

## TEGO – Power for Solventborne High Solids Coatings



**tego**<sup>●</sup>



#### **Masthead**

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## About us

TEGO – one of Evonik's leading brands.

As the leading supplier of specialty chemicals worldwide, Evonik offers its customers in the coatings and printing inks industry a unique range of products under the TEGO brand name. Our portfolio is the result of experience gained over 30 years in which we have researched and developed optimal solutions together with, and for our customers. With over 200 products, the range currently includes not only defoamers and deaerators but also wetting and dispersing additives, leveling additives, radiation-curing additives, substrate wetting additives, rheological additives, hydrophobing agents and even co-binders, specialty binders and nanoresins.

We get rid of air from paints, make surfaces glossy and ensure lacquers are scratch-resistant. Environmental concerns are always of key importance when developing new products.

Besides our extensive expertise in providing tailor-made solutions, our numerous contacts in more than 40 countries are an additional advantage. This underlines our philosophy of developing intelligent products for new applications not only for, but together with customers. We look forward to your challenge and are confident that we can find an advantageous solution for you.

**TEGO – Adding Advantages.**



## Pigment wetting and stabilization

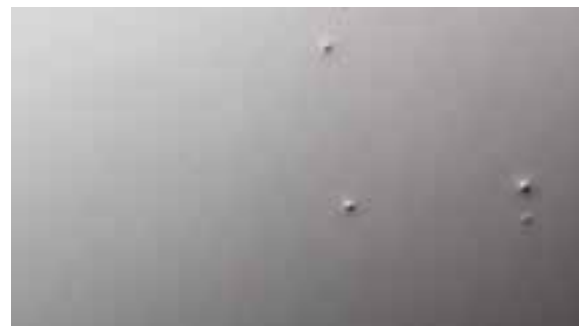
Wetting and dispersing additives wet and stabilize the most diverse pigments. An effective reduction in viscosity with tailor-made additives is the prerequisite for the manufacture of low VOC formulations. At the same time maximum color intensity is achieved through optimum pigment wetting.

The use of TEGO® Dispers products also enables costs to be reduced. As a result of the low viscosity, pigment loading can be significantly increased and a greater amount of pigment can be dispersed in each milling cycle. Therefore, production time and energy consumption can be minimized.

### Wetting and dispersing additives for pigment wetting and stabilization in the direct grind

| Paint system         | Inorganic   | Organic   |
|----------------------|---|---|
| 2-pack Epoxy         | TEGO® Dispers 652<br>TEGO® Dispers 628<br>TEGO® Dispers 670 | TEGO® Dispers 670<br>TEGO® Dispers 628<br>TEGO® Dispers 672 |
| 2-pack PU            | TEGO® Dispers 670<br>TEGO® Dispers 656<br>TEGO® Dispers 628 | TEGO® Dispers 670<br>TEGO® Dispers 685<br>TEGO® Dispers 650 |
| Other binders        | TEGO® Dispers 656<br>TEGO® Dispers 628<br>TEGO® Dispers 710 | TEGO® Dispers 650<br>TEGO® Dispers 670<br>TEGO® Dispers 710 |
| Pigment concentrates | TEGO® Dispers 670<br>TEGO® Dispers 628<br>TEGO® Dispers 656 | TEGO® Dispers 670<br>TEGO® Dispers 685<br>TEGO® Dispers 671 |





## Defoaming and Deaerating

Increasing the solids content at working consistency and the limited choice of solvents significantly affect the air release from high solids coatings. Consequently, they are frequently prone to pinholing. Clear coats, in particular, demand the use of highly efficient and compatible deaerators.

Effective deaerating combined with good compatibility can be achieved with tailor-made deaerators.

### Defoamers/Deaerators for high solids coatings

| Paint system            | Clear   | Pigmented   |
|-------------------------|---|---|
| Alkyd                   | TEGO® Airex 931<br>TEGO® Flow 370 <sup>1</sup><br>TEGO® Flow ZFS 460 <sup>1</sup> | TEGO® Airex 940<br>TEGO® Airex 944<br>TEGO® Foamex N  |
| 2-pack PU               | TEGO® Airex 945<br>TEGO® Airex 990<br>TEGO® Flow 370 <sup>1</sup>                 | TEGO® Airex 944<br>TEGO® Airex 990<br>TEGO® Foamex N  |
| 2-pack PU polyaspartics | TEGO® Airex 990<br>TEGO® Foamex K 7 <sup>1*</sup><br>TEGO® Airex 962              | TEGO® Airex 944<br>TEGO® Airex 962<br>TEGO® Airex 990 |
| Polyester/melamine      | TEGO® Airex 931<br>TEGO® Airex 962<br>TEGO® Flow 370 <sup>1</sup>                 | TEGO® Airex 990<br>TEGO® Airex 931<br>TEGO® Airex 936 |
| 2-pack Epoxy            | TEGO® Airex 910<br>TEGO® Airex 900<br>TEGO® Airex 922                             | TEGO® Airex 940<br>TEGO® Airex 944<br>TEGO® Airex 991 |

<sup>1</sup> silicone-free \* not available in the US

## Slip and flow additives

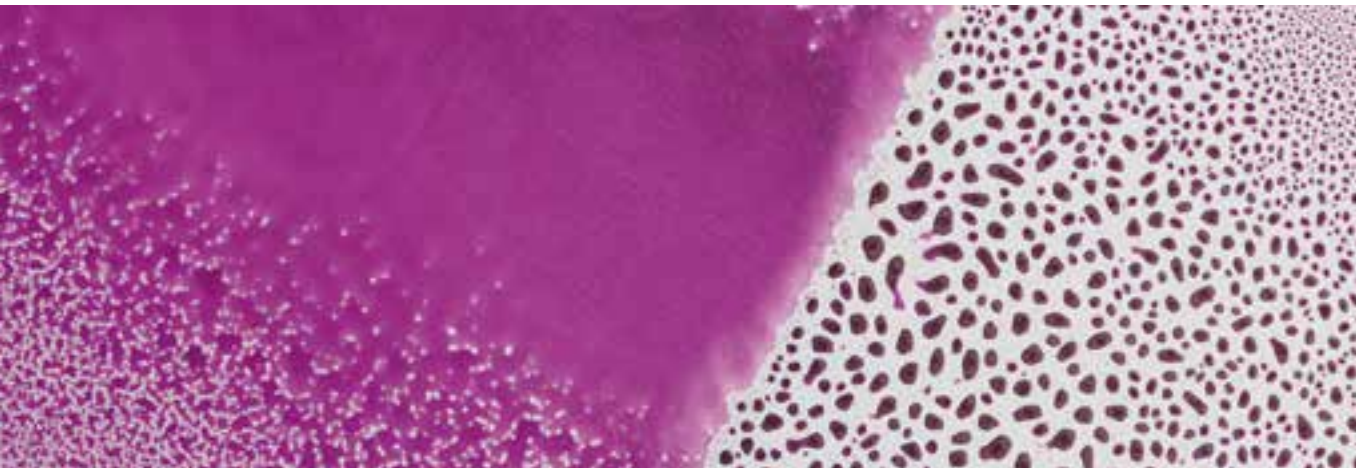
Inadequate flow is a frequently observed weakness of high solids coatings. There is a tendency to use low molecular weight binders to achieve a low coating viscosity. The choice of solvent, which also has a major influence on flow, is limited by regulatory constraints.

Depending on siloxane content and molecular weight, our additives promote the slip and flow/leveling characteristics of the finish and also effectively prevent cratering and foam formation.

### Slip and flow additives for high solids coatings

| Paint system            | Clear  | Pigmented   |
|-------------------------|--|---|
| Alkyd                   | TEGO® Glide 450<br>TEGO® Glide B 1484<br>TEGO® Flow 370 <sup>1</sup>                       | TEGO® Glide 100<br>TEGO® Glide A 115<br>TEGO® Flow ZFS 460            |
| 2-pack PU               | TEGO® Flow 425<br>TEGO® Glide 415 <sup>*</sup><br>TEGO® Flow 370 <sup>1</sup>              | TEGO® Glide 415 <sup>*</sup><br>TEGO® Glide 100<br>TEGO® Flow ZFS 460 |
| 2-pack PU polyaspartics | TEGO® Glide 411 <sup>*</sup><br>TEGO® Glide 415 <sup>*</sup><br>TEGO® Wet 505 <sup>1</sup> | TEGO® Glide B 1484<br>TEGO® Glide A 115<br>TEGO® Wet 505 <sup>1</sup> |
| Polyester/melamine      | TEGO® Flow 425<br>TEGO® Glide 100<br>TEGO® Flow 300 <sup>1</sup>                           | TEGO® Glide 100<br>TEGO® Flow ZFS 460<br>TEGO® Glide 415 <sup>*</sup> |
| 2-pack Epoxy            | TEGO® Flow 370<br>TEGO® Glide 450<br>TEGO® Glide 406                                       | TEGO® Glide 450<br>TEGO® Glide B 1484<br>TEGO® Flow ZFS 460           |

<sup>1</sup> silicone-free \* not available in the US



## Substrate wetting and anti-crater effect

Optimal substrate wetting is a prerequisite for defect-free finishes. Differences in surface tension, caused for example by contaminants, prevent the formation of a continuous film. This can result in cratering.

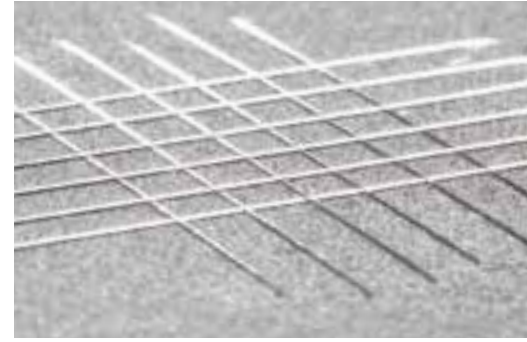
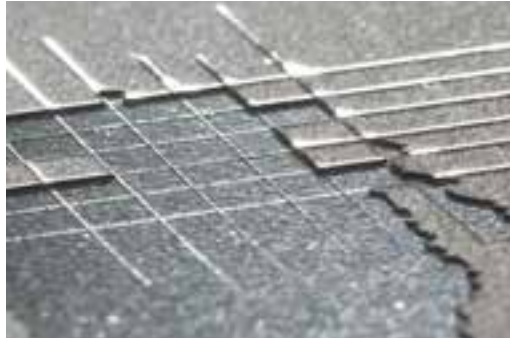
Depending on siloxane content and molecular weight, our additives promote block resistance and slip and prevent cratering (see also Slip and Flow Additives).

The molecular weight and, where necessary, the siloxane content of products in the TEGO® Wet range are chosen to ensure that coatings remain easily recoatable.

### Anti-crater additives for high solids coatings

| Paint system            | Clear  | Pigmented   |
|-------------------------|--|---|
| Alkyd                   | TEGO® Glide 450<br>TEGO® Glide 100<br>TEGO® Wet 270              | TEGO® Glide 450<br>TEGO® Glide 100<br>TEGO® Glide 110 |
| 2-pack PU               | TEGO® Wet 280<br>TEGO® Wet 270<br>TEGO® Flow 425                 | TEGO® Wet 280<br>TEGO® Wet 270<br>TEGO® Flow ATF 2    |
| 2-pack PU polyaspartics | TEGO® Wet 260*<br>TEGO® Wet KL 245<br>TEGO® Wet 505 <sup>1</sup> | TEGO® Wet 270<br>TEGO® Twin 4000<br>TEGO® Wet 260*    |
| Polyester/melamine      | TEGO® Glide 415*<br>TEGO® Wet 270<br>TEGO® Flow 425              | TEGO® Glide 415*<br>TEGO® Wet 270<br>TEGO® Flow 425   |
| 2-pack Epoxy            | TEGO® Wet 270<br>TEGO® Glide 450<br>TEGO® Glide 410              | TEGO® Wet 270<br>TEGO® Glide 450<br>TEGO® Glide 410   |

<sup>1</sup> silicone-free \* not available in the US



## Co-Binders

The fundamental properties of a coating are decisively influenced by the choice of the main binder. However, it is not always possible to achieve the required properties in this manner.

TEGO co-binders positively influence properties such as hardness or flexibility, gloss, touch-drying speed and viscosity and, in particular, improve adhesion to diverse substrates such as plastics and metals.

### Co-binders for high solids coatings

| Product                 | Active substance               | Improved adhesion particularly on | Particular feature           |
|-------------------------|--------------------------------|-----------------------------------|------------------------------|
| TEGO® VariPlus AP       | 100%                           | Metals                            | Increases gloss              |
| TEGO® VariPlus SK       | 100%                           | Metals and plastics               | Increases hardness and gloss |
| TEGO® AddBond LTH       | 100%                           | Metals                            | Increases hardness           |
| TEGO® AddBond LTW/LTW-B | 60% in xylene or butyl acetate | Metals and plastics               | Increases elasticity         |
| TEGO® AddBond HS        | 75% in butyl acetate           | Metals and plastics               | Increases elasticity         |

## Specialty Binders

The 100% liquid silicone-epoxy hybrid SILIKOPON® EF is a main binder for demanding exterior applications. The use of SILIKOPON® EF in formulations achieves effective corrosion protection, high gloss and good stability to UV radiation.



### Specialty binders for high solids coatings

| Product       | Active substance | Application  | Particular feature        |
|---------------|------------------|--|---------------------------|
| SILIKOPON® EF | 100%             | heavy duty corrosion protection, good resistance to weathering and chemicals | good anti-graffiti effect |

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