

Liquid additives for high performance UV-curable wood coatings



UV coatings provide the possibility of a productive, fast and efficient application process while being a highly environmentally friendly and nearly universally applicable technology. With future challenges including overcoming restrictions on the matting ability, achieving smooth and perfect surface appearances as well as the fulfilment of regulations and health aspects, the application field for UV coatings needs to expand. In order to do so Evonik offers a wide range of innovative additives to support your formulation, making sure your products uphold all necessary regulatory requirements and sustainable standards.

Defoamer/Deaerator

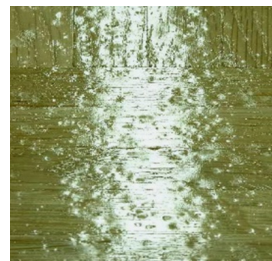
TEGO® Airex 920 is a polymeric silicone-free deaerator concentrate without compromising compatibility and recoatability. Suitable for the broad range of radiation curing formulations.

TEGO® Airex 900 is a strong deaerator concentrate that combats both micro- and macro-foam. Highly recommended for high viscous matte and pigmented UV formulations, especially roller coater applied.

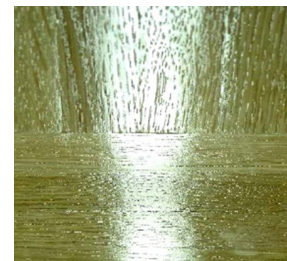
Wetting and Dispersing Additives

TEGO® Dispers 685 is a high polymeric wetting and dispersing additive for radiation-curing application. 100% active and liquid. Stabilizes organic and inorganic pigments and carbon blacks.

TEGO® Dispers 689 provides a Newtonian flow behaviour and stable matte values, even at very high matting agent loadings, since matting is a big challenge in UV formulations.



Deaerator with extremely high silicone content, unsuitable for UV



TEGO® Airex 920

Test Set-up

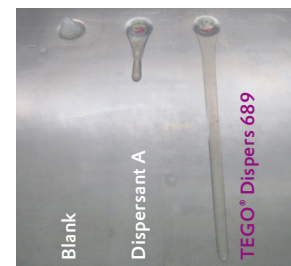
Sample preparation

Epoxy acrylate based UV formulation

- 18% ACEMATT® 3600
- 10% TEGO® Dispers 689 sop

Test Set-up

Visualisation of viscosity differences using a tilted flow plate



[Click here for more information!](#)

Cross-linkable Surface Control & Anti-Crater Additives

TEGO® Rad 2330 is an efficient low-foaming radically cross-linkable substrate wetting and slip additive, providing anti-crater and flow properties (see picture on the right).

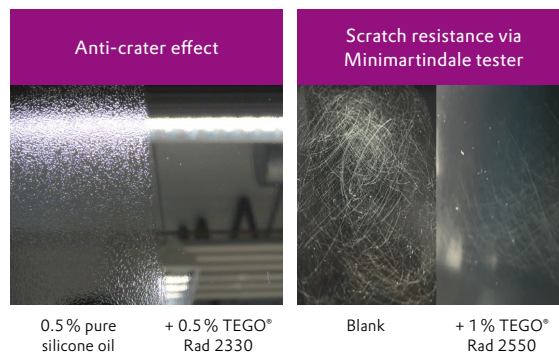
TEGO® Rad 2550 is a highly efficient cross-linkable slip additive providing scratch resistance (see picture on the right) and deaeration properties for radiation-curing inks and matte coatings.

Classical Surface Control & Anti-Crater Additives

TEGO® Flow 375 is a silicone-free acrylic levelling additive. It offers excellent compatibility and good flow promotion without increasing slip.

TEGO® Wet 270 as a classical substrate wetting additive & **TEGO® Twin 4100** as a low foaming siloxane based Gemini additive show excellent anti-crater properties with increased levelling in radiation-curing, waterborne and solvent-borne coatings without influencing slip.

TEGO® Glide 435 shows very good slip and substrate wetting properties with nearly no additional foam. It is highly recommended for radiation-curable coatings.



Test Set-up

- Wood coating based on polyether acrylate
- Add 0.5% contaminant (silicone oil). Then add 0.5% additive, draw-down on black PMMA panel, UV curing.
- Visual evaluation

Test Set-up

- Wood coating based on aliph. Polyurethan acrylate
- Add 1% additive, draw-down on black PMMA panels
- Scratch test via Minimartindale tester: Scotch Brite SB 7447, Speed factor 1, 5 Lissajous movements, load: 458,5 g

TEGO® Glide 496 provides good slip and touch properties combined with excellent compatibility. It is highly effective and can be used in a broad range of different UV wood coating formulations.

Additive	Static surface tension reduction	Anti-crater properties	Slip increase	Flow & levelling improvement	No additional foam
TEGO® Flow 375	●	●	●	●	●
TEGO® Wet 270	●	●	●	●	●
TEGO® Twin 4100	●	●	●	●	●
TEGO® Glide 435	●	●	●	●	●
TEGO® Glide 496	●	●	●	●	●

● strongest effect ● strong effect ● suitable ● slight ● no effect

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