

COATING ADDITIVES

PRODUCT OVERVIEW



MEET THE WORLD'S MOST EXPERIENCED ROOKIE.

The world's most experienced rookie – that's us. The Coating Additives business line of Evonik. We combine decades of expertise with the enthusiasm and dedication of a start-up. With the united powers of Silica products, TEGO® additives, and specialty additives of former Air Products, we offer innovative and tailor-made solutions that deliver real value for your coating formulations.

Over 500 products, approximately 450 employees, and 30 production and research sites across the globe comprise our new business line. Our diverse product portfolio includes additives, co-binders, matting agents, rheology control additives, specialty resins, and nanoresins.

Our world-famous brands include ACEMATT®, AEROSIL®, SURFYNOL®, and TEGO®. Our technology platform is one-of-a-kind, allowing innovative solutions to be developed for nearly any challenge that may arise during the formulation of paints and coatings. Our wide range of product solutions helps both in the formulation and manufacture of coatings and in their application.

Coating Additives is already a leading market provider of additives for water-based paints, and the business line is continuously expanding its position in the area of solvent-based paints as well.

COATING ADDITIVES OF EVONIK.

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

**ACEMATT[®], ADDID[®],
AEROSIL[®], AIRASE[®],
ALBIDUR[®], CARBOWET[®],
DYNOL[™], NANOCRYL[®],
SILIKOFTAL[®], SILIKOPHEN[®],
SILIKOPON[®], SILIKOPUR[®],
SILIKOTOP[®], SURFYNOL[®],
TEGO[®], TEGOMER[®],
ZETASPERSE[®]**

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ADDITIVES

DEAERATORS

Deaerators prevent the formation of air inclusions and pinholes in waterborne, solventborne, and radiation-curing coatings. This is particularly important in high viscosity or high solids formulations and essential for airless/airmix application in high film thickness.



Deaerators

Product	Waterborne	UV	UV PU/waterborne	Solventborne	2-pack solvent-free	High solids	Pigmented	Unpigmented	2K EP	2K PU	Acrylate	Alkyd	Alkyd/melamine	NC	Polyester/melamine	PU/acrylic	Acid-curing	Styrene-acrylic	UPE	UV acrylate	
TEGO® Airex 900		•		•	•	•	•		•												•
TEGO® Airex 901 W	•						•	•			•					•		•			
TEGO® Airex 902 W	•		•					•		•	•	•			•	•		•			
TEGO® Airex 904 W	•		•				•	•			•	•				•	•				
TEGO® Airex 910 ¹		•		•	•			•	•											•	•
TEGO® Airex 920 ¹		•					•	•													•
TEGO® Airex 921 ¹		•					•	•													•
TEGO® Airex 922 ¹				•	•	•	•	•	•	•											
TEGO® Airex 931				•		•	•	•	•	•	•	•	•	•	•		•				
TEGO® Airex 940				•	•		•	•	•	•		•								•	
TEGO® Airex 944				•	•	•	•		•	•		•								•	
TEGO® Airex 950				•		•		•					•		•						•
TEGO® Airex 971 ^{1,2}		•	•	•			•	•													•
TEGO® Airex 990		•		•	•	•		•	•	•	•		•		•					•	•
TEGO® Airex 991				•	•	•	•		•	•	•										
TEGO® Foamex 840	•			•						•											
TEGO® Foamex N		•		•	•		•		•												•

¹ silicone-free ² new

DEFOAMERS

Defoamers prevent foam formation during production and application of waterborne coatings and printing inks. Pre-existing foam is destroyed and air inclusions are prevented.



Defoamers

Product	Grinding stage	Let-down stage	Pigmented	Unpigmented	2K EP	2K PU	Acrylate	Alkyd	Polyester	PU	PU/acrylic	Styrene acrylic	Vinyl acetate	Others
TEGO® Foamex 1488	•	•	•	•	•		•					•	•	
TEGO® Foamex 3062	•		•									•	•	
TEGO® Foamex 7447		•	•	•			•					•		
TEGO® Foamex 800		•	•	•		•	•				•			
TEGO® Foamex 8030		•	•		•		•					•	•	
TEGO® Foamex 805 N		•		•		•	•		•	•		•		
TEGO® Foamex 8050	•		•				•					•		
TEGO® Foamex 810	•		•	•			•	•			•	•		
TEGO® Foamex 815 N		•	•		•		•	•				•		
TEGO® Foamex 822		•	•	•		•	•	•		•	•	•		•
TEGO® Foamex 823		•	•	•		•	•	•		•	•	•	•	
TEGO® Foamex 825		•	•	•		•	•				•	•		
TEGO® Foamex 830 ¹	•	•	•	•		•	•		•	•				
TEGO® Foamex 832 ¹	•	•												
TEGO® Foamex 833 ¹	•	•	•	•			•		•		•	•		•
TEGO® Foamex 835	•	•	•									•		

¹ silicone-free

Product	Grinding stage	Let-down stage	Pigmented	Unpigmented	2KEP	2K PU	Acrylate	Alkyd	Polyester	PU	PU/acrylic	Styrene acrylic	Vinyl acetate	Others
TEGO® Foamex 840	•	•	•	•	•		•	•		•		•		
TEGO® Foamex 842	•	•	•	•			•					•		
TEGO® Foamex 843		•	•				•			•		•		•
TEGO® Foamex 845		•	•	•			•		•			•		
TEGO® Foamex 855	•	•	•				•					•	•	
TEGO® Foamex 883	•		•				•					•	•	
TEGO® Twin 4000		•	•	•			•	•			•	•		•

Traditional Defoamers

PRODUCT	COATINGS AND PAINTS									INKS AND GRAPHIC ARTS				
	Architectural	Industrial & Maintenance	Automotive	Specialty paper	Plastic	Wood	Powder	Pigment dispersions (base)	Pigment dispersion (colourant)	Inks	Fountain solutions	Overprint varnishes	Pigment dispersions (resinated)	Pigment dispersions (resin-free)
AIRASE® 5100	••	•						••	••			••	••	
AIRASE® 5200	••	•						••	••			••	••	
AIRASE® 5300	••	••			•	•		•	•	•		••	••	•
AIRASE® 5355				••				••	••	••		••	••	••
SURFYNOL® DF-695										••				
AIRASE® 4500	••	••	•					••	•	••		••	•	•
AIRASE® 5400	••	•			•	•		•	•	••		••	•	•
AIRASE® 4655										•		•	•	•
SURFYNOL® DF-220	••		•	•										
SURFYNOL® DF-58	••	••			•	••		••	••	•		••	•	•

PRODUCT	COATINGS AND PAINTS									INKS AND GRAPHIC ARTS				
	Architectural	Industrial & Maintenance	Automotive	Specialty paper	Plastic	Wood	Powder	Pigment dispersions (base)	Pigment dispersion (colorant)	Inks	Fountain solutions	Overprint varnishes	Pigment dispersions (resinated)	Pigment dispersions (resin-free)
AIRASE® 8070	••	••	•		•	••		••	••	•		•	•	•
AIRASE® 5500	•	••	•			••			•	••		•	•	••
SURFYNOL® DF-62	•				••	••				••				
SURFYNOL® DF-37		•				•				•	•			
AIRASE® 5600	•	••	•		•	••				••		•		•
AIRASE® 5655										••		•	•	•
SURFYNOL® DF-178		•	•		••	••							•	•
AIRASE® 5700		•	•		••	••				•		•		

All products may not be available in all regions. Please contact your local supplier for availability.

•• Top recommendations • Secondary options

Molecular defoamers

PRODUCT	COATINGS AND PAINTS									INKS AND GRAPHIC ARTS				
	Architectural	Industrial & Maintenance	Automotive	Specialty paper	Plastic	Wood	Powder	Pigment dispersions (base)	Pigment dispersion (colorant)	Inks	Fountain solutions	Overprint varnishes	Pigment dispersions (resinated)	Pigment dispersions (resin-free)
SURFYNOL® DF-110*	••	••	••	•	••			••	••	•	••		••	••
SURFYNOL® AD01	••	••	••	••	•	•		••	••	••		••	••	••
SURFYNOL® 107L	••	••	••	••	•	•		••	••	••		••	••	••
SURFYNOL® MD-20	••	•	••	••	••	••		••	••	•	•		••	••
SURFYNOL® 104*	••	••	••	•	••	••	••	•	•	••	•	•	•	•
SURFYNOL® 420	••	••	••	•	••	••		•	•	••	•	•	••	••
SURFYNOL® PC				••										

* This product is available in different forms.

All products may not be available in all regions. Please contact your local supplier for availability.

•• Top recommendations • Secondary options

WETTING AND DISPERSING ADDITIVES

Wetting and dispersing additives promote pigment wetting and stabilization. They prevent floating, flooding, and settling of pigments so that color coverage and intensity remain consistent during storage. At the same time, they ensure maximum color yield for the pigment while minimizing the number of milling steps. Because these additives lower viscosity, coatings and pigment concentrates can be produced cost-effectively because pigment concentration can be maximized during dispersion.



Wetting and Dispersing Additives for Pigment Concentrates

Product	Waterborne	Polar solvents	Non-polar solvents	2-pack solvent-free	Universal pigment concentrates	Binder-containing	Binder-free	Carbon blacks	Organic pigments	Inorganic pigments	Fillers
TEGO® Dispers 650	•	•	•	•	•	•	•	•	•		
TEGO® Dispers 651	•				•	•	•	•	•	•	•
TEGO® Dispers 652	•	•		•	•	•	•			•	•
TEGO® Dispers 653	•				•	•	•	•	•	•	•
TEGO® Dispers 655	•	•	•	•	•	•	•		•	•	•
TEGO® Dispers 656	•	•	•	•	•	•	•		•	•	•
TEGO® Dispers 660 C	•				•		•			•	•
TEGO® Dispers 670		•				•	•	•	•	•	•
TEGO® Dispers 671		•	•			•		•	•	•	
TEGO® Dispers 672		•				•		•	•	•	
TEGO® Dispers 675 ¹		•	•	•		•		•	•	•	•
TEGO® Dispers 676 ¹		•	•			•		•	•	•	•

Product	Waterborne	Polar solvents	Non-polar solvents	2-pack solvent-free	Universal pigment concentrates	Binder-containing	Binder-free	Carbon blacks	Organic pigments	Inorganic pigments	Fillers
TEGO® Dispers 685		•		•		•		•	•	•	
TEGO® Dispers 688		•				•	•		•	•	•
TEGO® Dispers 690 ¹		•		•		•	•	•	•	•	•
TEGO® Dispers 710		•				•		•	•	•	
TEGO® Dispers 740 W	•						•		•		
TEGO® Dispers 745 W	•					•	•	•	•	•	•
TEGO® Dispers 747 W ¹	•						•			•	•
TEGO® Dispers 750 W	•					•	•	•	•	•	•
TEGO® Dispers 752 W	•						•			•	•
TEGO® Dispers 755 W	•					•	•	•	•	•	•
TEGO® Dispers 757 W	•					•	•	•	•	•	•
TEGO® Dispers 760 W	•					•		•	•		
TEGO® Dispers 761 W	•					•		•	•		
TEGO® Dispers 1010 ¹			•			•	•	•	•	•	•

¹ new

Wetting and Dispersing Additives for Direct Grind

Product	Waterborne	Solventborne	2-pack solvent-free	High solids	UV	2K EP	2K PU	PES	Acrylate	Alkyd	PU	Styrene acrylic	Vinyl acetate copolymer	Organic pigments/carbon black	Inorganic pigments/fillers	Mixed pigmentation (inorg./org.)	Remark
TEGO® Dispers 630		•				•		•	•	•		•			•		very good anti-sagging properties
TEGO® Dispers 650	•	•	•	•		•	•	•		•				•			
TEGO® Dispers 651	•						•			•				•	•	•	
TEGO® Dispers 652	•	•	•	•	•	•				•		•		•	•	•	good anti-sagging properties
TEGO® Dispers 653	•						•			•				•	•	•	
TEGO® Dispers 655	•	•	•	•		•	•			•					•		
TEGO® Dispers 656	•	•			•										•		
TEGO® Dispers 670		•		•	•	•	•	•			•			•	•		universal use
TEGO® Dispers 671		•				•	•		•	•		•		•	•	•	
TEGO® Dispers 672		•				•	•		•					•	•	•	excellent storage stability in epoxy systems
TEGO® Dispers 675		•			•	•	•	•			•			•	•	•	very good for coil coating applications
TEGO® Dispers 678		•		•		•	•	•	•		•			•	•	•	excellent storage stability in 2K PU systems
TEGO® Dispers 685		•	•	•	•		•	•	•					•	•	•	
TEGO® Dispers 688		•			•		•		•					•	•	•	excellent stabilization of matting agents
TEGO® Dispers 690		•	•	•	•		•	•	•		•			•	•	•	
TEGO® Dispers 700		•							•						•		best for bentonite pastes
TEGO® Dispers 710		•					•		•	•				•	•	•	
TEGO® Dispers 740 W	•											•	•		•		
TEGO® Dispers 745 W	•						•		•		•			•	•	•	

Product	Waterborne	Solventborne	2-pack solvent-free	High solids	UV	2K EP	2K PU	PES	Acrylate	Alkyd	PU	Styrene acrylic	Vinyl acetate copolymer	Organic pigments/carbon black	Inorganic pigments/fillers	Mixed pigmentation (inorg./org.)	Remark
TEGO® Dispers 750 W	•					•	•		•	•	•	•		•	•	•	
TEGO® Dispers 752 W	•								•		•	•	•		•		highly suitable for transparent iron oxides
TEGO® Dispers 755 W	•					•	•	•	•	•	•	•	•	•	•	•	
TEGO® Dispers 757 W	•						•	•	•	•	•	•	•	•	•	•	excellent salt spray resistance
TEGO® Dispers 760 W	•						•	•	•			•		•			
TEGO® Dispers 761 W	•						•	•	•			•		•			
TEGO® Dispers 1010 ¹		•												•	•	•	

¹new



Stabilizing Surfactant and Polymeric Dispersants

Product	Waterborne	Polar solvents	Non-polar solvents	2-pack solvent-free	Universal pigment concentrates	Binder-containing	Binder-free	Carbon blacks	Organic pigments	Inorganic pigments	Fillers
ZETASPERSE® 170	••	•		•	•	••		••	•	••	•
ZETASPERSE® 179	••				•	••		••	••	••	••
ZETASPERSE® 182	••				•	••		••	••	••	••
ZETASPERSE® 1200**	••						••		•	••	••
ZETASPERSE® 2300**	••					•	••	••	••	•	••
ZETASPERSE® 2500**	••				•	••	••	••	••		
ZETASPERSE® 3100**	••						••	••	•	••	••
ZETASPERSE® 3400**	••						••	•	••	•	•
ZETASPERSE® 3600**	••				•	••	••	••	••	•	•
ZETASPERSE® 3700**	••						••	•	••		
ZETASPERSE® 3800**	••			•	•	•	••	••	••	••	••

** For specific pigment dispersant recommendations, use the FAZT tool at FAZT.com or contact Evonik.

All products may not be available in all regions. Please contact your local supplier for availability.

•• Top recommendations • Secondary options



SURFACE CONTROL ADDITIVES

Surface control additives improve flow and leveling and reduce cratering. They prevent pigment flooding and flotation. The coating's slip and anti-blocking properties can be adjusted.



Surface Control Additives

Product	Waterborne	UV	Solventborne	Slip	Leveling	Low foaming	Compatible	Recoatable	Anti-blocking/scratch-resistance	Remark
TEGO® Flow 300 ²			•		•		•	•		
TEGO® Flow 375 ^{1,2}			•		•		•	•		
TEGO® Flow 425	•	•	•		•		•	•		
TEGO® Flow 460 N ^{1,2}			•		•	•		•	•	
TEGO® Flow ATF 2			•	•					•	anti-crater effect
TEGO® Glide 100	•	•	•	•	•		•	•		flow/leveling
TEGO® Glide 110	•	•	•	•	•		•			anti-crater effect
TEGO® Glide 130	•	•	•	•	•		•			
TEGO® Glide 406	•		•	•	•		•	•		flow/leveling
TEGO® Glide 410	•		•	•	•		•		•	

Product	Waterborne	UV	Solventborne	Slip	Leveling	Low foaming	Compatible	Recoatable	Anti-blocking/scratch-resistance	Remark
TEGO® Glide 432		•		•	•	•				
TEGO® Glide 435		•		•	•					
TEGO® Glide 440	•	•	•	•	•		•			
TEGO® Glide 450	•	•	•	•	•		•	•		
TEGO® Glide 482	•			•		•			•	anti-blocking
TEGO® Glide 490 ¹	•			•		•	•		•	
TEGO® Glide 492 ¹	•			•		•	•		•	
TEGO® Glide 494 ¹	•			•		•	•		•	
TEGO® Glide A 116 ¹			•	•		•	•		•	
TEGO® Glide B 1484			•		•	•		•		
TEGO® Glide ZG 400		•	•	•	•		•			

¹ new ² silicone-free

Main application fields for ACEMATT®

Application	HK 440	HK 450	790	3600	OK 412	OK 500	OK 520	OK 607	TS 100	3300	MATTING AGENT REQUIREMENTS
Wood, clear (lacquers, stains)					○	○	●	○	●	●	Transparency, surface finish, chemical resistance
Wood, pigmented (lacquers, stains)		○	●		●	●	●	●	○	○	Efficiency, surface finish, chemical resistance
Wood Industrial, clear (Furniture, parquet, stains)				●	○	○	●	○	●	●	Transparency, surface finish, chemical resistance
Wood Industrial, pigmented (Furniture, parquet, stains)		○	●		●	●	●	●	○	○	Efficiency, surface finish, chemical resistance
Flooring	○	○	○		○	○	○		●	●	Abrasion resistance, chemical resistance, non-slip safety
Industrial	○	○	●		●	●	●	●	○	○	Efficiency, surface finish
Automotive			○		●	●	●	●	●	●	Efficiency, surface finish, polishing resistance, chemical resistance
Can Coating			●		●	●	●	●			Chemical resistance
Coil Coating	●	●	●		●	●	○				Efficiency, non-glaring, chemical resistance
Leather					●	●	●	●	●	●	Surface finish, transparency, high jetness
UV				●	○	○	○	●	○	○	Surface finish, transparency, low thickening effect
Plastics					●	●	●	●	●	●	Surface finish, transparency, high jetness
Printing inks											
Relief Flexo (OPV*)			●	●	●	●		●	○		Transparency, low thickening effect, efficiency
Gravure (OPV*)			●	●	●	●		●	○		Transparency, low thickening effect, efficiency
Off-set (OPV*)				●	●	●		●			Transparency, efficiency, surface finish
Silk/Screen Printing				●	●	●			●	●	Efficiency

OPV* – Overprint-Varnishes

● Very suitable ○ Suitable

MATTING AGENTS

ACEMATT® matting agents are precipitated or thermal silica with a distinct upper particle size. Therefore, there is no need for any kind of high shear treatment while formulating ACEMATT® into the coating.

ACEMATT® should be added into the formulation as late as possible and should be homogenized with moderate speed. ACEMATT® matting agents are ready to use, easy to process, and highly efficient. The product range includes universally applicable grades, as well as grades for specific demands.





RADIATION-CURING MULTIFUNCTIONAL ADDITIVES

The **TEGO® Rad** range consists of cross-linkable acrylate additives for radiation-curing formulations. These multifunctional products improve slip, substrate wetting and anti-cratering, scratch resistance, and leveling. In addition, some of the additives have release and defoaming properties.

Radiation-Curing Multifunctional Additives

Product	Waterborne UV	UV	Slip/anti-blocking	Wetting	Flow	Low foaming	Compatible	Recoatable	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 ¹		●	●			●			●

¹ new



SUBSTRATE WETTING AND ANTI-CRATERING ADDITIVES

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

Substrate Wetting and Anti-Cratering Additives

Product	Waterborne	UV	Solventborne	Static	Dynamic	Anti-crater	Low foaming
TEGO® Twin 4000	•	•	•	•			•
TEGO® Twin 4100	•	•	•	•		•	•
TEGO® Twin 4200	•	•	•	•	•	•	•
TEGO® Wet 240	•			•		•	
TEGO® Wet 251	•			•		•	
TEGO® Wet 260	•			•		•	
TEGO® Wet 265	•			•		•	•
TEGO® Wet 270	•	•	•	•		•	
TEGO® Wet 280	•	•	•	•		•	
TEGO® Wet 500 ²	•	•			•		•
TEGO® Wet 505 ²	•				•		•
TEGO® Wet 510 ²	•				•		•
TEGO® Wet 550 ^{1,2}	•			•		•	•
TEGO® Wet KL 245	•		•	•		•	

¹ new ² silicone-free

Wetting Agents

PRODUCT	COATINGS AND PAINTS									INKS AND GRAPHIC ARTS				
	Architectural	Industrial & Maintenance	Automotive	Specialty paper	Plastic	Wood	Powder	Pigment dispersions (base)	Pigment dispersion (colorant)	Inks	Fountain solutions	Overprint varnishes	Pigment dispersions (resinated)	Pigment dispersions (resin-free)
Multifunctional														
SURFYNOL® AD01	••	••	••	••	•	•		••	••	••		•	•	
SURFYNOL® 107L	••	••	••	••	•	•		••	••	••		•	•	
SURFYNOL® 104*	••	••	••	••	••	••	••	•	•	••	•	•	•	
SURFYNOL® 420	••	••	••		••	••		•	•	••	••	•	•	
SURFYNOL® 440	•	••	•	••	•	••				••	••			
SURFYNOL® 465	•	••		••	•						••			
SURFYNOL® 485*		••									•			
SURFYNOL® 2502	•	•	••	••	•	•				••	••	••		

* This product is available in different forms.

All products may not be available in all regions. Please contact your local supplier for availability.

•• Top recommendations • Secondary options

Wetting Agents

PRODUCT	COATINGS AND PAINTS									INKS AND GRAPHIC ARTS				
	Architectural	Industrial & Maintenance	Automotive	Specialty paper	Plastic	Wood	Powder	Pigment dispersions (base)	Pigment dispersion (colorant)	Inks	Fountain solutions	Overprint varnishes	Pigment dispersions (resinated)	Pigment dispersions (resin-free)
Superwetters														
DYNOL™ 360	••	••	••	••	••	••		•	•		••			
DYNOL™ 604			••											
DYNOL™ 607		••	••	••	•	•					••			
DYNOL™ 800		••	••	•	••	••				•		•		
DYNOL™ 810		•	•	•	•	•				••		••		
DYNOL™ 960	•	••	•		••	••				••		•		
DYNOL™ 980	•	••	•		•	•				•		••		

Wetting Agents

PRODUCT	COATINGS AND PAINTS									INKS AND GRAPHIC ARTS				
	Architectural	Industrial & Maintenance	Automotive	Specialty paper	Plastic	Wood	Powder	Pigment dispersions (base)	Pigment dispersion (colorant)	Inks	Fountain solutions	Overprint varnishes	Pigment dispersions (resinated)	Pigment dispersions (resin-free)
Grind Aids														
CARBOWET® GA-100	••							••	•				••	••
CARBOWET® GA-200	••	••	••					••	••				••	••
CARBOWET® GA-210	••		••					••	••				••	••
CARBOWET® GA-211	•		••					••	••				••	••
CARBOWET® GA-221			••					•	••				••	••

Wetting Agents

PRODUCT	COATINGS AND PAINTS									INKS AND GRAPHIC ARTS				
	Architectural	Industrial & Maintenance	Automotive	Specialty paper	Plastic	Wood	Powder	Pigment dispersions (base)	Pigment dispersion (colorant)	Inks	Fountain solutions	Overprint varnishes	Pigment dispersions (resinated)	Pigment dispersions (resin-free)
Specialty/ Formulated														
CARBOWET® LSF	•													
SURFYNOL® 355				•						•		••		
SURFYNOL® FS-85					•	•					••			
SURFYNOL® OP-340											••			
SURFYNOL® PSA336	•			••	••	•								
SURFYNOL® SE-F		•	•	••		••				••				



RHEOLOGICAL ADDITIVES

The **TEGO® ViscoPlus** product range consists of associative, polyurethane thickeners that satisfy the latest requirements of the industry. 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 various products combine easily with each other due to their excellent compatibility.

Rheological Additives

Product	Waterborne	Newtonian	Newtonian, high-shear	Pseudoplastic	Strong pseudoplastic	Remark
TEGO® ViscoPlus 3000¹	●	●				solvent-free
TEGO® ViscoPlus 3010¹	●		●			solvent-free
TEGO® ViscoPlus 3030¹	●			●		solvent-free
TEGO® ViscoPlus 3060¹	●				●	solvent-free

¹ silicone-free

RHEOLOGY CONTROL

In the paints and coatings industry, AEROSIL® primarily serves as a tool for adjusting rheology during production, storage, and application. AEROSIL® allows formulators to optimize the dispersion characteristics and stability of the pigments used, as well as the flow properties and thickness of applied films.



AEROSIL®

	Rheology control Anti-sagging	Anti-settling Pigment stabilization	Corrosion protection	Other effects
Solvent-based coatings (2-pack systems)	AEROSIL® R 972 AEROSIL® R 974 AEROSIL® R 805 AEROSIL® R 812 AEROSIL® R 812 S AEROSIL® R 202 AEROSIL® R 208	AEROSIL® R 972 AEROSIL® R 974 AEROSIL® R 805 AEROSIL® R 812 AEROSIL® R 812 S	AEROSIL® R 972 AEROSIL® R 974 AEROSIL® R 805 AEROSIL® R 812 AEROSIL® R 812 S AEROSIL® R 202 AEROSIL® R 208	AERODISP® 1030 ¹
Solvent-based coatings (baking and air drying systems)	AEROSIL® 200 AEROSIL® 300 AEROSIL® R 972 AEROSIL® R 974 AEROSIL® R 805 AEROSIL® R 812 AEROSIL® R 812 S AEROSIL® R 202 AEROSIL® R 208	AEROSIL® 200 AEROSIL® R 972 AEROSIL® R 974	AEROSIL® R 972 AEROSIL® R 974 AEROSIL® R 805 AEROSIL® R 812 AEROSIL® R 812 S AEROSIL® R 202 AEROSIL® R 208	AERODISP® 1030 ¹
Water-based coatings (clear coats)	AEROSIL® 200 AEROSIL® COK 84 AEROSIL® R 816 AERODISP® WR 8520			
Water-based coatings (pigmented systems)	AEROSIL® 200 AEROSIL® COK 84 AEROSIL® R 974 AEROSIL® R 816 AEROSIL® R 805 AEROSIL® R 812 AEROSIL® R 812 S AERODISP® WR 8520	AEROSIL® 200 AEROSIL® COK 84 AEROSIL® R 816 AEROSIL® R 972 AEROSIL® R 974 AERODISP® WR 8520	AEROSIL® R 816 AEROSIL® R 972 AEROSIL® R 974 AEROSIL® R 805 AEROSIL® R 812 S	
UV-curing coatings	AEROSIL® 200 AEROSIL® R 972 AEROSIL® R 974 AEROSIL® R 711			
Unsaturated polyester	AEROSIL® 200 AEROSIL® 300 AEROSIL® 380 AEROSIL® R 202 AEROSIL® R 208		AEROSIL® R 202 AEROSIL® R 208	

¹ scratch resistance improvement

FREE-FLOW AGENTS FOR POWDER COATINGS

Environmentally friendly, solvent-free powder coatings can be treated with free-flow agents AEROXIDE® and AEROSIL® to avoid complications such as clumping, bridge formation, or variations in coating thickness.

Whereas AEROSIL® harnesses the ball-bearing effect to enhance the flowability of powder coating particles, the AEROXIDE® Alu product line can take on an electropositive charge, which is an essential property for certain methods of application.



General overview of the use of AEROSIL® and AEROXIDE®

Powder Coatings Systems	Products	Concentration in wt%	Effect
Thermosettings Powders • Low-molecular-weight epoxy • TGIC-polyester • Epoxy polyester hybrids • Polyurethanes • Acrylics	AEROSIL® 200	0.1-0.3	<ul style="list-style-type: none"> • Free-flow additive • Anti-caking (prevention of moisture pick-up)
	AEROSIL® 380	0.1-0.3	
	AEROSIL® R 972	0.1-0.3	
	AEROSIL® R 812	0.1-0.3	
	AEROXIDE® Alu C AEROXIDE® Alu C 805	0.1-0.3	
Thermoplastic Powders • Vinyl • Nylon • Polyolefin • Fluorocarbon types	AEROSIL® R 972	0.1-0.3	<ul style="list-style-type: none"> • Free-flow additive • Anti-caking (prevention of moisture pick-up)
	AEROSIL® R 812	0.1-0.3	
		0.1-0.3	
	AEROXIDE® Alu C AEROXIDE® Alu C 805	0.1-0.3	
		0.1-0.3	
Tribopowders • Epoxy polyester hybrids • Epoxy acrylate hybrids	AEROXIDE® Alu C AEROXIDE® Alu 130	0.1-0.3	<ul style="list-style-type: none"> • Free-flow additive • Increase in electropositive charge (tribo)

Evaluated fumed silica and aluminum oxides

Product	Character	BET Surface Area (m ² /g)	Tamped Density (g/L)	Surface Charges
AEROSIL® 200	Hydrophilic Silica	200 ± 25	50	Negative
AEROSIL® R 812	Hydrophobic Silica	260 ± 30	60	Negative
AEROSIL® R 972	Hydrophobic Silica	110 ± 20	50	Negative
AEROXIDE® ALU C	Hydrophilic Aluminum Oxide	100 ± 15	50	Positive
AEROXIDE® ALU C 805	Hydrophobic Aluminum Oxide	100 ± 15	50	Slightly positive
AEROXIDE® ALU 130	Hydrophilic Aluminum Oxide	130 ± 20	50	Positive

HYDROPHOBING AGENTS

TEGO® Phobe products are used to make waterborne exterior paints hydrophobic. Used in silicone resin paints in small amounts, TEGO® Phobe 1650 is characterized by low water absorption.



Hydrophobing Agents

Product	Waterborne	Solventborne	Hydrophobing	Water-beading effect	Impregnation	Primer	Silicone resin paints and plasters	Silicate emulsion paints and plasters	Printing inks	Remark
TEGO® Phobe 1401	•		•	•			•	•	•	
TEGO® Phobe 1409 ¹	•		•	•			•	•	•	for ecolabel compliant formulations
TEGO® Phobe 1500 N	•	•	•	•			•	•	•	
TEGO® Phobe 1650	•		•				•	•	•	strong early water resistance
TEGO® Phobe 1659 ¹	•		•				•	•	•	for ecolabel compliant formulations, excellent early water resistance

¹ new



ANTI-GRAFFITI ADDITIVES

TEGO® Protect provides polyurethane coatings with anti-graffiti and easy-to-clean characteristics. This range of products can be used in solvent or waterborne coatings.

Anti-Graffiti Additives

Product	Dosage	Applications/effect
TEGO® Protect 5000 N	1–3%	for matte, unpigmented and/or pigmented formulations, especially good release properties
TEGO® Protect 5001	2–5%	for clear coats, marked water-beading effect, high solvent resistance
TEGO® Protect 5100 N	2–8%	for waterborne 2-pack PU anti-graffiti coatings



Other Additives

Product	Waterborne	UV	Solventborne	Solvent-free	Adhesion promoter	Hammer finish	Reduced drying-up	Anti-static
ADDID® 230	●		●	●				●
ADDID® 900¹	●	●	●		●			
TEGO® Hammer 501¹	●		●			●		
TEGO® Humectant 7000	●						●	

¹ containing silicone



CO-BINDERS

TEGO® VariPlus

TEGO® VariPlus products are widely compatible hard resins used as co-binders in paints, lacquers, printing inks, and other inks. They increase solids content and accelerate drying speed, while also improving numerous properties such as hardness, gloss, and film build.



TEGO® VariPlus

Product	Waterborne	UV	Solventborne	Adhesion to metal	Adhesion to plastic	Hardness	Gloss	Viscosity reduction/ increased solids content	Drying time	Pigment wetting and stabilization	Remark
TEGO® VariPlus 1201 TF			•		•	•	•		•	•	formaldehyde-free, free of organotin components
TEGO® VariPlus 3350 UV		•		•	•		•				in tripropylene glycol diacrylate
TEGO® VariPlus AP		•	•	•			•	•			formaldehyde-free, solid
TEGO® VariPlus CA			•	•			•	•	•		solid
TEGO® VariPlus DS 50	•				•	•	•	•	•	•	formaldehyde-free, aqueous emulsion, free of organic solvents
TEGO® VariPlus SK		•	•	•	•	•	•	•	•		formaldehyde-free, solid
TEGO® VariPlus TC			•	•			•	•		•	solid, very wide compatibility and solubility

TEGO® AddBond

The **TEGO® AddBond** range of products is comprised of widely compatible polyester resins that improve the adhesion of even the most diverse coating and printing ink formulations.



TEGO® AddBond

Product	Waterborne	UV	Solventborne	Adhesion to metal	Adhesion to plastic	Hardness	Flexibility	Fixation of aluminum pigments	Remark
TEGO® AddBond LP 1600 ^{1,2}		•	•	•	•		•	•	
TEGO® AddBond LP 1611 ^{1,2}		•	•	•	•		•	•	
TEGO® AddBond LTH		•	•	•		•		•	solid
TEGO® AddBond LTW			•	•	•		•	•	
TEGO® AddBond LTW-B			•	•	•		•	•	
TEGO® AddBond 1270	•		•	•	•		•		after neutralization suitable for waterborne formulations, good acrylate compatibility
TEGO® AddBond 2220 ND			•	•	•		•	•	especially suitable for alkyd systems
TEGO® AddBond HS			•	•	•		•		especially suitable for high solids coatings
TEGO® AddBond 2325			•	•	•		•		especially suitable for thermoplastic acrylic enamels
TEGO® AddBond DS 1300	•			•	•		•	•	aqueous emulsion, free of organic solvents

¹ new ² silicone-free

SPECIALTY BINDERS

SILICONE-EPOXY RESINS

The product group **SILIKOPON®** and the product **SILIKOFTAL® ED** are silicone-epoxy hybrid systems, combining the advantages of both technologies.

The coatings are highly resistant to chemicals and exhibit high color fastness as well as excellent gloss retention during outdoor use.



Silicone-Epoxy Resins

Product	Non-volatile content	Remark
SILIKOPON® 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
SILIKOFTAL® ED	100 %	for 2-pack isocyanate-free curable high solids top coats with a low VOC content (100-250 g/l), with good corrosion, weathering resistance, and anti-graffiti effect
SILIKOPON® EW	53 %	stoving system, solventborne, for stoving enamels (heat resistant up to 650 °C, depending on formulation), excellent adhesion, and resistance to solvents

SILICONE RESINS

Heat resistance up to 650 °C
(formulation dependent)

SILIKOPHEN® products consist of methyl and phenyl-methyl silicone resins which, depending on the formulation, provide corrosion protection up to 650 °C. Applications include exhaust systems and combustion chambers.



Silicone Resins

Product	Non-volatile content	Active content	Remark
CURING SYSTEMS			
SILIKOPHEN® P 40/W	50 %		water reducible, good compatibility with organic resins
SILIKOPHEN® P 50/X	50 %		solventborne, good air drying
SILIKOPHEN® P 80/X	80 %		solventborne, good air drying, for low VOC formulations
AMBIENT CURING SYSTEMS			
SILIKOPHEN® AC 900		90 %	high solids, solventborne, ambient curing, good flexibility during the heating and the cooling process
SILIKOPHEN® AC 950¹		95 %	ethyl modified
SILIKOPHEN® AC 1000		100 %	solvent-free, ambient curing, good flexibility during the heating and the cooling process

¹ new

SILIKOFTAL® RESINS

Heat resistance up to 250 °C
(formulation dependent)

With products of the **SILIKOFTAL®** brand, Evonik offers a wide range of aromatic silicone-polyester resins tailored to meet specific customer requirements. The building blocks of the SILIKOFTAL® product range are chemically linked.

**Silicone-Polyester Resins**

Product	Silicone content	Properties
SILIKOFTAL® HTT	80 %	retains hardness from room temperature to 150 °C; long-term heat resistance to 250 °C; good detergent resistance. (FDA/BfR)*
SILIKOFTAL® HTS	70 %	very good resistance to yellowing up to 220 °C. (FDA/BfR)*
SILIKOFTAL® HTL 2	50 %	high gloss, low thermoplasticity, good detergent resistance. (FDA/BfR)*
SILIKOFTAL® HTL 3	30 %	very good yellowing resistance up to 200 °C, very good boiling water resistance. (FDA/BfR)*
SILIKOFTAL® non-stick 60	80 %	for release coatings, properties similar to SILIKOFTAL® HTT (FDA/BfR)*

* U.S. Food and Drug Administration / German Federal Institute for Risk Assessment

HIGH SOLIDS SILICONE HYBRID RESINS

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 demand. **SILIKOTOP®** is also effective as co-binder.



High Solids Silicone Hybrid Resins

Product	Non-volatile content	Remark
SILIKOTOP® E 900¹	90 %	top coats, enhanced flexibility, tough elasticity
SILIKOTOP® E 901¹	90 %	top coats, excellent weather resistance, also for direct-to-metal applications

¹ new



SILICONE-MODIFIED POLYURETHANE EMULSION

Non-heat resistant

SILIKOPUR® is a waterborne, silicone-modified 1-pack polyurethane emulsion.

With **SILIKOPUR®** very flexible coating systems for a wide range of substrates – such as leather, wood, plastic, rubber, and metal – can be formulated.



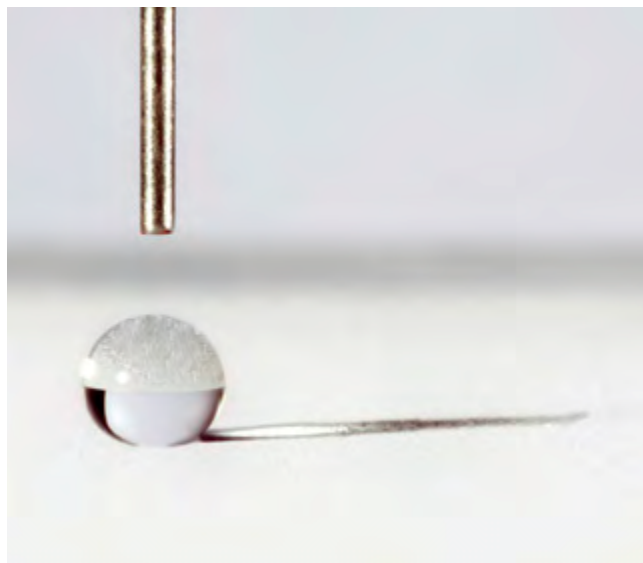
Silicone-Modified Polyurethane Emulsion

Product	Non-volatile content	Remark
SILIKOPUR® 8081	33 %	waterborne silicone modified polyurethane emulsion, high flexibility



REACTIVE SILICONE-BASED RESIN COMPONENTS

The **TEGOMER**[®] range of products consists of linear, reactive polydimethylsiloxanes with various terminal functional groups. These are specifically developed for modifying binders, such as polyurethanes, acrylic resins, polyesters, and epoxides.



Reactive Silicone-Based Resin Components

Product	Non-volatile content	Remark
TEGOMER[®] E-Si 2330	100 %	diepoxyalkylpolydimethylsiloxane
TEGOMER[®] D 3403	100 %	1,3 polyetherdiol EO/PO 100/0
TEGOMER[®] H-C 5002	100 %	Hydroxy functional polyacrylate



NANORESINS

NANOCRYL® – SILICA NANOCOMPOSITES FOR THE MODIFICATION OF RADIATION-CURING COATINGS

Evonik's silica nanocomposites are colloidal silica sols in various binders and solvents. These 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.

Technical Data

Product	Monomer	Characterization	SiO ₂ -content [w/w%]	Dynamic viscosity, 25°C [mPa·s]
NANOCRYL® C 130	CTFA	trimethylol propane formal acrylate	50	275
NANOCRYL® C 140	HDDA	hexanediol diacrylate	50	175
NANOCRYL® C 150	TMPTA	trimethylol propane triacrylate	50	3,300
NANOCRYL® C 153-10	TMPEOTA	ethoxylated trimethylol propane triacrylate	50	1,000
NANOCRYL® C 165	PPTTA	alkoxylated pentaerythritol tetraacrylate	50	2,500



ALBIDUR® – SILICONE ELASTOMER PARTICLES FOR THE MODIFICATION OF COATINGS

ALBIDUR® products can be used to modify the fracture toughness of a formulation without affecting the modulus or glass transition temperature and without markedly increasing the viscosity of the mixture.



Technical Data

Product	Silicone content [w/w%]	Base resin	Dynamic viscosity, 25°C [mPa·s]	Comments
ALBIDUR® EP 2240 A	40	DGEBA	35,000	EEW: 300 g/equiv.
ALBIDUR® PU 5640	40	PPG-triol	2,500	hydroxyl value: 230
ALBIDUR® 1223 ^{1,2}	0	α - Ω -trialkoxysilane terminated aliphatic urethane	30,000	

¹ new ² silicone-free

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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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ACEMATT®, ADDID®,
AEROSIL®, AIRASE®,
ALBIDUR®, CARBOWET®,
DYNOL™, NANOCRYL®,
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