Architectural Coatings

Modern formulation guidelines

HUNGAROCOAT 2018
X. INTERNATIONAL EXHIBITION AND CONFERENCE ON PAINT INDUSTRY

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Content

Modern formulation guidelines for Architectural coatings

- Hydrophobization of facades with low dirt pick up and improved workability

  TEGO® Phobe

- Efficient defoaming during processing, filling and application

  TEGO® Foamex

- Raw material optimization and improved colorant acceptance

  CARBOWET®; TEGO® Dispers

- Efficient MFFT-Reduction for low-temperature application

  SURFYNOL®

Hydrophobization of facades
with low dirt pick up and improved workability

TEGO® Phobe

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TEGO® Hydrophobing Agents

Hydrophobing Agents designed for emulsion paints in façade and interior paints, insulating materials, plaster and plaster boards

TEGO® Phobe 1659 – Silicone Resin

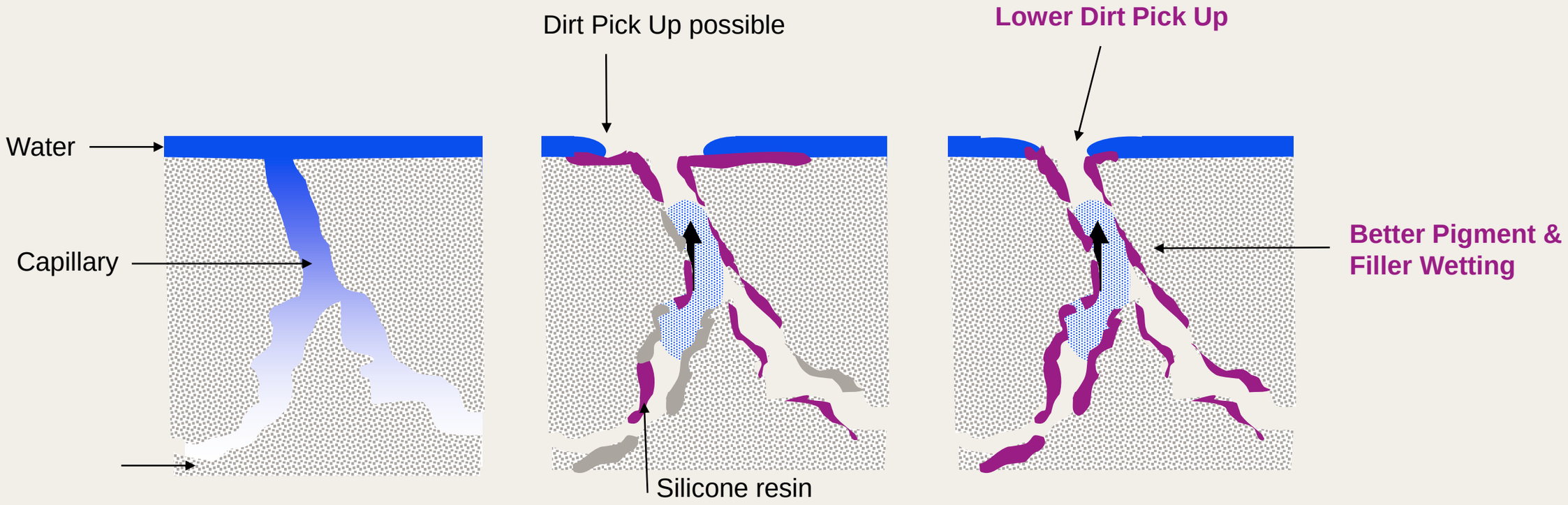
- Highest efficiency at lowest dosage level
- Lower dirt pick-up
- Proved **TEGO®** quality
- universal use in silicone resin paint, silicate paints and plasters

TEGO® Phobe 1409 – amino functional Polysiloxane

- Super fast drying limits algae and microorganism growth
- W/B Emulsion suitable for EcoLabel Products
- Beading Effect

Better Wetting of Pigment and Fillers improves silicon resin effect

Effect of Silicone Resin on Water Absorption and Vapor Diffusion



Without silicone resin **With silicone resin** **With TEGO® Phobe 1659**

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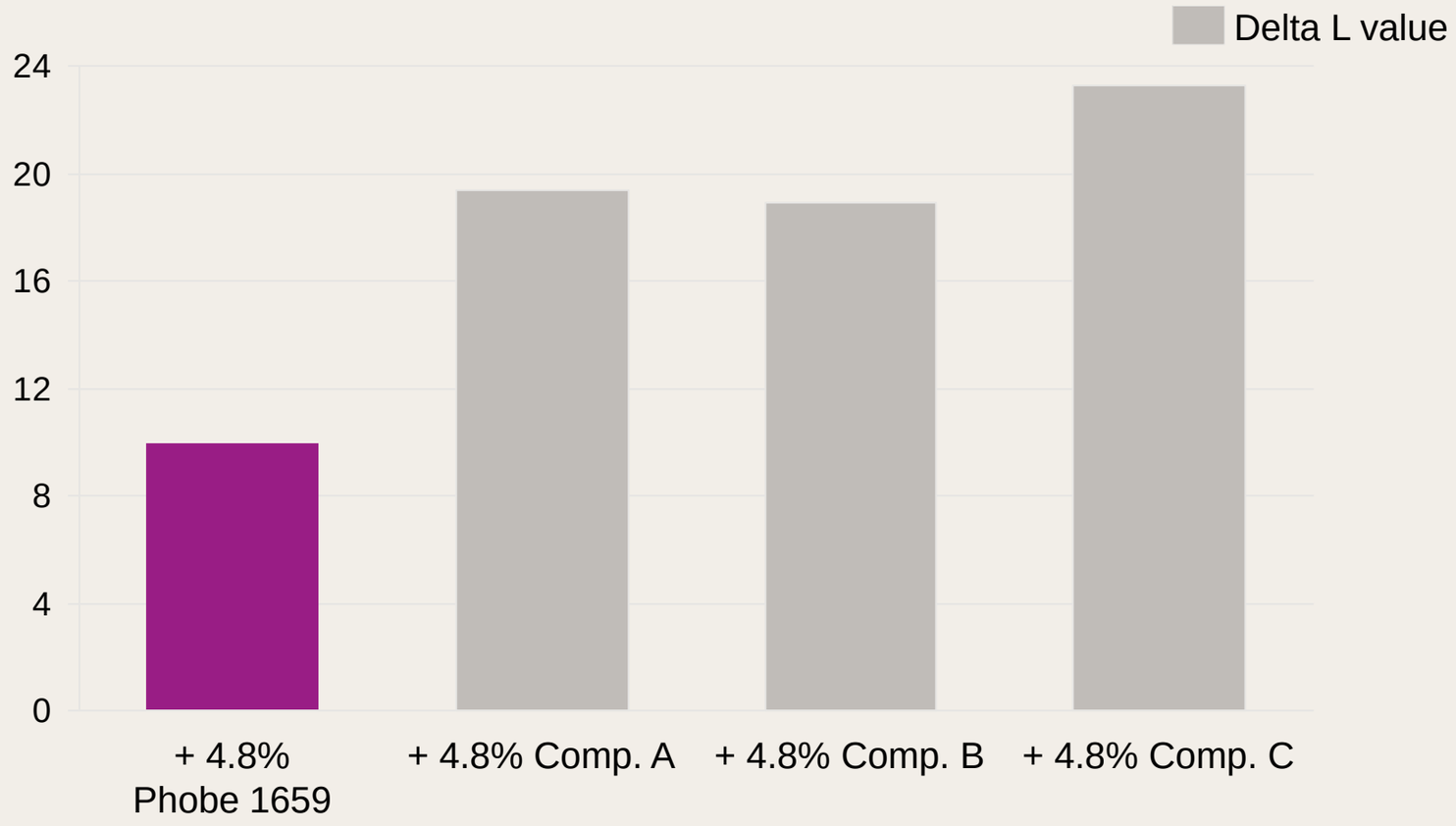
Lowest dirt pick up

TEGO® Phobe 1659 with outstanding dirt pick up values



Test-System
Silicone resin paint

PVC: 75%

Styrene acrylic binder

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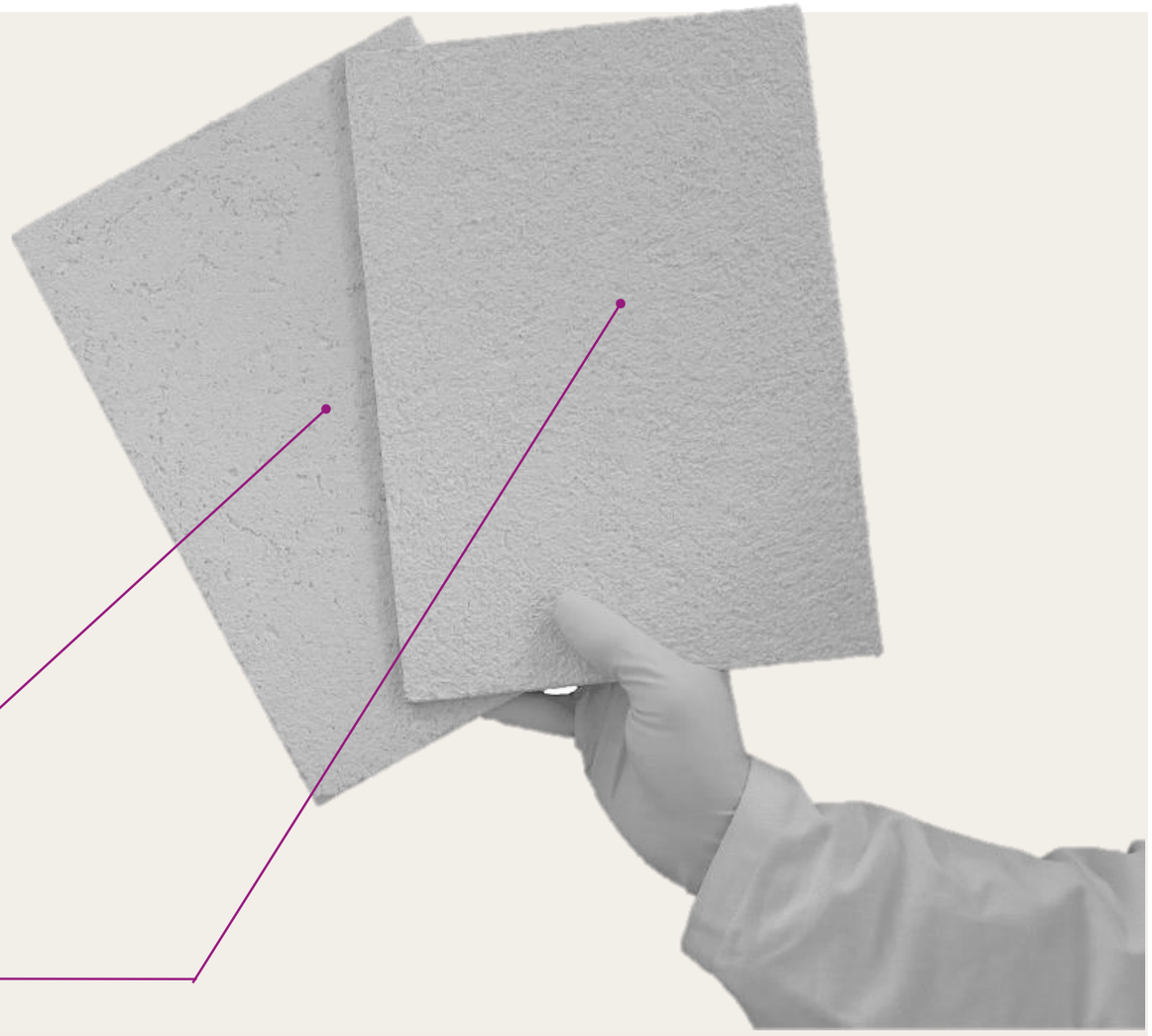
Universal Use – High workability in Plaster

Facts & results

TEGO® Phobe 1659 can be used as silicon resin different systems with excellent properties for your paint or plaster

TEGO® Phobe products are tested in a broad variety of systems to provide the needed compatibility in a broad range of systems.

Starting Formulation Available



Reference from Competition

TEGO® Phobe 1659

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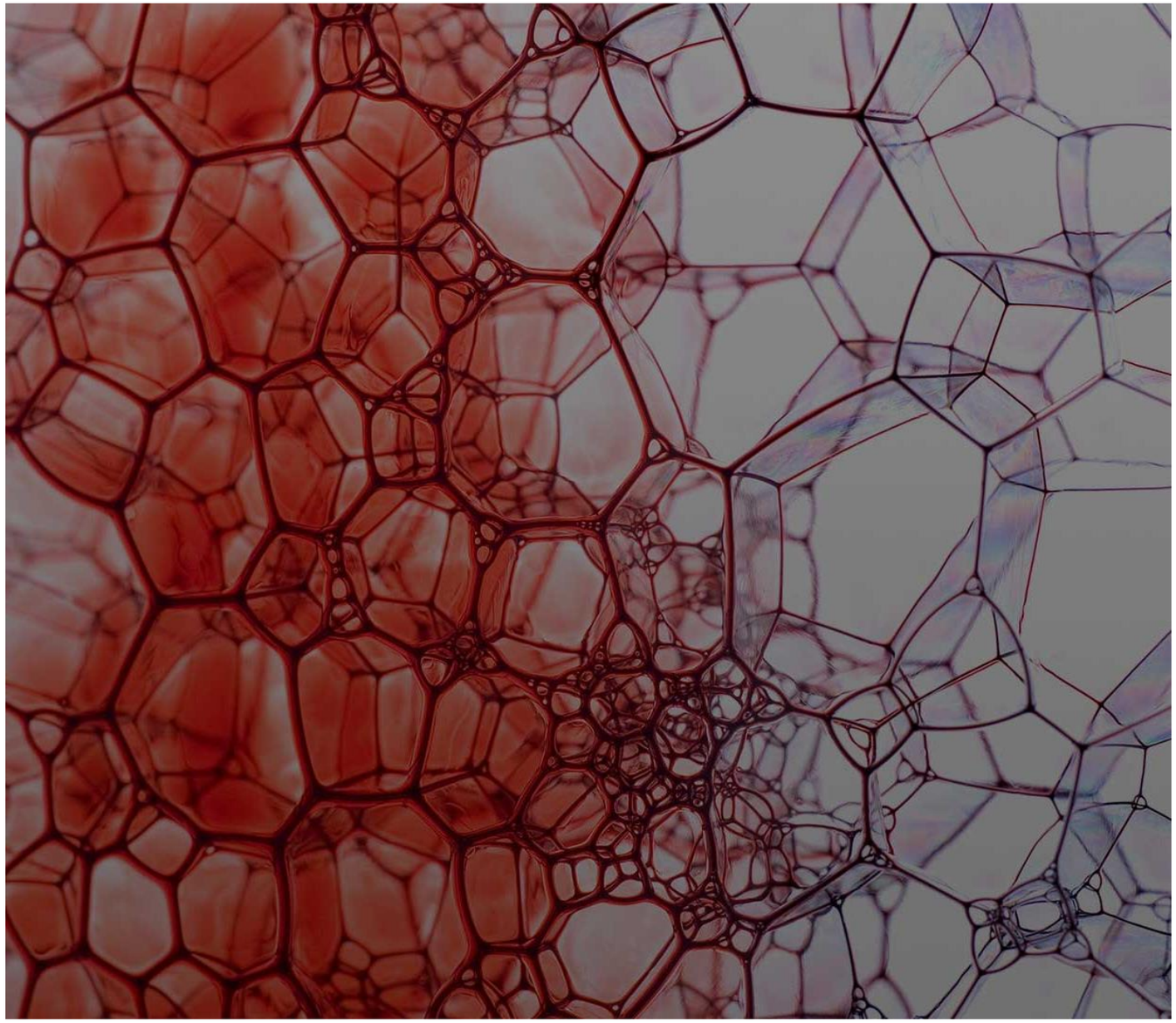
Improved Workability and Surface appearance

Efficient defoaming during processing, filling and application

Defoamers for waterborne Architectural Coatings



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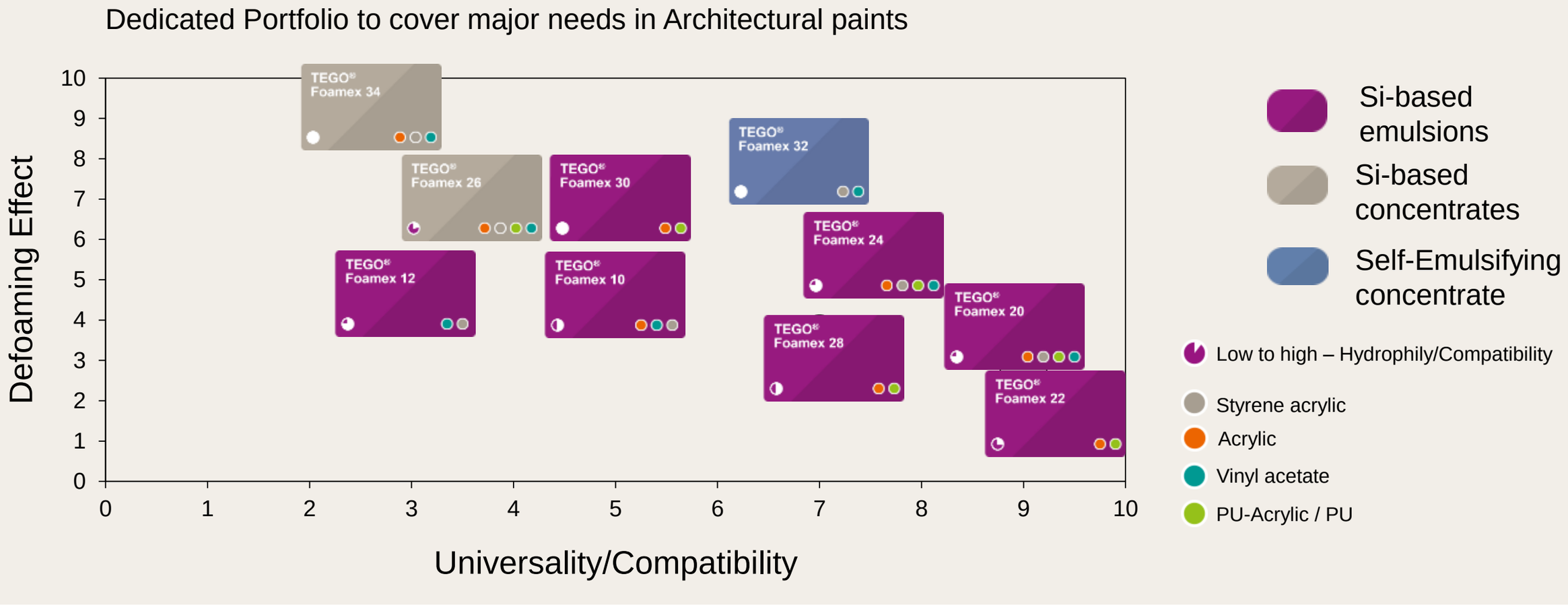
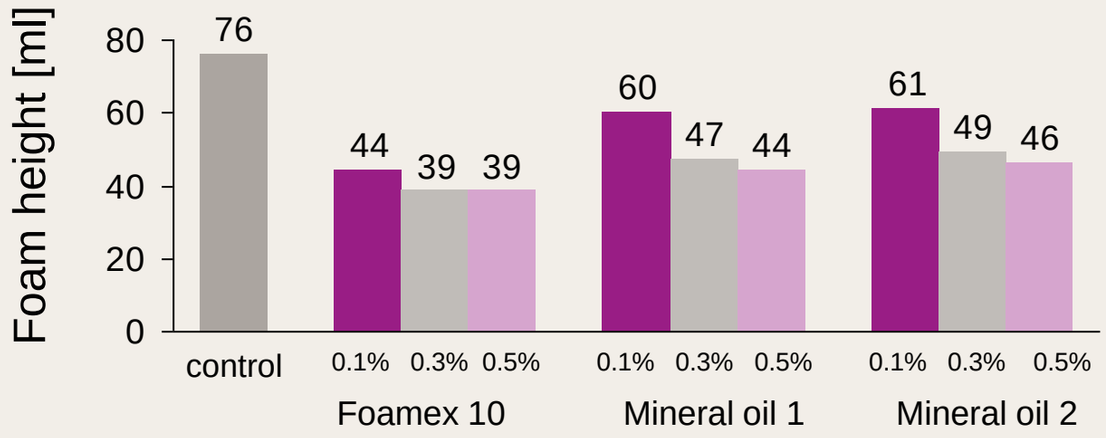
Dedicated Portfolio Development



TEGO® Foamex 10

- Highly efficient let-down defoamer
- Best Alternative for Mineral Oil Defoamers
- For mid to high PVC formulations
- Easy to incorporate



PVC 30%

Styrene-Acrylic binder

Si-based emulsions

Low to high – Hydrophilicity / Compatibility

Styrene acrylic

Acrylic

Vinyl acetate

PU-Acrylic / PU

Specifications

Active matter 15%

Effectivity > Compatibility

polyether siloxane copolymer, silica free

Ideal combination

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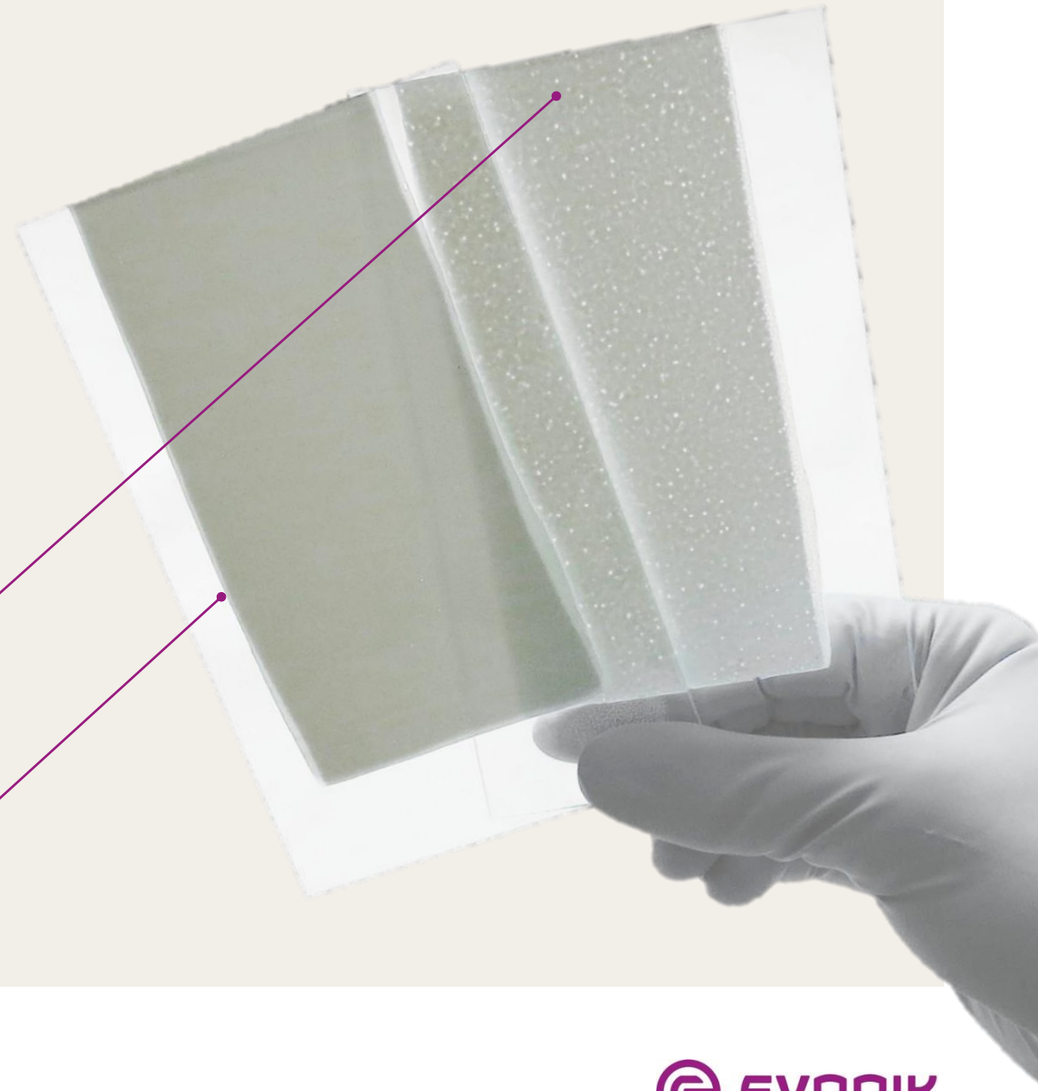
Best surface quality

Facts & results

For sensitive architectural paint systems outstanding compatibility is essential.

TEGO® Foamex products are tested in a broad variety of systems to provide the needed compatibility in a broad range of systems. They deliver a strong defoaming effect without craters and incompatibility



Reference from Competition

TEGO® Foamex 20

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TEGO® Foamex 32

- Good balance between efficiency and compatibility
- Universal for mill base and let down
- Easy incorporation

Self-Emulsifying concentrate

Low to high – Hydrophily / Compatibility

Styrene acrylic Acrylic Vinyl acetate PU-Acrylic / PU

Specifications

Concentration 100%

Effectivity = Compatibility

Polyether siloxane copolymer, silica free

Ideal combination

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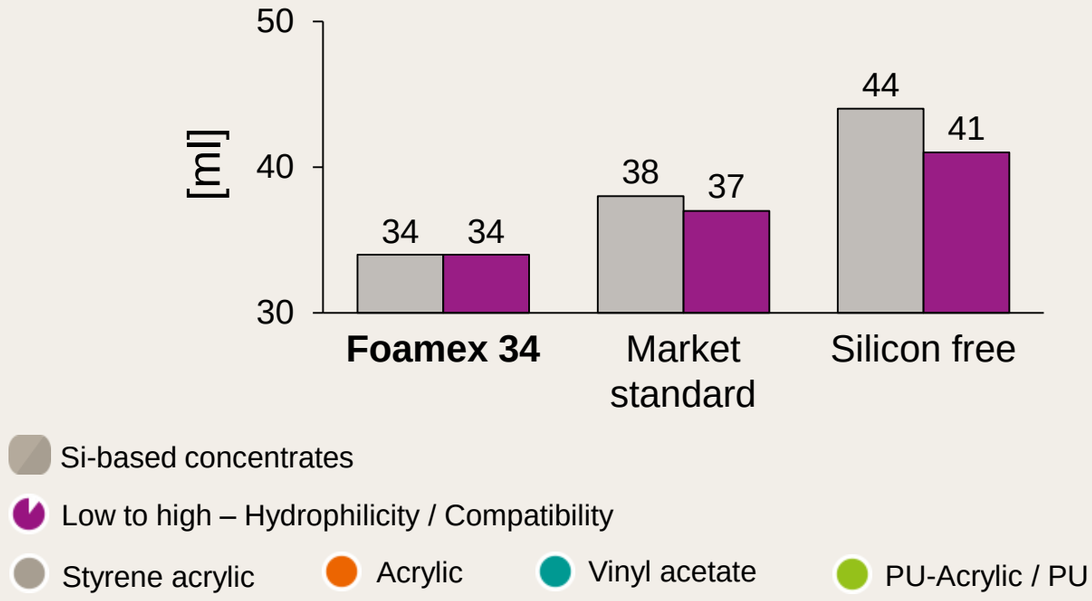
TEGO® Foamex 34

- Highest efficiency on low dosage
- Strongest defoamer in the mill base
- Very good long term effectiveness
- For mid to high PVC formulations



Specifications

Active matter 100%

Effectivity > Compatibility

polyether siloxane copolymer, contains fumed silica

Ideal combination

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Raw material optimization and improved colorant acceptance

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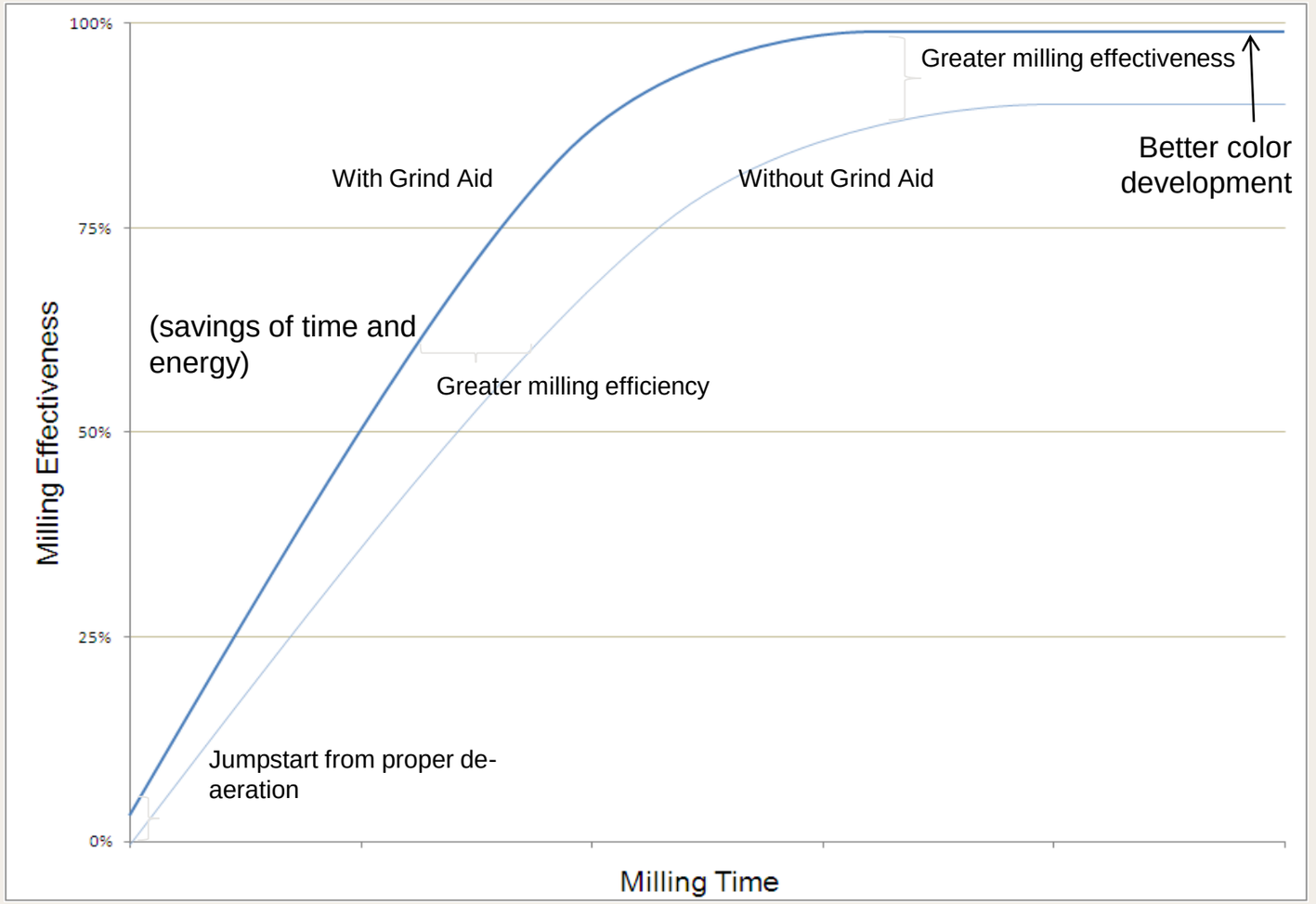
CARBOWET® GA 200 - Grind Aid Benefits

Properties

- Nonionic grind aid surfactant
- Optimal balance between wetting and stabilization
- Low foaming surfactant



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Grind aid benefits : Pigment Wetting Improvement

Pre-mix liquid
Demi water
CARBOWET® GA surfactant or polyphosphate
Polyacrylate dispersant
AIRASE® 5100 defoamer

and

Pre-mix powder
Pigment and Fillers

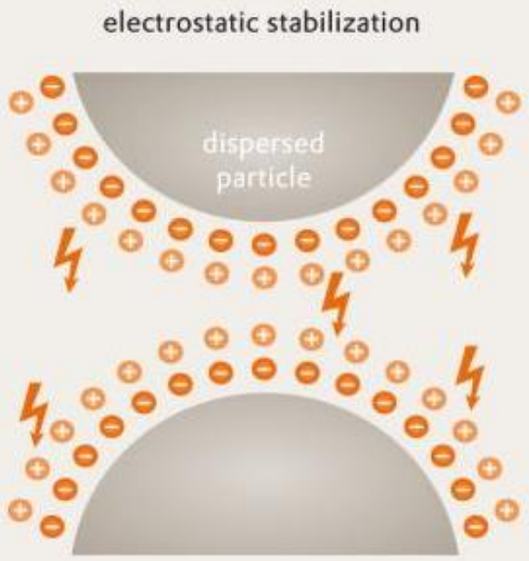
Results Polyphosphate

Results CARBOWET® GA’ series

TEGO® Dispers 747 W - The best way for pigment stabilization in your concentrates

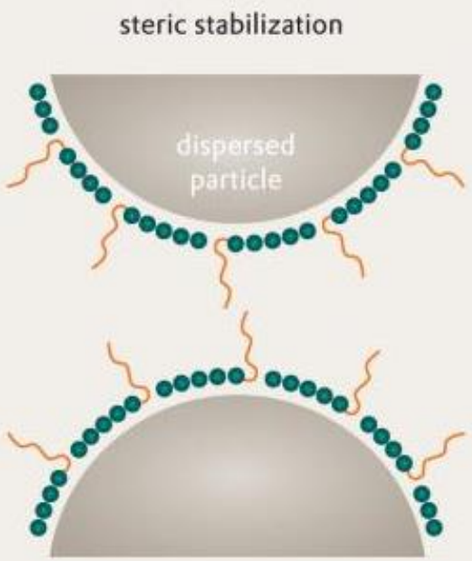
Polyacrylate dispersants

In waterborne systems



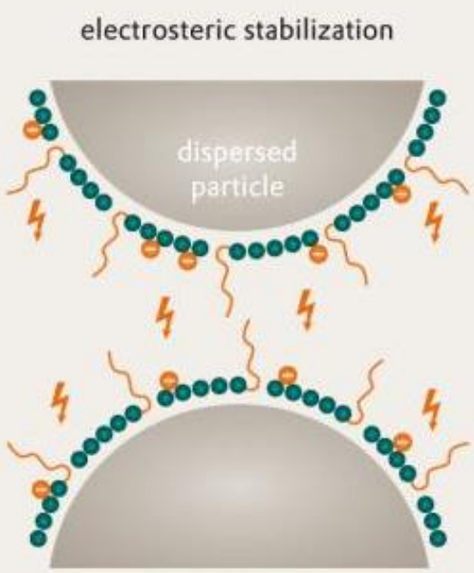
Polymeric Dispersants:

In waterborne and solvent borne systems



TEGO® Dispers 747 W

Combination to stabilize your pigments more efficiently



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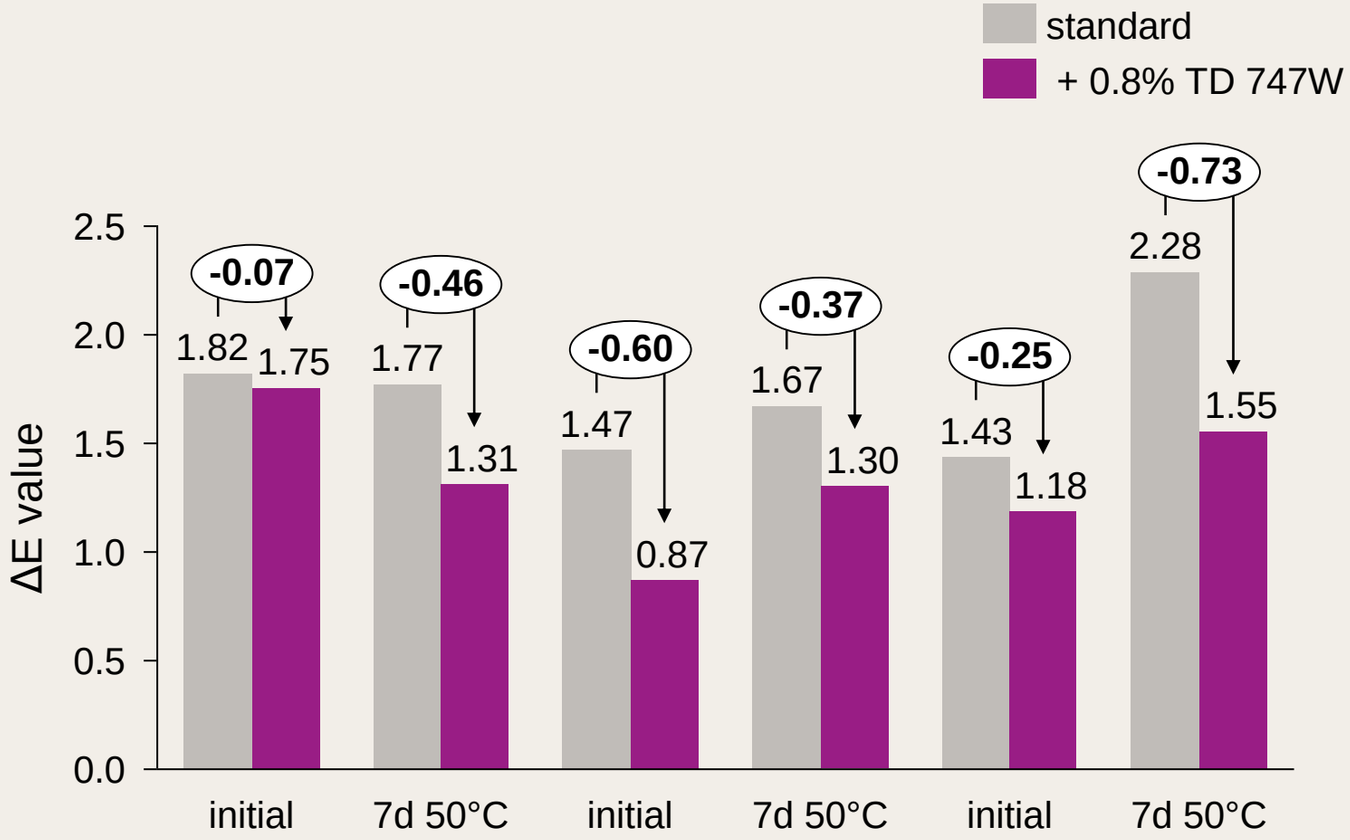
Better Colorant Acceptance



COMPONENT	1	2
Water	25.18	25.74
Additives	0.46	0.46
Surfactant	0.56	-
Polyacrylate salt dispersant	0.80	-
TEGO® Dispers 747W	-	0.8
Fillers & Pigments	37.00	37.00
Thickeners	3.00	3.00
Defoamer	1.00	1.00
Binder	32.00	32.00
Total	100.00	100.00

In all cases lower ΔE value after tinting with TEGO® Dispers 747W

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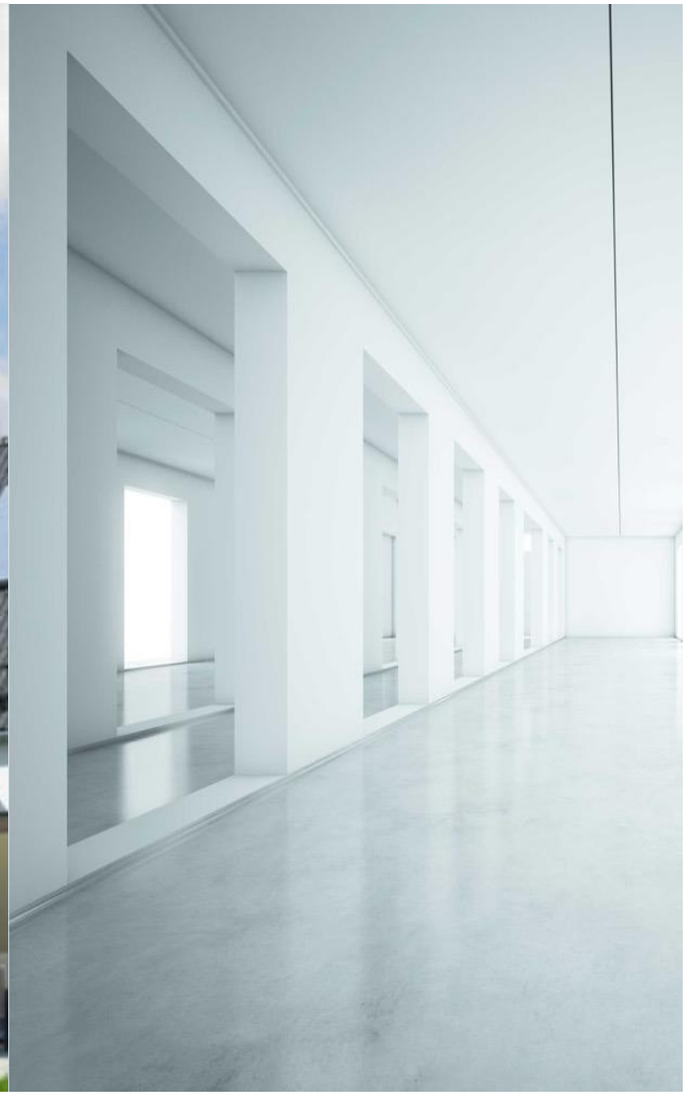
Superior Wetting Behavior

Superior wetting & viscosity performance of TEGO® Dispers 747 W

Efficient MFFT-Reduction for low-temperature application



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What is a Coalescing Surfactant and why to use one?

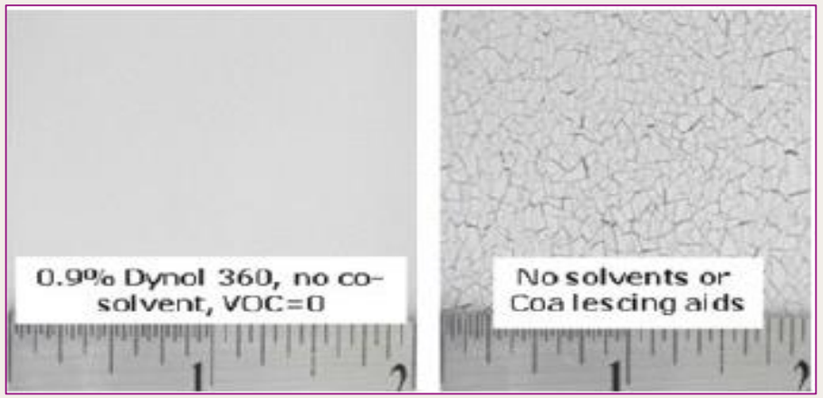
Global Regulations Require Lower Volatile Organic Compound (VOC) Emissions

Side Effects of Removing Coalescing Solvents

- Higher minimum film formation temperature (MFFT)
- Poorer coating integrity and appearance if applied at or below the MFFT

Coalescing Surfactants Lower MFFT and Function as Low Foam Dynamic Wetting Agents

- DYNOL™ 360 and SURFYNOL® AD01 surfactants are Coalescing Surfactants



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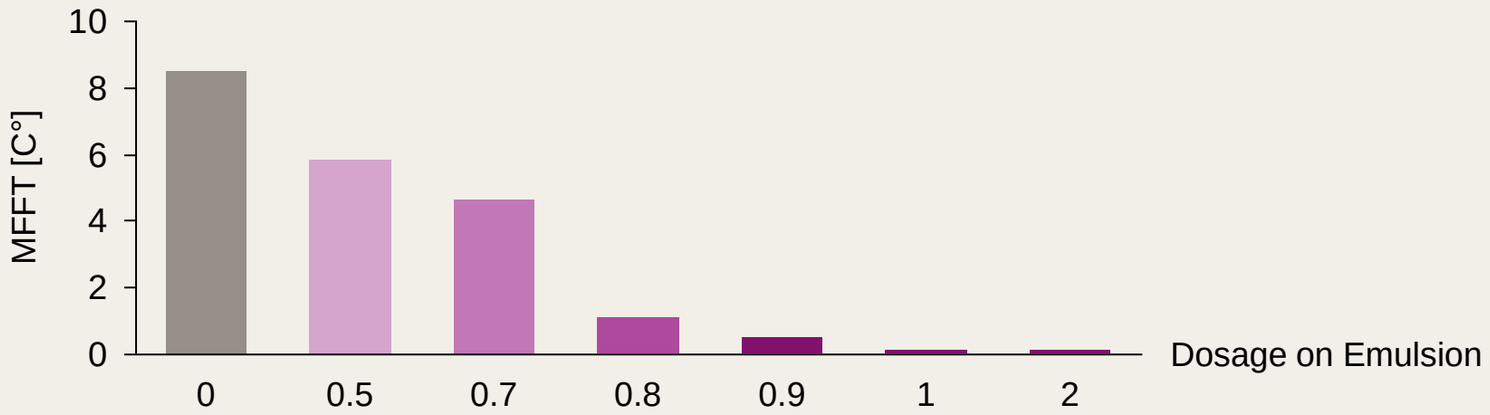
SURFYNOL® AD 01

- Compatible molecular defoamer
- Fast knockdown defoaming
- Outstanding long-lasting foam control
- Excellent dynamic wetting
- Combination of several properties
- Can reduced MFFT
- Can be used at pH 3 up to pH 13



Specifications

Active matter 100 %

Nonionic organic based Gemini surfactant and molecular defoamer
Silicone- free, siloxane- free

100% Product

defoaming

recoatable

Water beading

flow

static surface tension

dynamic surface tension

substrate wetting

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