

We will start soon...

To make this call most efficient for everybody, we have **muted** your phones.

For questions, kindly use the **chat function**.

Should you have trouble hearing us, kindly choose **“use computer for audio”**. Should there still be issues, kindly try **reconnecting** to the webinar.

The **presentation** will be **shared** with all participants after the webinar.

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Your **hosts** for this call

Formulation Additives
for High PVC Interior
Paints



Stefan Lehner
Presenter



Andrea Schamp/
Kerstin Schurig
Chat



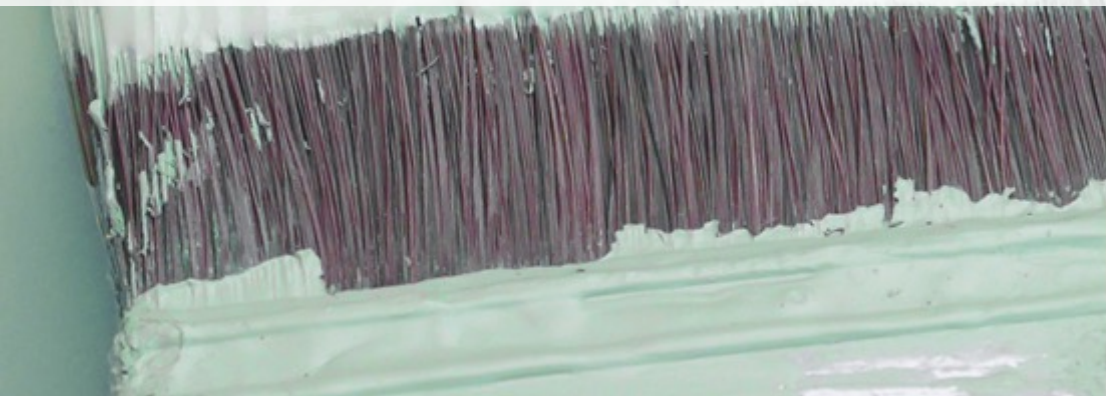
Stefan Lehner

**Technical Sales
Formulation Additives
EMEA region**



Formulation Additives for High PVC Interior Paints

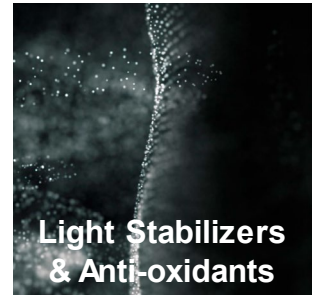
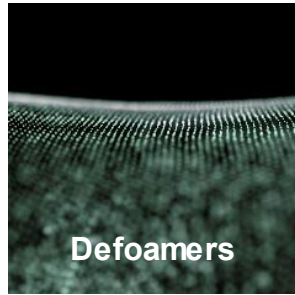
Ludwigshafen, June 17th, 2020



Agenda

1. Introduction
2. Performance Highlights
3. Sustainability
4. Summary

Our comprehensive portfolio enables solutions for various industries



BASF is the premiere provider of **Performance & Formulation Additives** for the paints and coatings industry



Architectural Coatings



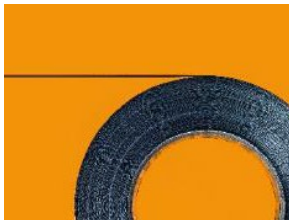
Industrial Coatings



Automotive Coatings



Furniture & Flooring



Adhesives



Construction



Printing & Packaging



Composites

We make today's challenges tomorrow's solutions

Titanium Dioxide **Indoor Air Quality** Blocking stains

Hiding Formaldehyde Anti-allergic Biocides DIY

Easy to apply Decoration **Low VOC** Ammonia-free

Eco-friendly MIT free **Wet scrub resistance** Lean Manufacturing

Eco Labels Biocide free Spattering resistance

Low-odor Wet adhesion Burnish resistance Functional Paints

VAE replacement **Total Cost of Formulation** Cleanability

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Comprehensive Formulation Additive Portfolio for Interior Paints

Dispex AA 4140

Universal

Dispex CX 4248

Outstanding improvement of wet scrub resistance

High PVC Interior Paints

Rheovis PE 1330

Coatings build up and reduced spattering

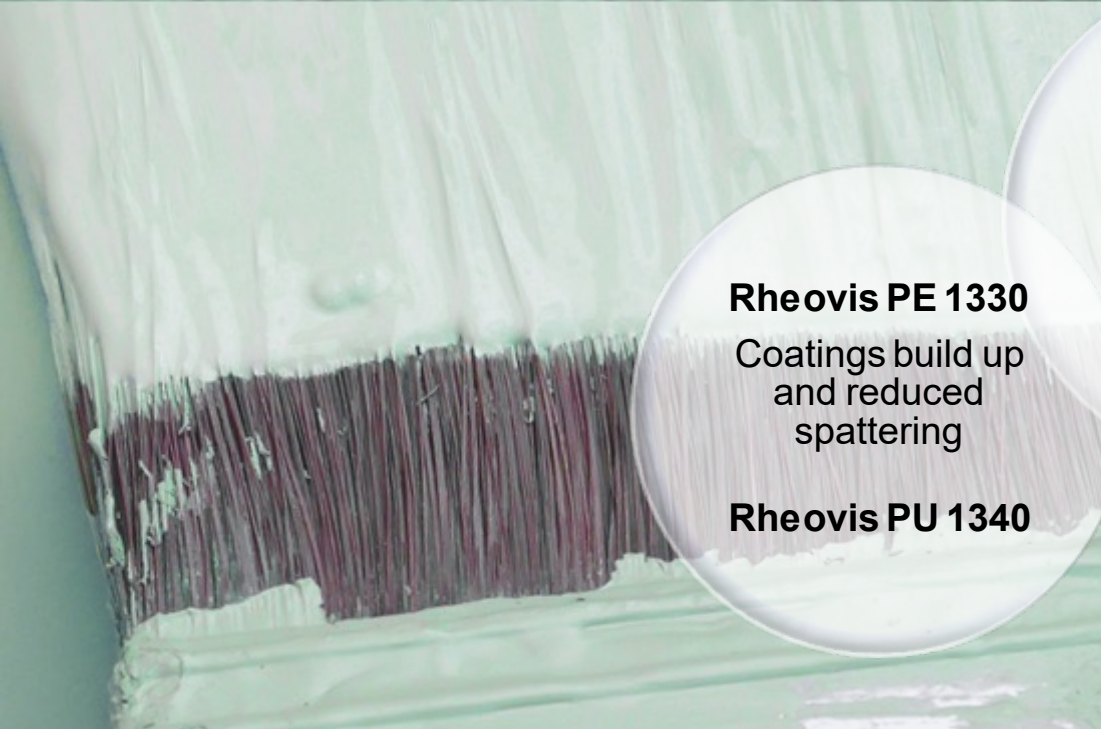
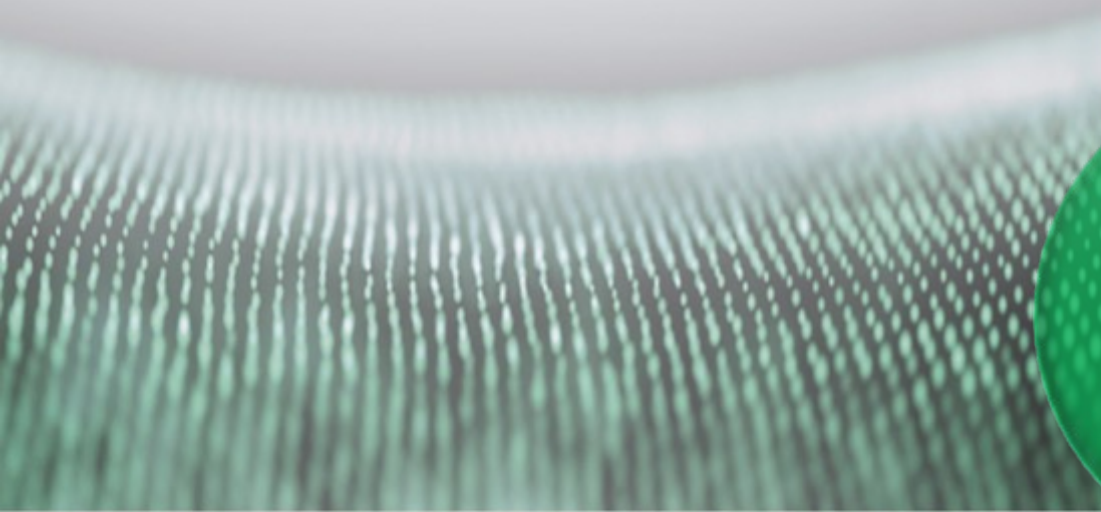
Rheovis PU 1340

FoamStar ED 2523

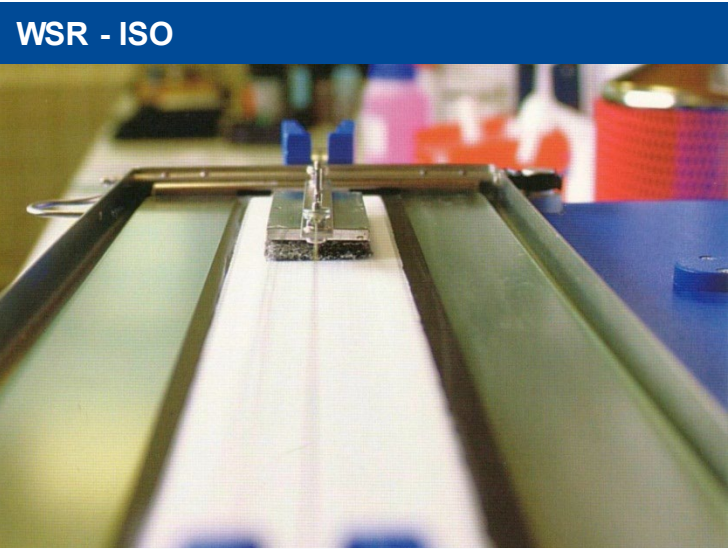
Ultra-low SVOC

FoamStar ED 2521

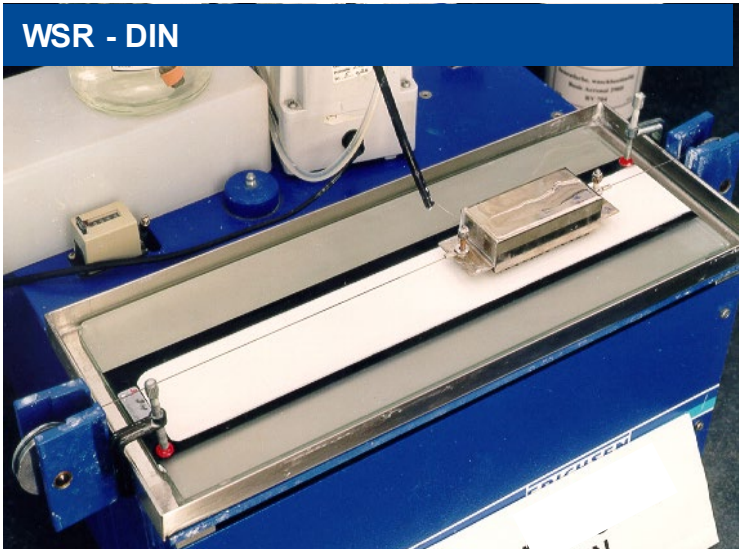
Price – performance
Low VOC



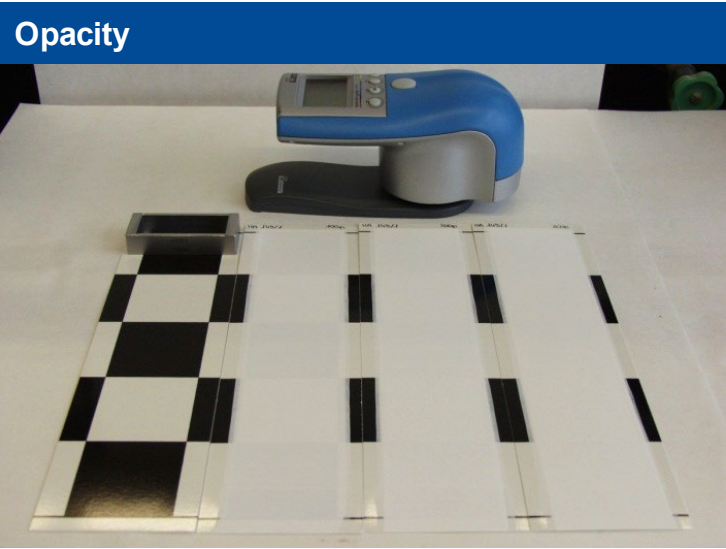
Interior paints key criteria: Wet Scrub Resistance (WSR) & Opacity



Class	Criteria (µm)
1	< 5 at 200 strokes
2	5 - 20 at 200 strokes
3	20 - 70 at 200 strokes
4	< 70 at 40 strokes
5	>70 at 40 strokes

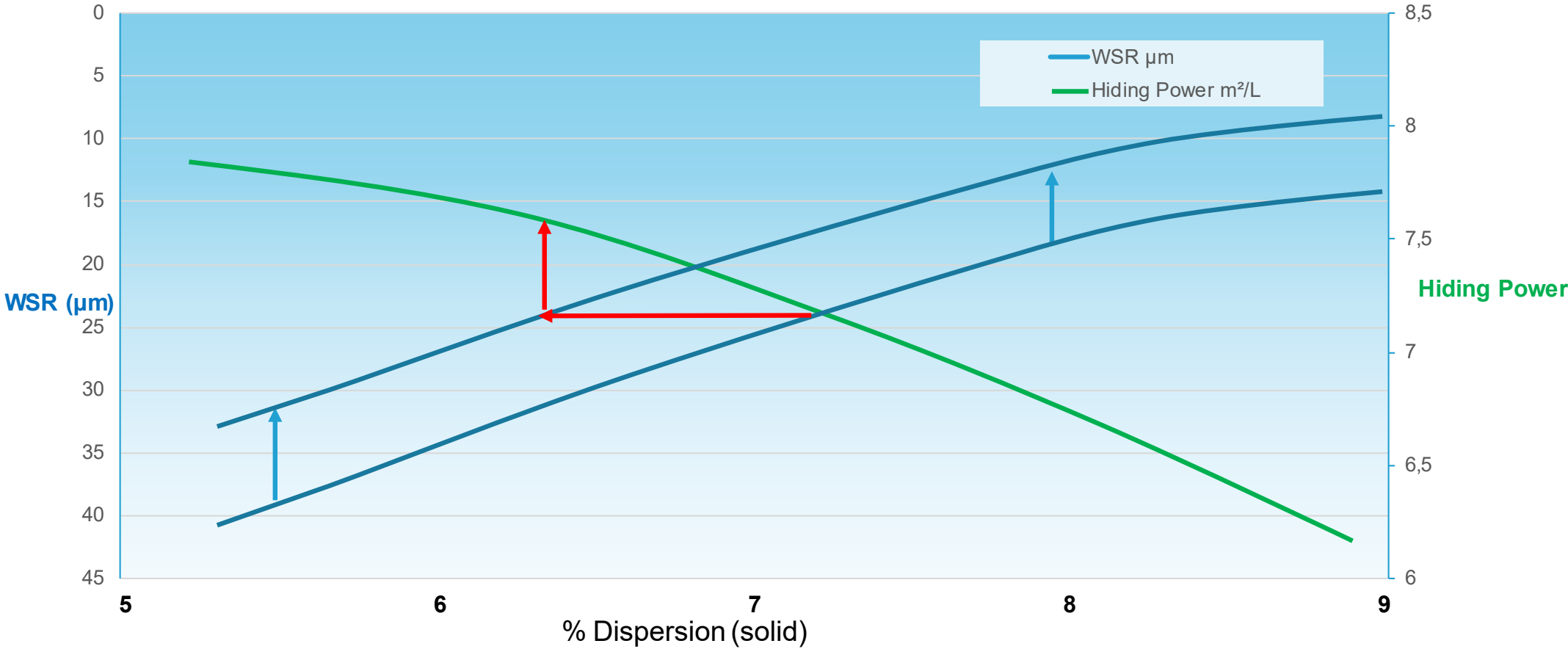


Class	Criteria
Wash resistance	> 1 000 strokes
Wet scrub resistance	> 5 000 strokes



Class	Criteria (%)
1	≥ 99,5
2	≥ 98 & < 99,5
3	≥ 95 & < 98
4	< 95

Interior paints key criteria: Wet Scrub Resistance (WSR) & Opacity



WSR and Hiding power are contradictory in high PVC paints

Indoor Wall Paints (PVC 83 %) based on Acronal 6292 - Dispersants

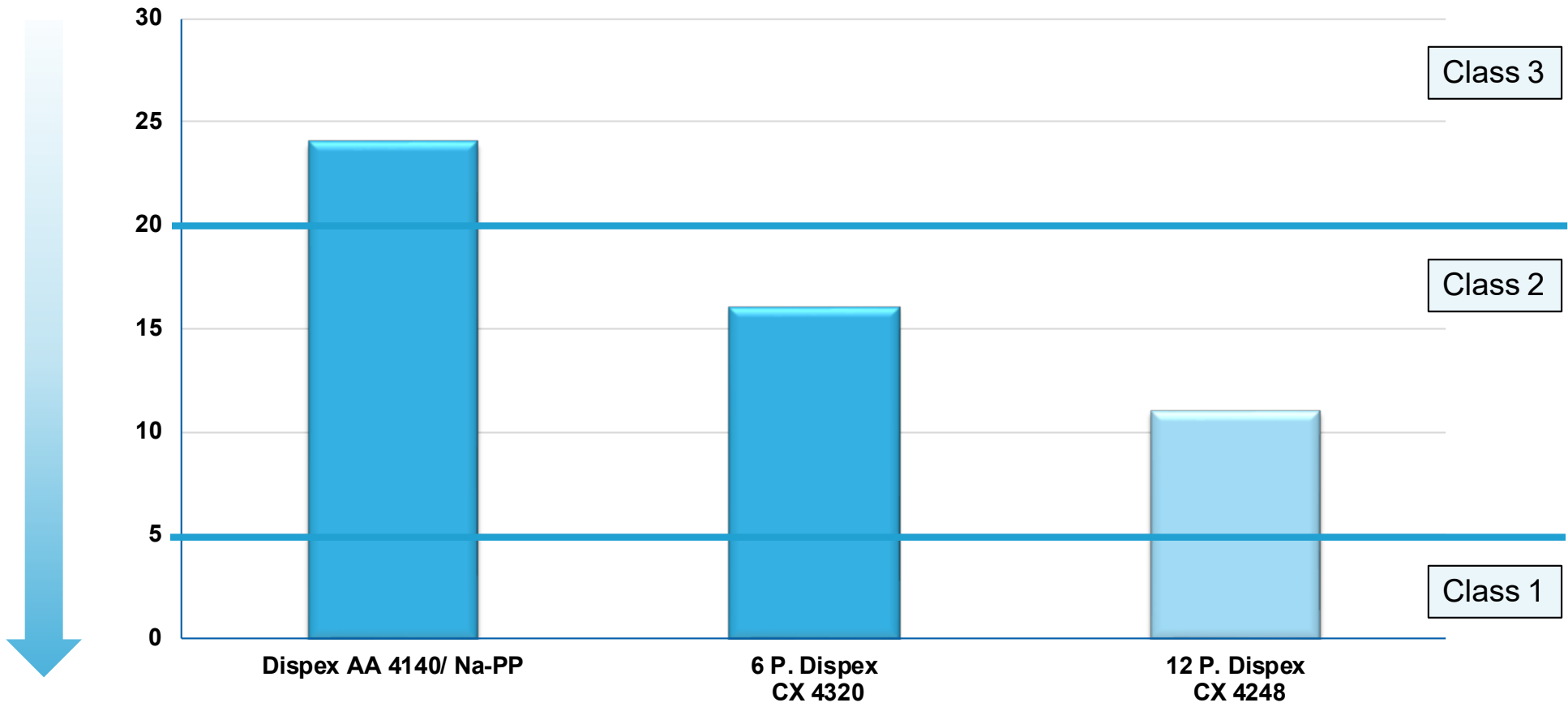
Water	300
Natrosol 250 HBR	4
NaOH, 20% sol.	2
Dispersant	XX
Parmetol A 26	1
FoamStar ED 2523	2
Tronox CR-828	60
Sipernat P 820	20
Optimatt 2550	20
Socal P 2	50
Plustalc 15 AW	90
Omyacarb 2 GU	80
Omyacarb 5 GU	210
FoamStar ED 2523	2
Acronal 6292	84
Water	XX
	1000

- **Dispex AA 4140**
- **Dispex CX 4320**
- **Dispex CX 4248**



Indoor Wall Paints (PVC 83 %) based on Acronal 6292 - Dispersants

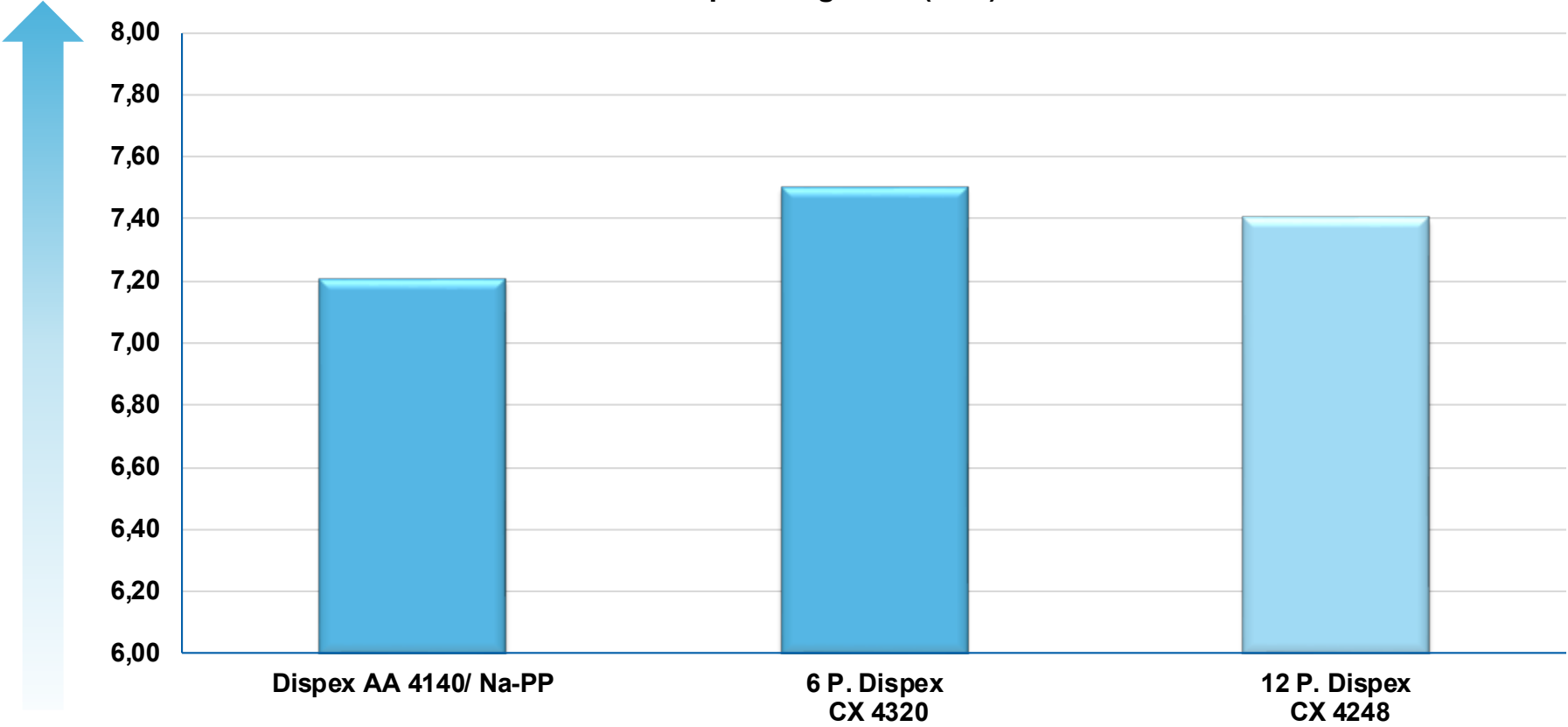
Wet scrub resistance (μm)



Significant improvement of wet scrub resistance

Indoor Wall Paints (PVC 83 %) based on Acronal 6292 - Dispersants

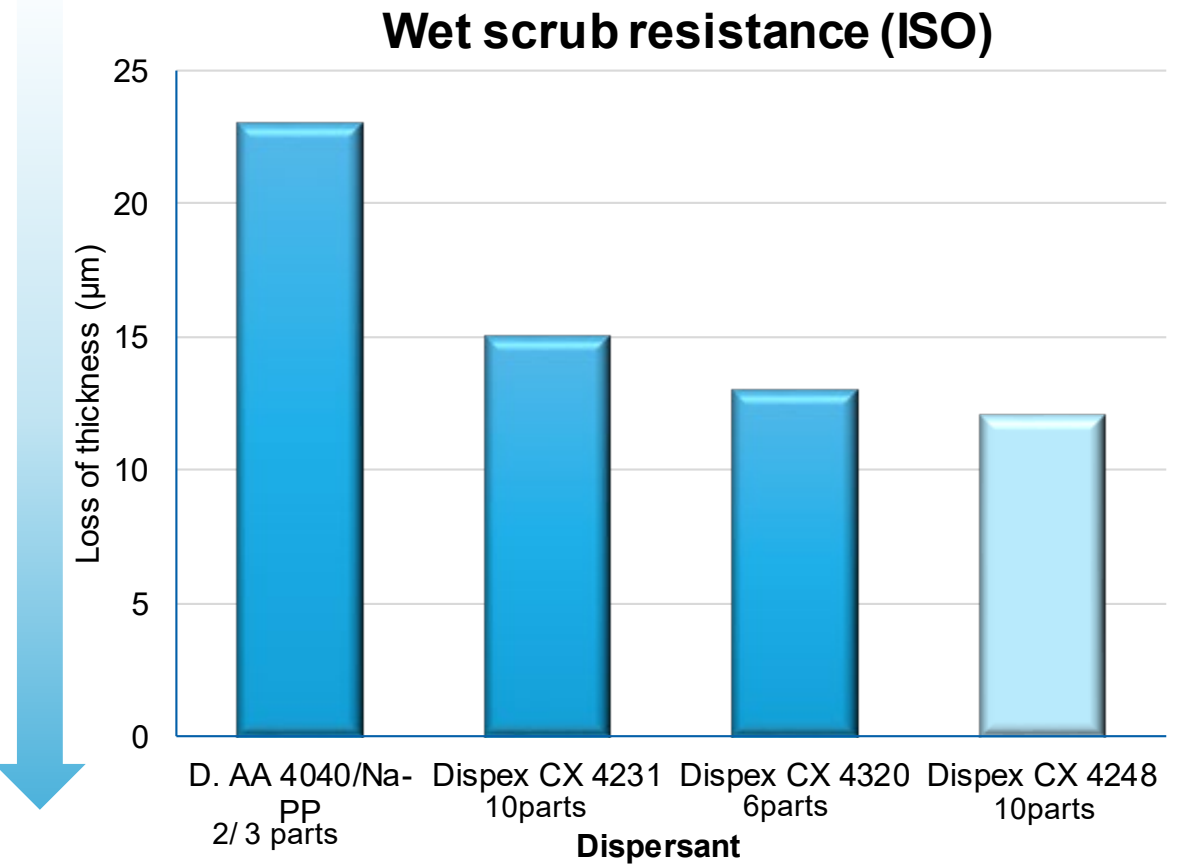
Spreading rate (l/m²)



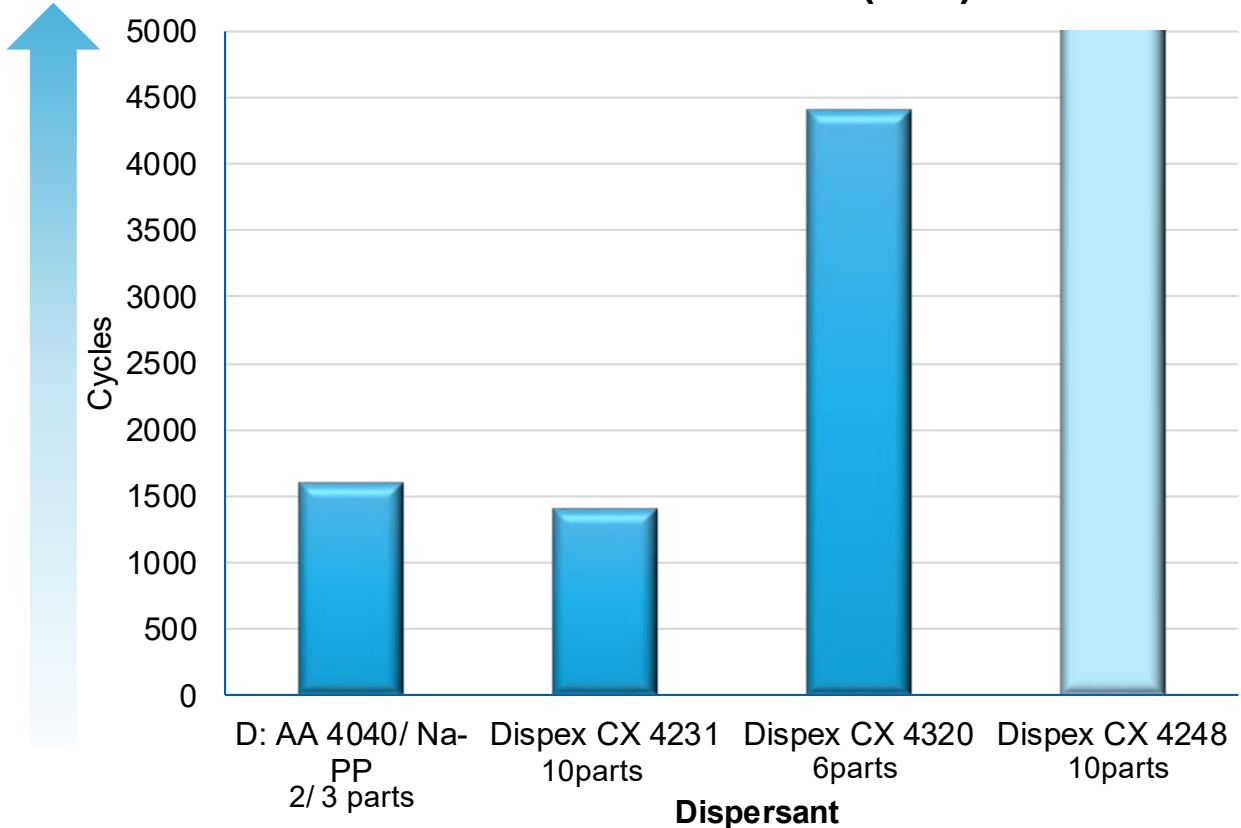
Cost – savings due to improved TiO₂ - efficiency

Indoor Wall Paints (PVC 83 %) based on Acronal S 790 Dispersants

Wet scrub resistance (ISO)

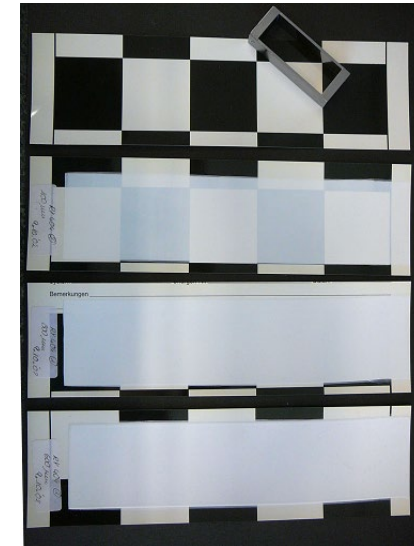
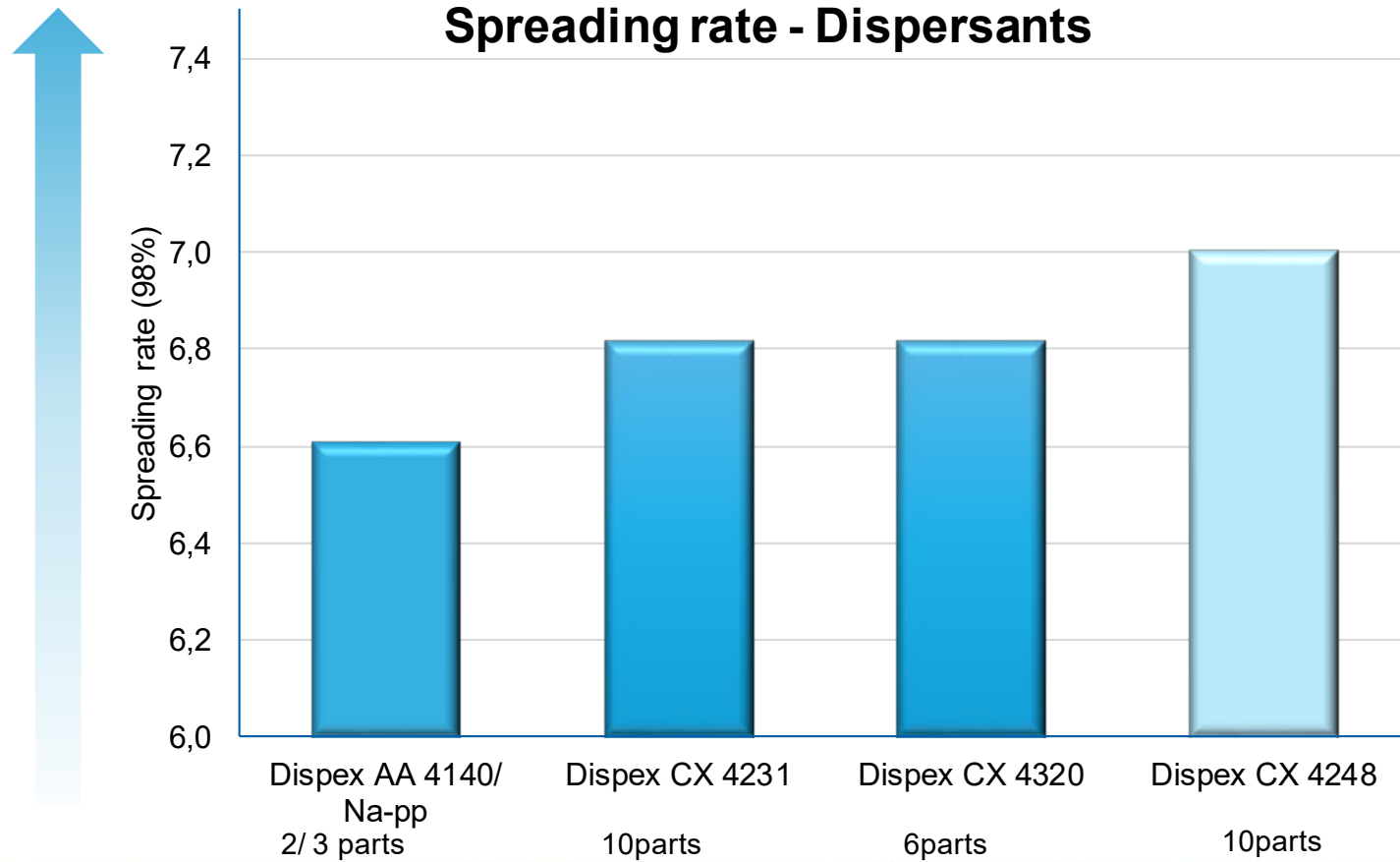


Wet scrub resistance (DIN)



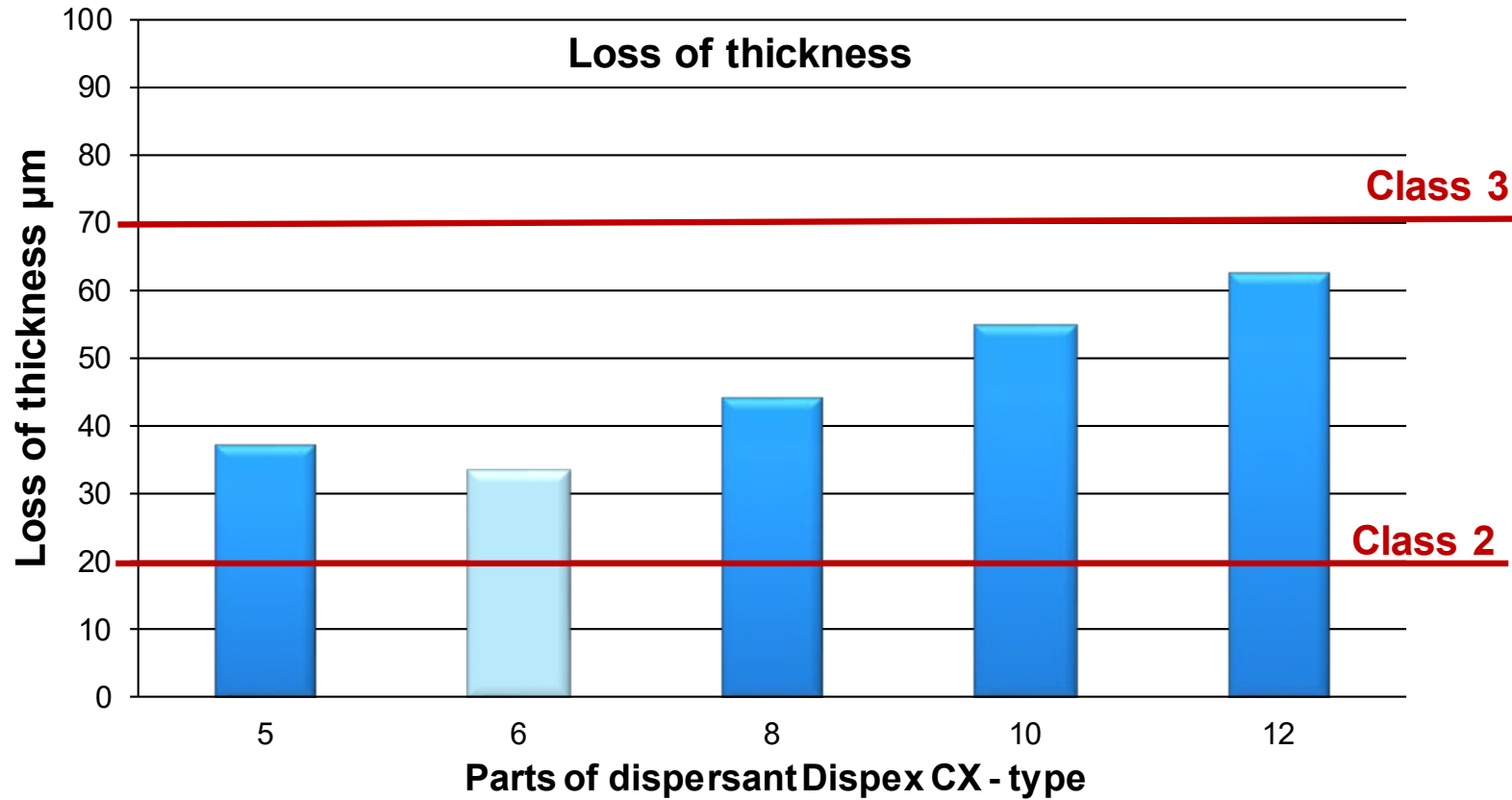
Dispex CX 4248 - Best in class performance

Indoor Wall Paints (PVC 83 %) based on Acronal S 790 Dispersants



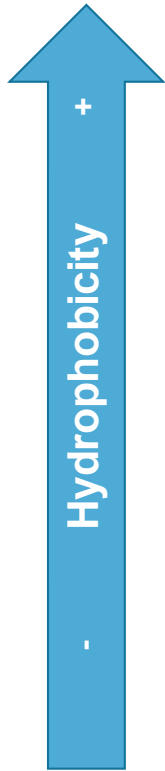
Reduced total cost of formulation

Indoor Wall Paints - Dispersants



Demand of dispersant depends on formulation

Focus Products – Dispersants



Dispersants		
Dispex CX 4248	Hydrophobic copolymers	<ul style="list-style-type: none"> ▪ even higher hydrophobic properties ▪ higher demand ▪ less water sensitivity ▪ not in combination with polyphosphates ▪ outstanding wet scrub resistance
Dispex CX 4320	Copolymers	<ul style="list-style-type: none"> ▪ improve hydrophobic properties ▪ less water sensitivity ▪ not in combination with polyphosphates
Dispex AA 4140 Dispex AA 4145	Polyacrylic acid types	<ul style="list-style-type: none"> ▪ all purpose ▪ high efficiency ▪ outstanding stabilization properties ▪ excellent cost performance ▪ no foam stabilization ▪ synergistic effects with polyphosphate



Comprehensive Formulation Additive Portfolio for Interior Paints

Dispex AA 4140

Universal

Dispex CX 4248

Outstanding
improvement of wet
scrub resistance

High PVC Interior Paints

Rheovis PE 1330

Coatings build up
and reduced
spattering

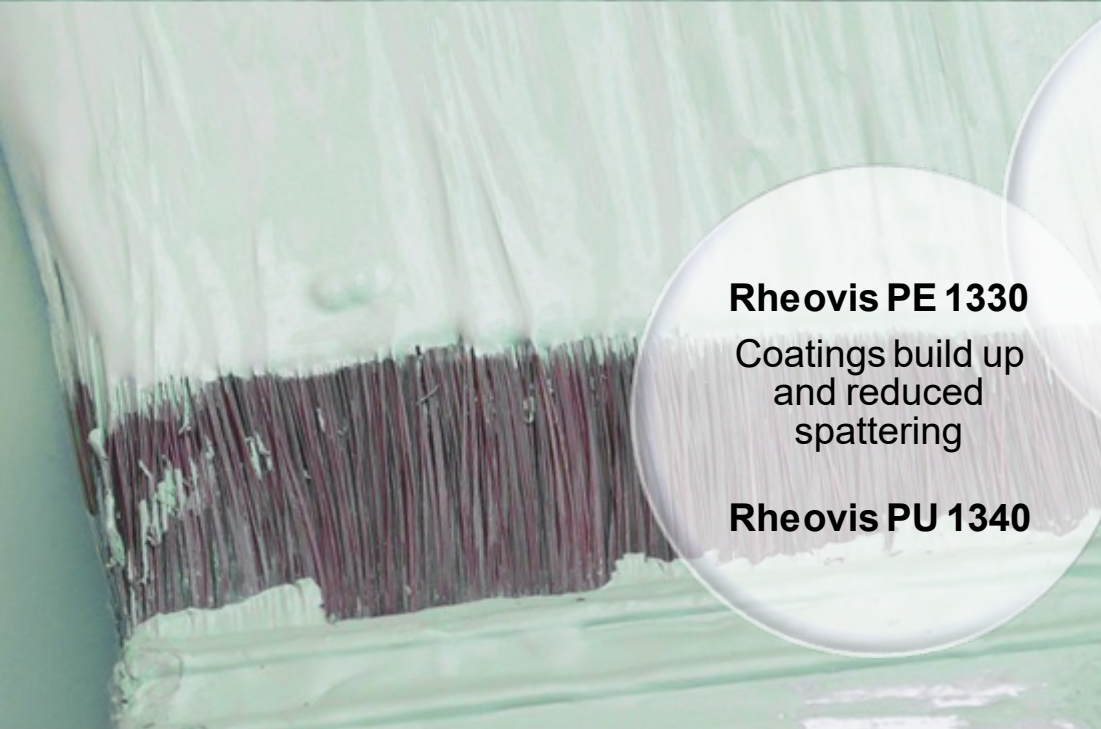
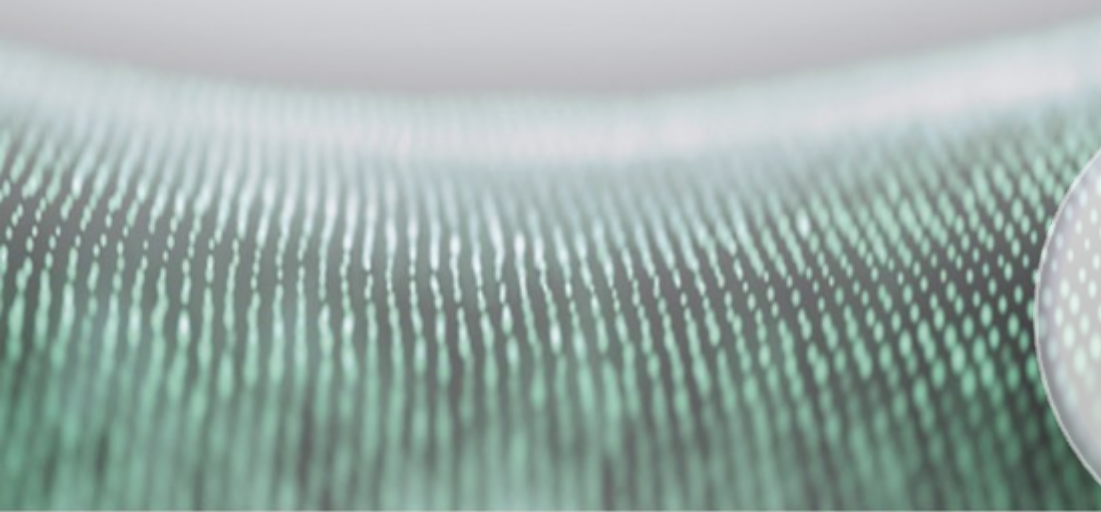
Rheovis PU 1340

FoamStar ED 2523

Ultra-low SVOC

FoamStar ED 2521

Price – performance
Low VOC



Focus Products – Defoamer for interior (matt) paints



Defoamer

Foamaster MO 2134

very efficient universal defoamer with excellent long-term stability

FoamStar ED 2523

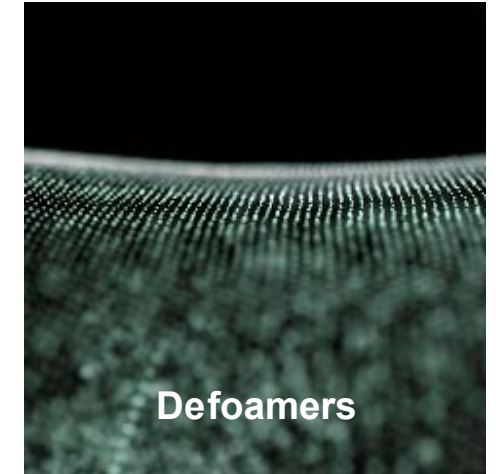
ultra-low SVOC emulsion defoamer, excellent long term stability

Foamaster MO 2150/ NDW/ NXZ

very efficient universal defoamer with excellent long-term stability

FoamStar ED 2521

excellent defoamer emulsion, good foam suppression

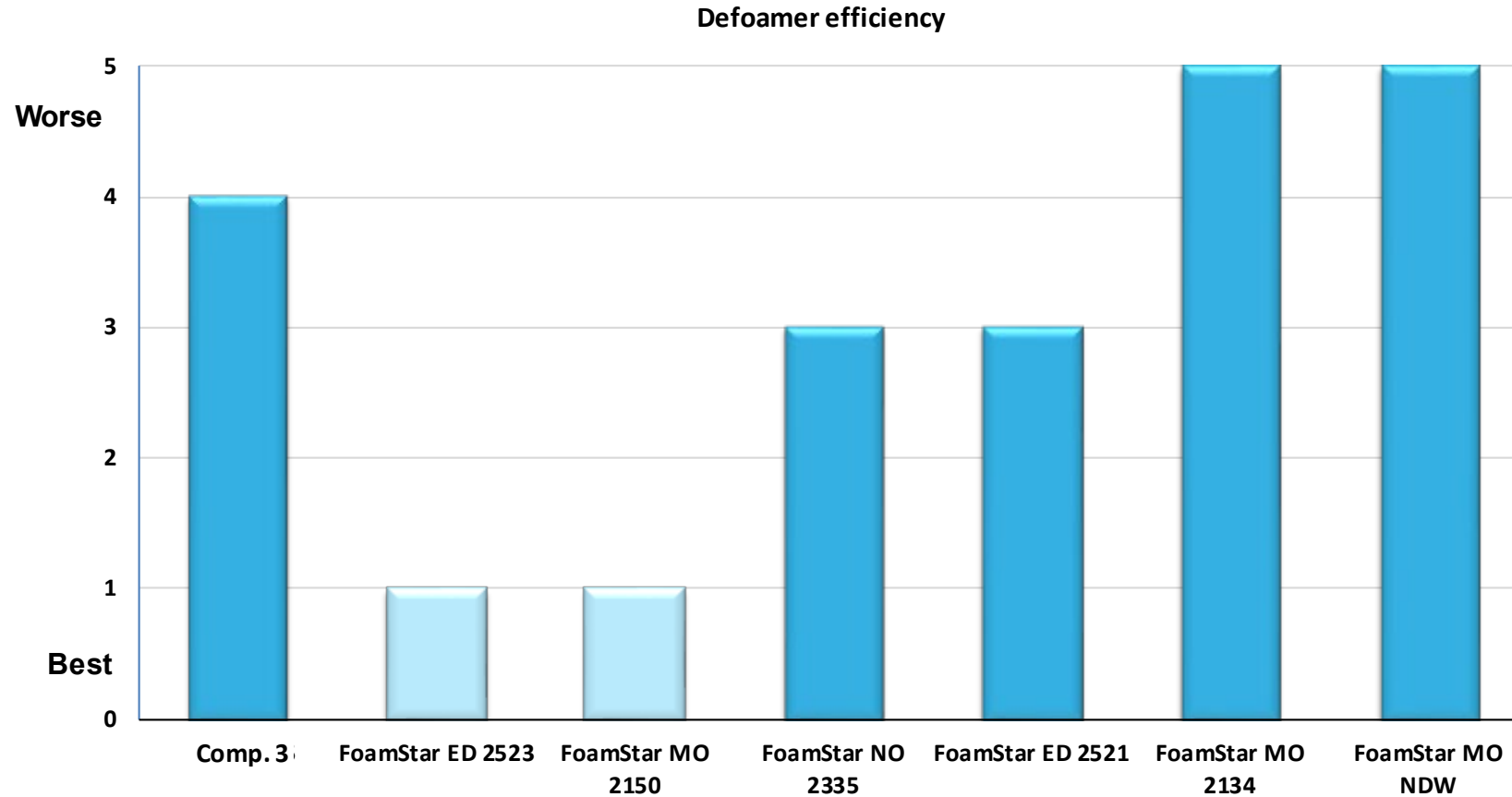


Defoamer for interior (matt) paints – test methods

- Density test (pycnometer)
- Sponge roller test on PE – foil
- Draw down on glass plate after stirring



Indoor Wall Paints (PVC 76 %) based on Acronal 6292 - Defoamer



Safe lab time – ask us for defoamer recommendation!

Comprehensive Formulation Additive Portfolio for Interior Paints

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improvement of wet
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High PVC Interior Paints

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Coatings build up
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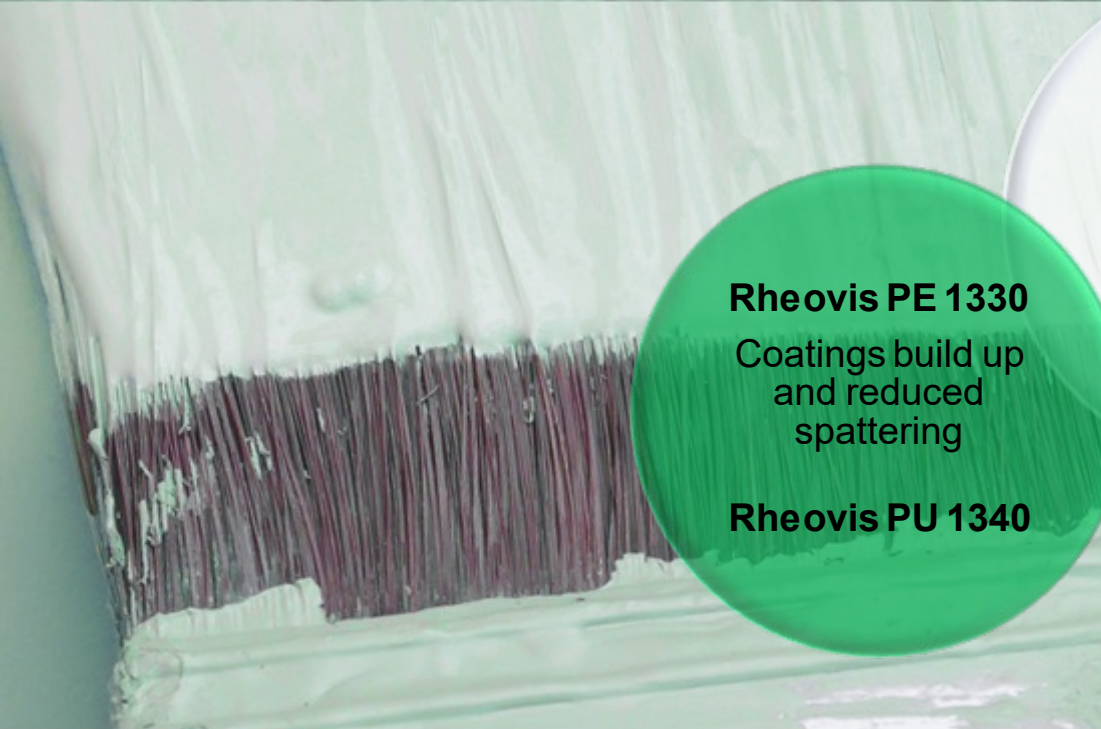
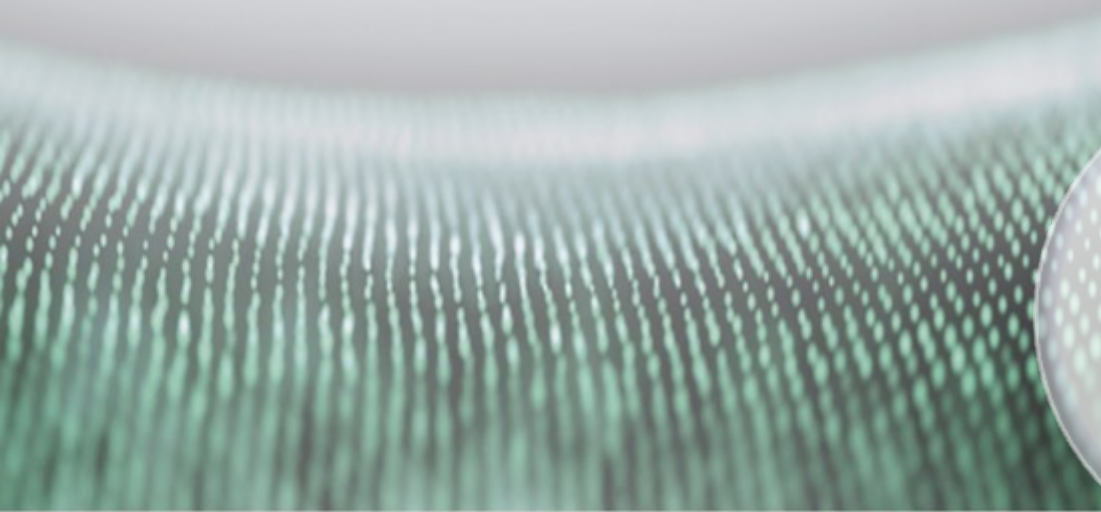
Rheovis PU 1340

FoamStar ED 2523

Ultra-low SVOC

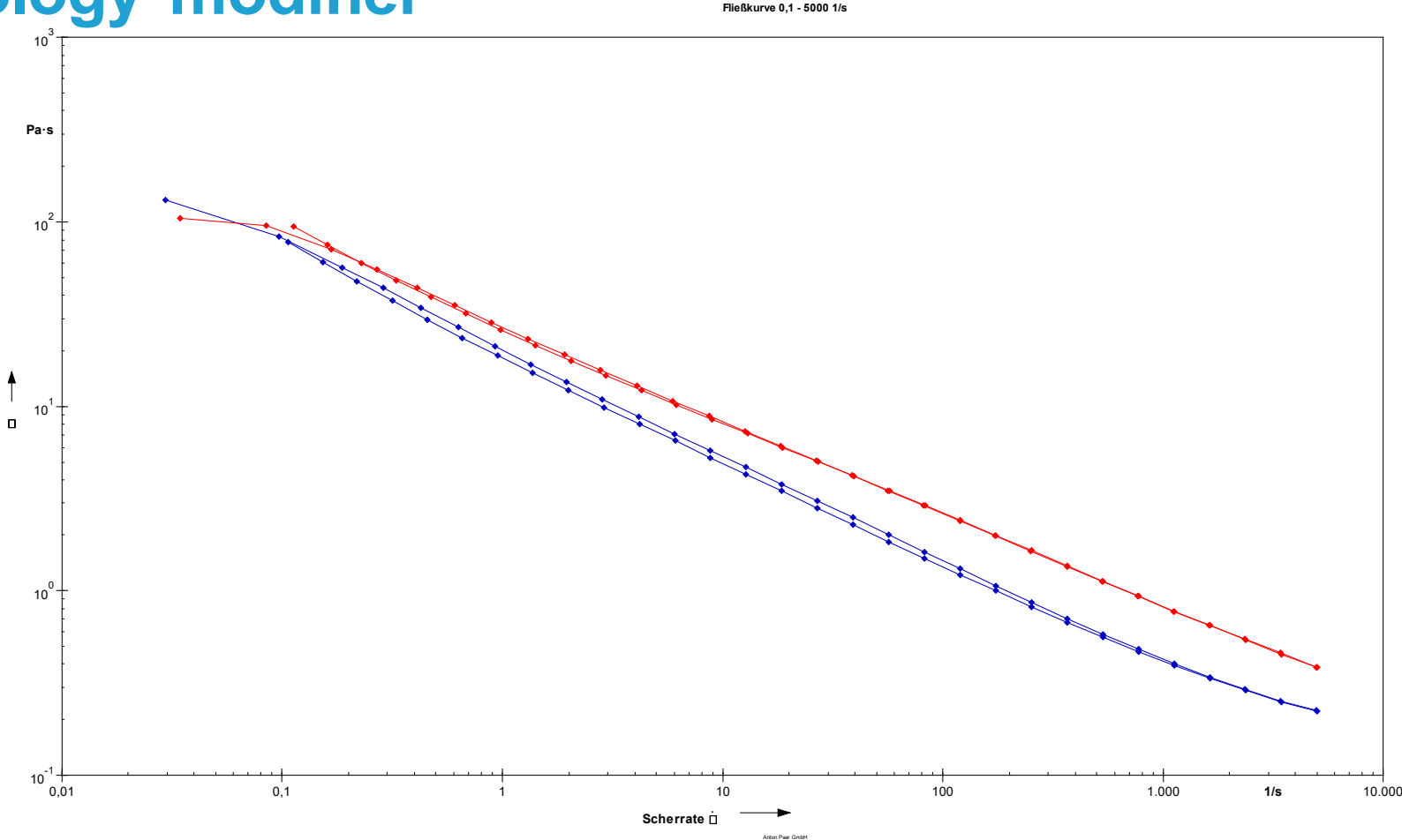
FoamStar ED 2521

Price – performance
Low VOC



High PVC Indoor Wall Paints

Rheology modifier



Interior paint PVC 78% - HEC
+1% Rh. PE 1330

Interior paint PVC 78% - HEC

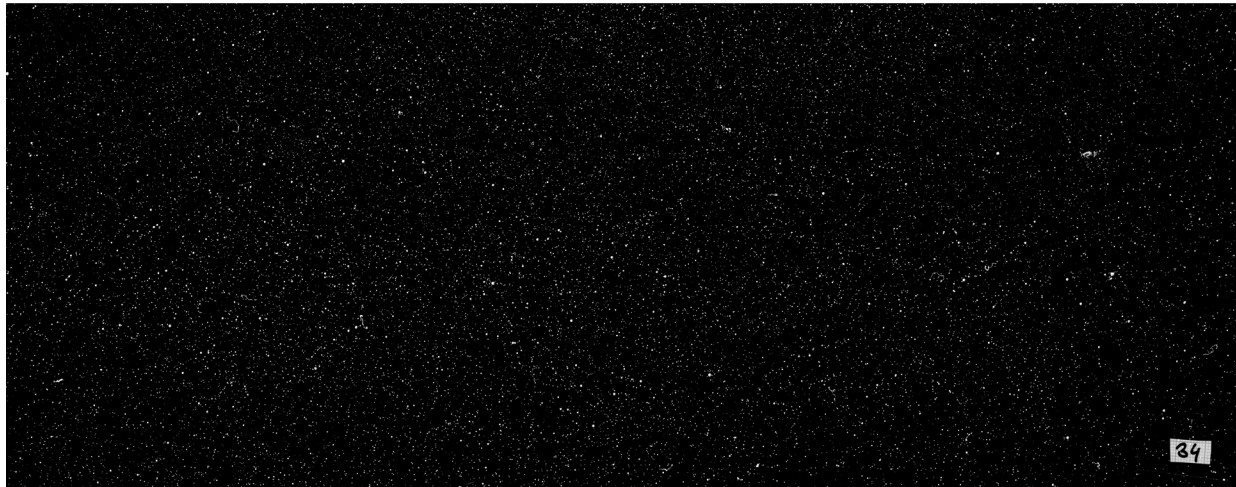


Reduce spattering and improve coatings build-up !

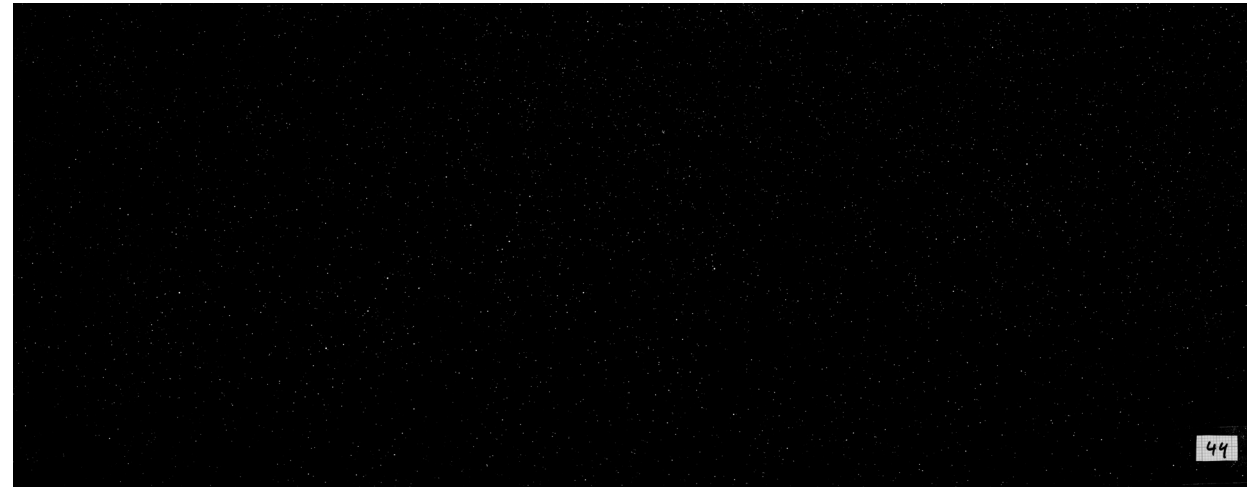
High PVC Indoor Wall Paints

Rheology modifier

Without high – shear thickener



With high – shear thickener



Reduce spattering and improve coatings build-up !

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Formulation additives: Complete Portfolio of MIT-free Additives for Interior Premium Paints

Defoamers	Dispersing agents		Rheology modifiers	Film-forming agents
	High molecular weight	Low molecular weight		
Foamaster® MO 2134 MO 2150 MO NDW MO NXZ FoamStar® ED 2521 ED 2523	Dispex® AA 4040 AA 4140 CX 4248 CX 4320 CX 4345 Dispex Hide® AA 4545 CX 4542	Dispex Ultra® FA 4480	Rheovis® HS 1152 HS 1162 HS 1169 HS 1212 PE 1330 PU 1191 PU 1291 PU 1340	Loxanol® CA 5308 CA 5336

Agenda

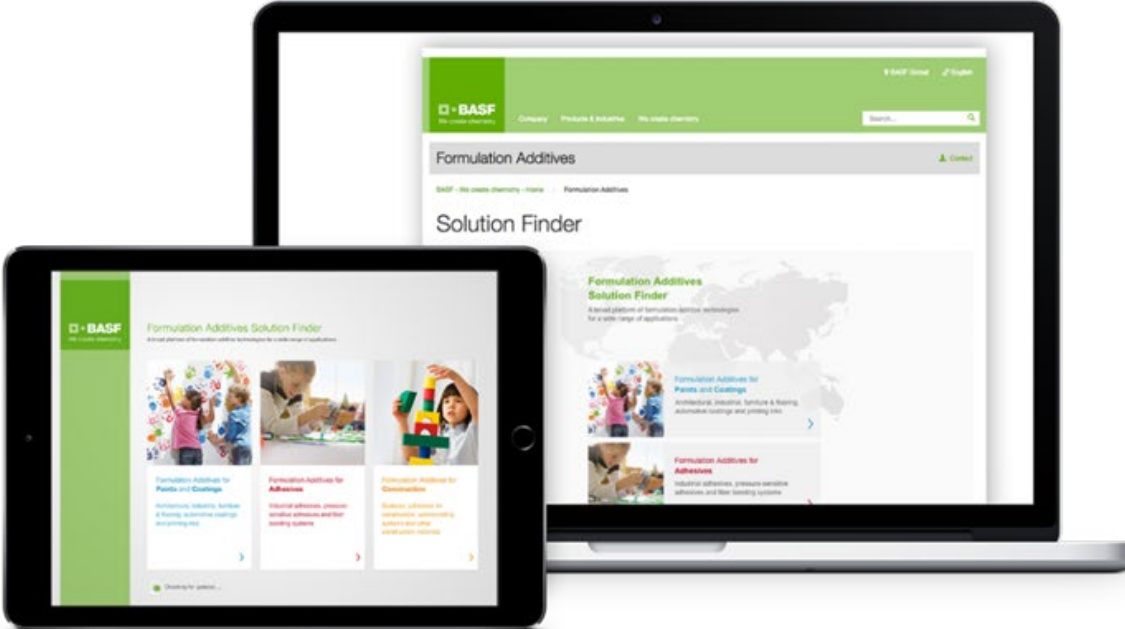
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Summary

- Dispex[®] CX – types reduce total cost of formulation
- Dispex[®] CX 4248 best in class to improve WSR
- FoamStar[®] ED 2521/ 2523 excellent choice for high PVC Interior paints
- Rheovis[®] PU 1340 & PE 1330 excellent high-shear thickener
- Sustainable additive portfolio



Formulation and Performance Additives Online Tools



Contacts



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We create chemistry

There is more to come...

Next series of Webinars starting June 3rd / 4th

Formulation Additives for improved adhesion: **June 3 & 4**

Alternatives to Tinuvin 328: **June 9 & 10**

Formulation Additives for interior paints: **June 17 & 18**

Formulation Additives for composites: **June 24 & 25**

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