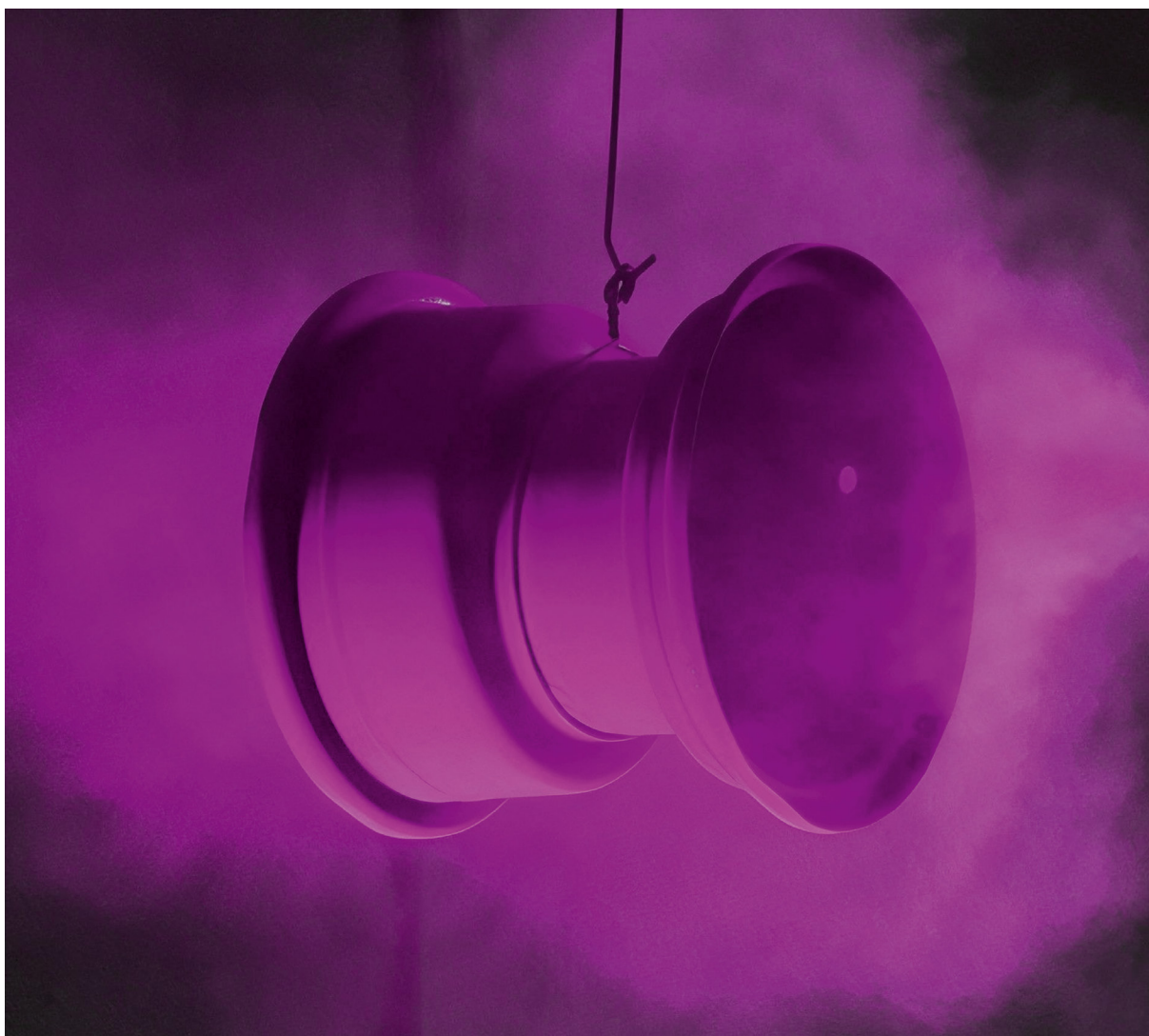


# POWDER COATING ADDITIVE SOLUTIONS



## Free flow agents

To ensure trouble free processability of the powder coating free flow agents are commonly used. They improve the powder flow and application characteristics significantly by reducing the particle cohesion generating a ball bearing effect.

**AEROXIDE® Alu C** is the universal free flow agent for powder coatings:

- Improves free flow and anti-caking in powders
- Controls electrostatic charge in triboelectric applications (positive surface charge)
- Fine-particle fumed aluminum oxide, non-treated surface
- Al<sub>2</sub>O<sub>3</sub> content: min. 99.8%

**TEGO® Powder Aid F05** is a new free flow agent that provides a perfect balance between anti-caking and leveling performance. Usually, the first choice is the universal AEROXIDE® Alu C for better leveling and appearance. But if warm and humid storage conditions call for an increased hydrophobicity and storage stability, TEGO® Powder Aid F05 offers:

- Improved anti-caking performance especially in humid conditions
- Improved flowing and fluidization ability
- Excellent storage stability
- Minimized impact on levelling
- Good transfer efficiency
- Suitable for tribo, corona & fluidization bed application

## TEGO® Powder Aid F05 is the hydrophobic flow agent especially for humid conditions

PRODUCT	AEROXIDE® Alu C	TEGO® Powder Aid F05
Type	Hydrophilic fumed alumina	Hydrophobic fumed silica
Moisture sensitivity	o	++
Dispersing ability	o	o
Flowing ability	+	++
Anti-caking performance	o	++
Levelling	+	o
Gloss	+	o
Transfer efficiency	o	o

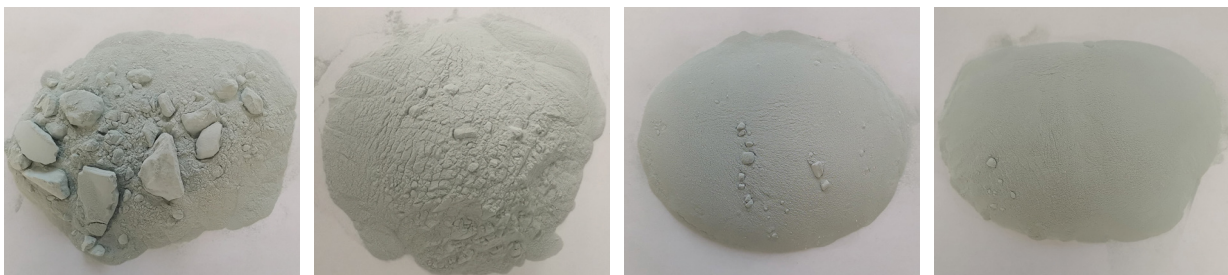
### Best performance after storage at 30 °C, 85% rel. humidity for 24 hours



Market reference

TEGO® Powder Aid F05

### Best anti caking performance at 40 °C, 7 days, 60% rel. humidity



Blank sample

Market reference

AEROXIDE® Alu C

TEGO® Powder Aid F05

## Matting agents with good scratch and abrasion resistance

The new SPHERILEX® is a unique precipitated silica that is made with a patented continuous loop reactor process. By the spherical particle shape SPHERILEX® provides very high matting efficiency with minimized impact in melt viscosity. This is the result of the low surface area and very narrow particle size distribution. Grades with large particle sizes provide the highest matting efficiency. Additionally SPHERILEX® provides good scratch and abrasion resistance. Combining conventional matting techniques with SPHERILEX® grades results in highly durable low gloss formulations.

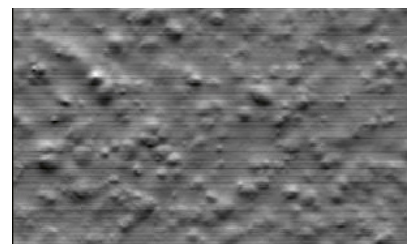
**SPHERILEX®** offer the following excellent properties:

- High matting efficiency in powder coatings
- Improved scratch and abrasion resistance
- Improved flexibility and crack resistance
- Low impact on melt flow
- Compatibility with other matting techniques
- Easy to disperse, can also be post-added

Product	Particle size d50, µm	Specific surface area (BET) m <sup>2</sup> /g	Specific gravity g/cm <sup>3</sup>	Recommended application
SPHERILEX® DP-0112	10	<12	2.0	Smooth film appearance High matting efficiency
SPHERILEX® DP-0115	15	<12	2.0	Improved scratch & abrasion resistance High matting efficiency
SPHERILEX® DP-0117	18	<12	2.0	Enabling high durability of matte powder coatings

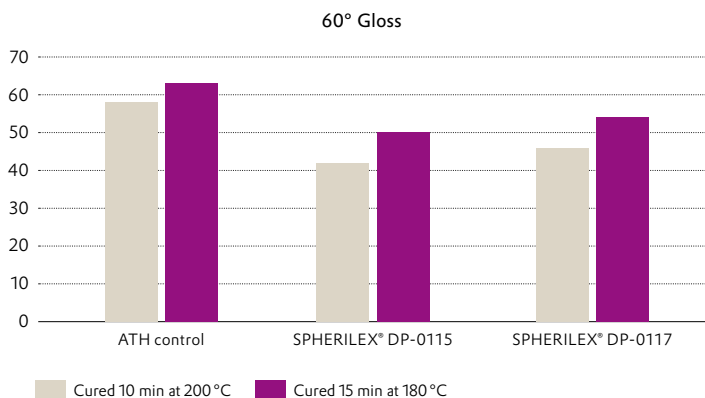
### SPHERILEX® DP-0117

Unique benefits in powder coatings



### SPHERILEX® DP-0115 and SPHERILEX® DP-0117 provide more efficient matting than aluminum trihydrate in this wax-free powder coating

Standard durable PE/HAA  
(Architectural – 1 year Florida; AAMA 2603/Qualicoat Class 1)  
Matting fillers used at 15 wt.% loading



**SPHERILEX® DP-0117** is a new addition to our series of SPHERILEX® matting fillers for powder coatings to boost:

- Matting effect
- Durability
- Physical properties
- Transfer efficiency

# Multifunctional wetting and leveling additive with extra benefits

The optical requirements on power coatings are constantly increasing despite the permanent requirement for lower film thickness. For that purpose, TEGO® Powder Aid D01 was developed. It is a multifunctional polymeric wetting and leveling additive consisting of 100% active matter pellets. TEGO® Powder Aid D01 shows its unique performance especially in colored and highly filled formulations. As multifunctional additives it combines several important properties in one product for universal use.

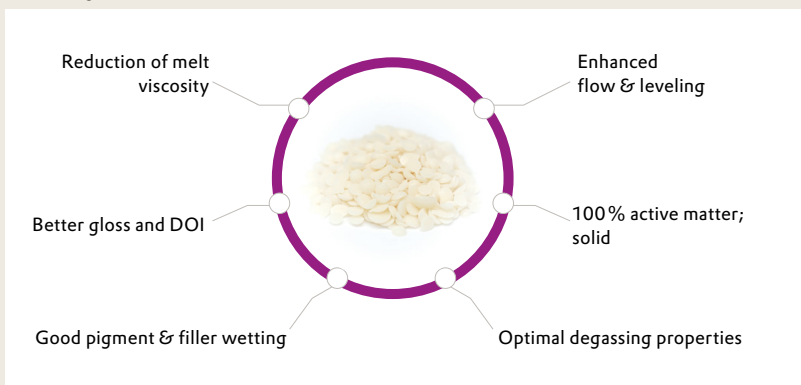
## TEGO® Powder Aid D01:

- Improves pigment wetting and provides better dispersion during extrusion
- Reduces melt viscosity which leads to improved degassing effect
- Improves leveling performance and gloss development
- Provides good recoatability
- Is very compatible with different binder systems
- Suitable for low temperature curing system as well

Product	Description	Active matter content	Dosage	Recommended application
TEGO® Powder Aid D01	High molecular weight polymer, waxy solid	100%	0.5–2.0%	Effective for high load inorganic fillers/pigments formulations Very suitable for wetting and dispersing of carbon black and organic pigments Suitable for super leveling system as well

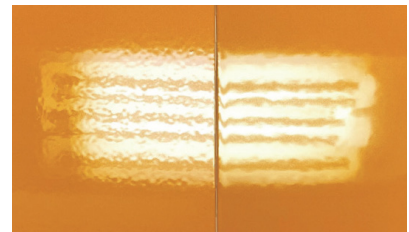
## TEGO® Powder Aid D01 – Versatile pigment disperant additive for powder coatings with extra benefits

NEW



## TEGO® Powder Aid D01 – test results

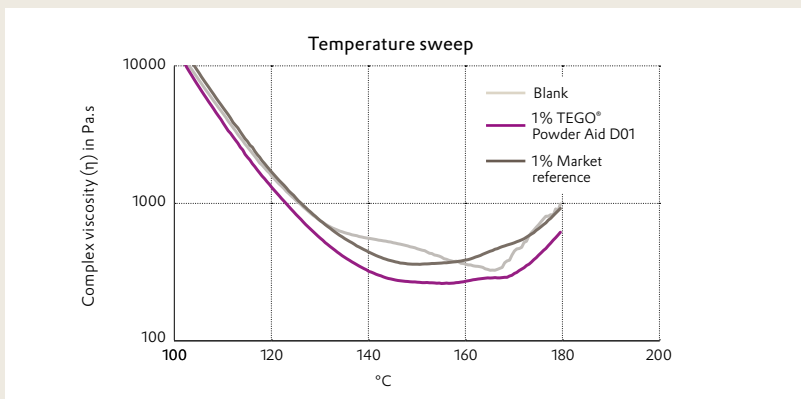
Improves leveling  
(Glossy yellow PE/TGIC system)



Blank

2% TEGO® Powder Aid D01

## Reduced melt viscosity in Black PE/HAA Super Durable formulation, carbon black & fillers



# TEGO® Powder Aid C01 – a novel technology approach for boosting corrosion protection in powder coatings

Powder coatings come in a variety of finishes and colors and are known for their high durability. This makes them ideal for architectural uses like outdoor stadium seating, window and door frames, as well as furniture applications. This leads to increased requirements in corrosion resistance.

Extended laboratory trials across various binder technologies have shown a significant improvement of corrosion protection in single-layer applications by use of TEGO® Powder Aid C01.

The modified polyester polymers, offering a novel approach to coating enhancement, are tailor made for powder coatings. This innovative technology ensures a smoother surface finish and improved film flexibility.

TEGO® Powder Aid C01 consists of free-flowing granules that are simply added to the premix before the extrusion process. There is no special handling necessary, as the product is very easy to use and incorporate.

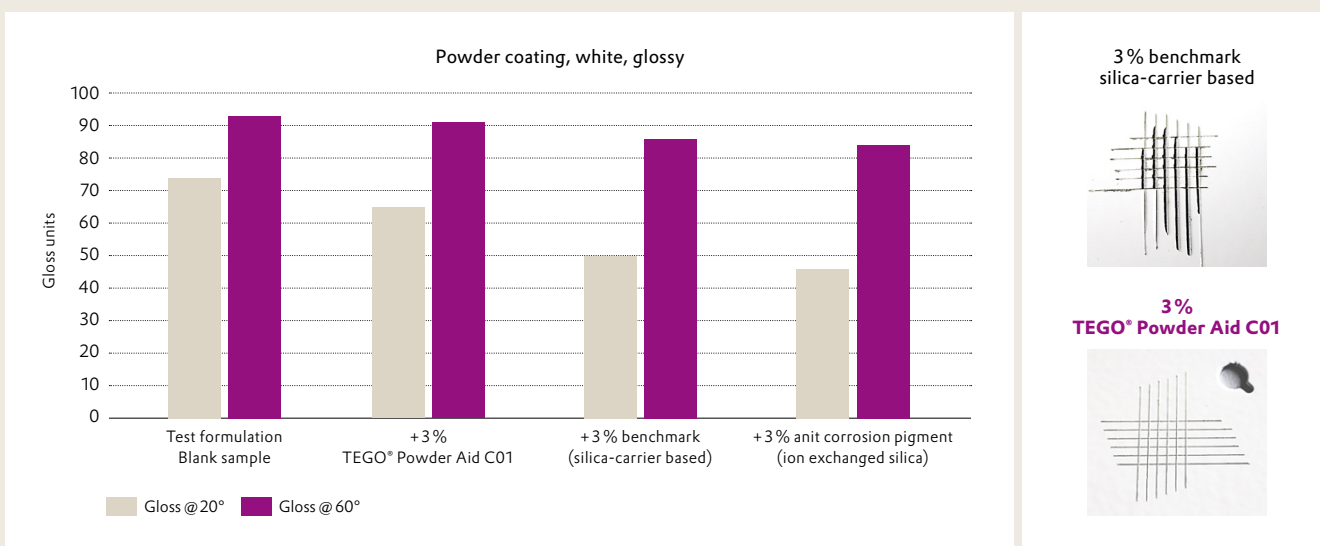
Benefits of **TEGO® Powder Aid C01** at a glance:

- Optimise corrosion protection & adhesion properties
- Suitable for various binder chemistries, broad compatibility
- Easy processability, no significant influence on rheology profile

## TEGO® Powder Aid C01 optimizes corrosion protection and adhesion properties of the coating



## Gloss levels of TEGO® Powder Aid C01 vs. market references



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AERODISP<sup>®</sup>, AEROSIL<sup>®</sup>,  
AEROXIDE<sup>®</sup>, AIRASE<sup>®</sup>,  
ALBIDUR<sup>®</sup>, CARBOWET<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>,  
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