surface tension	Dynamic surface tension	Anti-crater effect	Defoaming	Remarks
		UV									
DYNOL™ 360	✓	●	◐	◐	●	●	●	●	●	●	
DYNOL™ 604	✓	●	◐	◐	●	●	●	●	●	●	
DYNOL™ 607	✓	●	◐	◐	●	●	●	●	●	◐	
DYNOL™ 800		●	◐	◐	●	●	●	●	●	●	
DYNOL™ 810		●	◐	◐	●	●	●	●	●	●	
DYNOL™ 960	✓	●	◐	◐	●	●	●	●	●	●	
DYNOL™ 980	✓	●	◐	◐	●	●	●	●	●	●	
SURFYNOL® 104		●	◐	●	●	●	●	●	◐	●	
SURFYNOL® 104 A		●	◐	●	●	●	●	●	◐	●	
SURFYNOL® 104 BC		●	◐	●	●	●	●	●	◐	●	
SURFYNOL® 104 DPM		●	◐	●	●	●	●	●	◐	●	
SURFYNOL® 104 E		●	◐	●	●	●	●	●	◐	●	
SURFYNOL® 104 H		●	◐	●	●	●	●	●	◐	●	
SURFYNOL® 104 PA		●	◐	●	●	●	●	●	◐	●	
SURFYNOL® 104 PG 50		●	◐	●	●	●	●	●	◐	●	
SURFYNOL® 104 S		●	●	●	●	●	●	●	◐	●	for powder coatings
SURFYNOL® 104 Z		●	●	●	●	●	●	●	◐	●	
SURFYNOL® 107 L	✓	●	●	●	●	●	●	●	◐	●	

✓ sustainable   ● not recommended   ◐ recommended   ● highly recommended

Product		Waterborne	UV	Solventborne	Silicone-free	Static surface tension	Dynamic surface tension	Anti-crater effect	Defoaming
SURFYNOL® 2502		●	●	◐	●	●	●	●	◐
SURFYNOL® 355	✓	●	●	◐	●	●	●	◐	●
SURFYNOL® 420		●	◐	●	●	●	●	◐	●
SURFYNOL® 440	✓	●	◐	●	●	●	●	◐	◐
SURFYNOL® 465	✓	●	◐	●	●	◐	◐	●	●
SURFYNOL® 485	✓	●	◐	●	●	◐	◐	●	●
SURFYNOL® 485 W	✓	●	●	●	●	◐	◐	●	●
SURFYNOL® AD01	✓	●	●	●	●	●	●	◐	●
SURFYNOL® PSA 336		●	●	●	●	●	●	◐	●
SURFYNOL® SE		●	●	●	●	●	●	◐	●
SURFYNOL® SE-F		●	●	●	●	●	●	◐	●
TEGO® Twin 4000	✓	●	◐	●	●	●	●	●	●
TEGO® Twin 4100	✓	●	◐	●	●	●	●	●	●
TEGO® Twin 4200	✓	●	◐	◐	●	●	●	●	●
TEGO® Wet 240	✓	●	●	◐	●	●	●	◐	●
TEGO® Wet 250	✓	●	●	◐	●	●	●	●	●
TEGO® Wet 251	✓	●	●	◐	●	●	●	●	●
TEGO® Wet 260	✓	●	◐	◐	●	●	●	●	●
TEGO® Wet 270	✓	●	●	●	●	●	●	●	●
TEGO® Wet 290	✓	●	●	◐	●	●	●	●	●
TEGO® Wet 296		●	●	◐	●	●	●	●	●
TEGO® Wet 280		●	●	◐	●	●	●	●	●
TEGO® Wet 500	✓	●	●	◐	●	●	●	●	◐
TEGO® Wet 505	✓	●	◐	◐	●	●	●	●	●
TEGO® Wet 510	✓	●	◐	●	●	●	●	●	◐
TEGO® Wet KL 245	✓	●	●	●	●	●	●	●	●

✓ sustainable  
 ● not recommended  
 ◐ recommended  
 ● highly recommended

## WETTING AND DISPERSING ADDITIVES

### Aqueous formulations

Our wetting and dispersing additives for aqueous formulations ensure fast and efficient wetting and long lasting stabilization of pigments and fillers in water-based formulations. A broad range of products is available suitable for many different applications. The range consists of non-ionic and anionic additives.



Product		Direct grind	Resin-containing pigment conc.	Resin-free pigment conc.	Pigment wetting	Pigment stabilization	Carbon black	Organic pigments	Inorganic pigments/fillers	Matting agents	Remarks
CARBOWET® 106	✓	●	●	◐	●	◐	●	●	◐	●	co-dispersant
CARBOWET® 109	✓	●	●	◐	●	◐	●	●	◐	●	co-dispersant
CARBOWET® 138	✓	●	●	◐	●	◐	●	●	◐	●	co-dispersant
CARBOWET® GA-100		●	●	●	●	●	◐	◐	●	●	grind aid
CARBOWET® GA-210		●	●	●	●	●	●	●	◐	●	grind aid
CARBOWET® GA-211		●	●	●	●	●	●	●	◐	●	grind aid
CARBOWET® GA-221		●	●	●	●	●	●	●	◐	●	grind aid
TEGO® Dispers 650	✓	◐	●	●	●	●	●	●	●	●	
TEGO® Dispers 651	✓	◐	◐	●	◐	●	●	●	●	●	for universal colorants
TEGO® Dispers 652	✓	◐	◐	●	◐	●	●	●	●	●	for universal colorants
TEGO® Dispers 653	✓	◐	◐	●	◐	●	●	●	●	●	for universal colorants
TEGO® Dispers 655	✓	◐	●	●	◐	●	●	◐	●	●	for universal colorants
TEGO® Dispers 656	✓	◐	●	●	◐	●	●	◐	●	●	for universal colorants
TEGO® Dispers 658	✓	◐	●	●	●	●	●	●	●	●	for universal colorants

✓ sustainable   ● not recommended   ◐ recommended   ● highly recommended

Product		Direct grind	Resin-containing pigment conc.	Resin-free pigment conc.	Pigment wetting	Pigment stabilization	Carbon black	Organic pigments	Inorganic pigments	Matting agents	Remarks
TEGO® Dispers 711 W	✓	●	●	●	◐	●	●	●	●	●	direct grind of emulsion paints
TEGO® Dispers 712 W	✓	●	●	●	◐	●	●	●	●	●	direct grind of emulsion paints
TEGO® Dispers 715 W	✓	●	●	●	◐	●	●	●	●	●	direct grind of emulsion paints
TEGO® Dispers 717 W	✓	●	●	●	◐	●	●	●	●	●	direct grind of emulsion paints
TEGO® Dispers 740 W	✓	●	●	●	●	●	●	●	●	●	
TEGO® Dispers 747 W	✓	●	◐	●	◐	●	◐	◐	●	●	
TEGO® Dispers 750 W	✓	●	●	●	◐	●	●	●	●	●	
TEGO® Dispers 752 W	✓	●	●	●	◐	●	●	●	●	●	
TEGO® Dispers 755 W	✓	●	●	●	◐	●	●	●	●	●	
TEGO® Dispers 757 W	✓	◐	◐	●	◐	●	●	●	●	●	
TEGO® Dispers 760 W	✓	●	●	◐	●	◐	●	●	●	●	
TEGO® Dispers 761 W	✓	●	●	◐	●	◐	●	●	●	●	Swiss A compliant
TEGO® Dispers 780 W	✓	●	●	●	●	●	●	●	◐	●	Swiss A compliant, superior shock resistance
ZETASPERSE® 170	✓	●	●	◐	●	◐	●	●	◐	●	co-dispersant
ZETASPERSE® 175	✓	●	●	◐	●	◐	●	●	◐	●	
ZETASPERSE® 179	✓	●	●	◐	●	◐	●	●	◐	●	co-dispersant
ZETASPERSE® 182	✓	●	●	◐	●	◐	●	●	◐	●	co-dispersant
ZETASPERSE® 2500	✓	◐	◐	●	◐	●	◐	●	◐	●	
ZETASPERSE® 3014	✓	●	◐	●	●	●	◐	●	●	◐	
ZETASPERSE® 3100	✓	◐	●	●	◐	●	●	◐	●	◐	
ZETASPERSE® 3400	✓	◐	●	●	◐	●	◐	●	◐	●	
ZETASPERSE® 3600		◐	●	●	◐	●	◐	●	◐	●	
ZETASPERSE® 3700	✓	◐	●	●	◐	●	◐	●	◐	●	
ZETASPERSE® 3800	✓	●	●	●	◐	●	●	●	●	●	

✓ sustainable  
 ● not recommended  
 ◐ recommended  
 ● highly recommended

## WETTING AND DISPERSING ADDITIVES

### Non-aqueous formulations

Our wetting and dispersing additives for non-aqueous formulations ensure fast and efficient wetting and long lasting stabilization of pigments and fillers in non-aqueous formulations. A broad range of products is available suitable for many different applications. For solventborne formulations several solutions and 100% active products are available. The 100% active products can be used for solvent-free formulations.



Product		Solventborne	2-pack solvent-free	Radiation-curing	Direct grind	Pigment concentrates	Pigment wetting	Pigment stabilization	Carbon black	Organic pigments	Inorganic pigments / fillers	Matting agents	Remarks
TEGO® Dispers 1010	✓	●	●	●	◐	●	●	●	●	●	●	◐	low polar solvents
TEGO® Dispers 628		●	●	●	●	◐	●	●	●	●	●	◐	strong viscosity reduction
TEGO® Dispers 630		●	●	●	●	◐	◐	●	●	●	●	●	controlled flocculation
TEGO® Dispers 650	✓	●	●	●	◐	●	●	◐	●	●	●	●	for universal colorants
TEGO® Dispers 655	✓	●	●	●	●	●	●	●	●	●	●	●	
TEGO® Dispers 656	✓	●	●	●	●	●	●	●	●	●	●	●	for universal colorants
TEGO® Dispers 658	✓	●	●	●	◐	●	●	◐	●	●	●	●	for universal colorants
TEGO® Dispers 670		●	●	●	●	●	●	●	●	●	●	◐	
TEGO® Dispers 673	✓	●	●	◐	●	●	●	●	●	●	◐	●	
TEGO® Dispers 676		●	●	●	◐	●	●	●	●	●	●	●	

✓ sustainable   ● not recommended   ◐ recommended   ● highly recommended



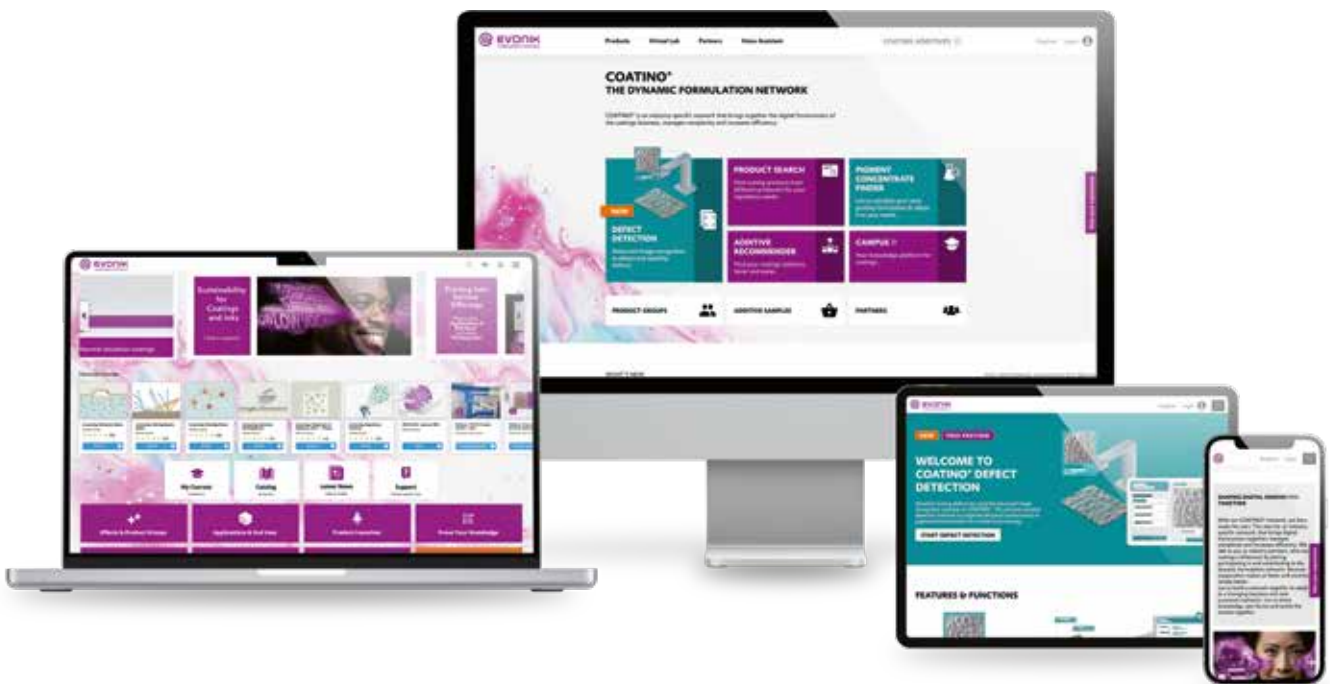


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The customer is not released from the obligation to conduct careful inspection and testing of incoming goods. Performance of the product described herein should be verified by testing, which should be carried out only by qualified experts in the sole responsibility of a customer. Reference to trade names used by other companies is neither a recommendation, nor does it imply that similar products could not be used.

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