

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.

Your **hosts** for this call

Foamaster® NO 2331
Foamaster® WO 2310

New defoamer solutions
with
global food contact
compliance.



Peter Bene
Presenter



Andrea Schamp/
Kerstin Schurig
Chat



We create chemistry

Foamaster® NO 2331 Foamaster® WO 2310

New defoamer solutions with
global food contact compliance

Ludwigshafen, 07. Mai 2020



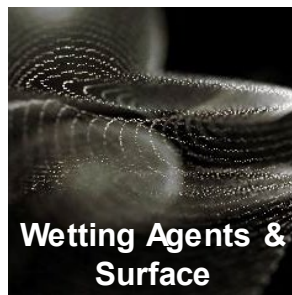
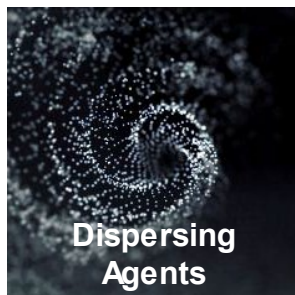
Peter Bene

**Technical Sales
Formulation Additives
EMEA region**

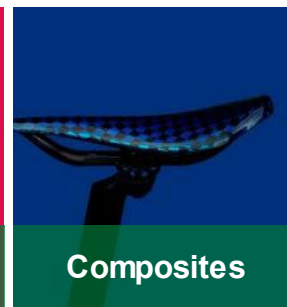
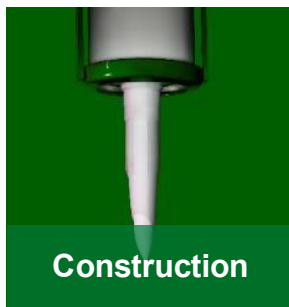
Agenda

1. Introduction
2. Foamaster[®] WO 2310 – performance highlights
3. Foamaster[®] NO 2331 – performance highlights
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



Strong brands to empower your business

Water-based brands	Application	Solvent-based* brands
Dispex [®] / Dispex [®] Ultra	DISPERSING AGENTS	Efka [®]
Foamaster [®] / FoamStar [®]	DEFOAMERS	Efka [®]
Rheovis [®] (organic) / Attagel [®] (clays)	RHEOLOGY MODIFIERS	Efka [®]
Hydropalat [®]	WETTING AGENTS	Efka [®]
Loxanol [®]	FILM-FORMING AGENTS	Efka [®]
Tinuvin [®] / Lignostab [®]	LIGHT STABILIZIERS	Tinuvin [®] / Chimassorb [®]
Irganox [®]	ANTIOXIDANTS	Irganox [®] / Irgafos [®] / Irgastab [®]

*Efka[®] includes also High Solids and 100% Solid Systems

A typical challenge...

for applications like adhesives, emulsion polymerization, functional coatings and other relevant applications often broad food contact compliances are required in combination with global registration.



...a simple solution

Foamaster[®] WO 2310 and Foamaster[®] NO 2331 are suited for adhesives, emulsion polymerization and functional coatings offering extremely broad food contact compliance combined with global country registrations.

Foamaster® WO 2310

Defoamer based on pharmaceutical white oil with extremely broad food contact compliance



Application:

Foamaster® WO 2310 is a defoamer based on white mineral oil, which is VOC-free and low SVOC. It provides excellent performance combined with improved long term persistency. The defoamer is suitable for all types of aqueous premium paints, adhesives and functional coatings as well as emulsion polymerization processes, where broad food contact compliance is required.

Sustainability highlights:

- VOC-free acc. to EU 2004/42 & US-EPA Method 24
- Low SVOC content
- Based on pharmaceutical white oil
- Designed to be used in paints with pro-environmental labeling (GS-11, Blue Angel, Ecolabel, German TÜV)

Performance highlights:

- Quick foam suppression
- Highly compatible
- Excellent long-term stability
- Limited influence on gloss
- Broad applicability
- In accordance with RAL UZ 113
- Excellent product stability

Characteristic Values:

Appearance	Whitish to yellowish opaque liquid
Density at 20°C	~ 0.88 g/cm ³
Viscosity	~ 1,250 mPa·s

Foamaster® NO 2331

Environmentally sound, natural oil-based alternative to mineral oil defoamers with extremely broad food contact compliance



Application:

Foamaster® NO 2331 is a natural-oil based, VOC-free and low SVOC defoamer, which provides excellent performance and minimizes haze and fogging often seen with mineral oil defoamers. It is suitable for all types of aqueous premium paints (high PVC, premium flat & eggshell, semi-gloss), adhesives and emulsion polymerization processes where broad food contact compliance is required.

Sustainability highlights:

- VOC-free acc. to EU 2004/42 & US-EPA Method 24
- Low SVOC content
- Based on renewable oils
- Designed to be used in paints with pro-environmental labeling (GS-11, Blue Angel, Ecolabel, German TÜV)

Performance highlights:

- Quick foam suppression
- Highly compatible
- Excellent long-term stability
- Low influence on gloss
- Broad applicability
- Low fogging
- Excellent product stability

Characteristic Values:

Appearance	Yellowish hazy liquid
Density at 20°C	~ 0.93 g/cm ³
Viscosity	~ 1,250 mPa·s

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Foamaster® WO 2310 and NO 2331

Test methods

Test	Method
Defoaming density	Measurement of density via density cup after stirring the paint 3 min at 5000 rpm
Defoaming sponge roller test	Visual check of foam stability after drying of the film applied with a sponge roller (10-20g)
Long term stability	Sponge roller test after heat ageing of the paint for 2 weeks at 40°C
VOC content	EU 2004/42: b.p. > 250°C EPA 24: 60 min 110°C convection oven
SVOC content	GC/MS analysis after solvent extraction (Hexane/Acetone); evaluation of all substances in the retention area of C 16 to C 22

Foamaster® WO 2310 and NO 2331

Defoamer test methods

- Stirring test is a quick and effective method to evaluate liquid formulations.
- Complete formulation is stirred with a dissolver (e.g. 3min at 5000 rpm).
- Density of the resulting foamy mixture is being measured. The higher the density the less foam is in the formulation.

Important: Repeat test after storage (e.g. 2 weeks at 50°C) !



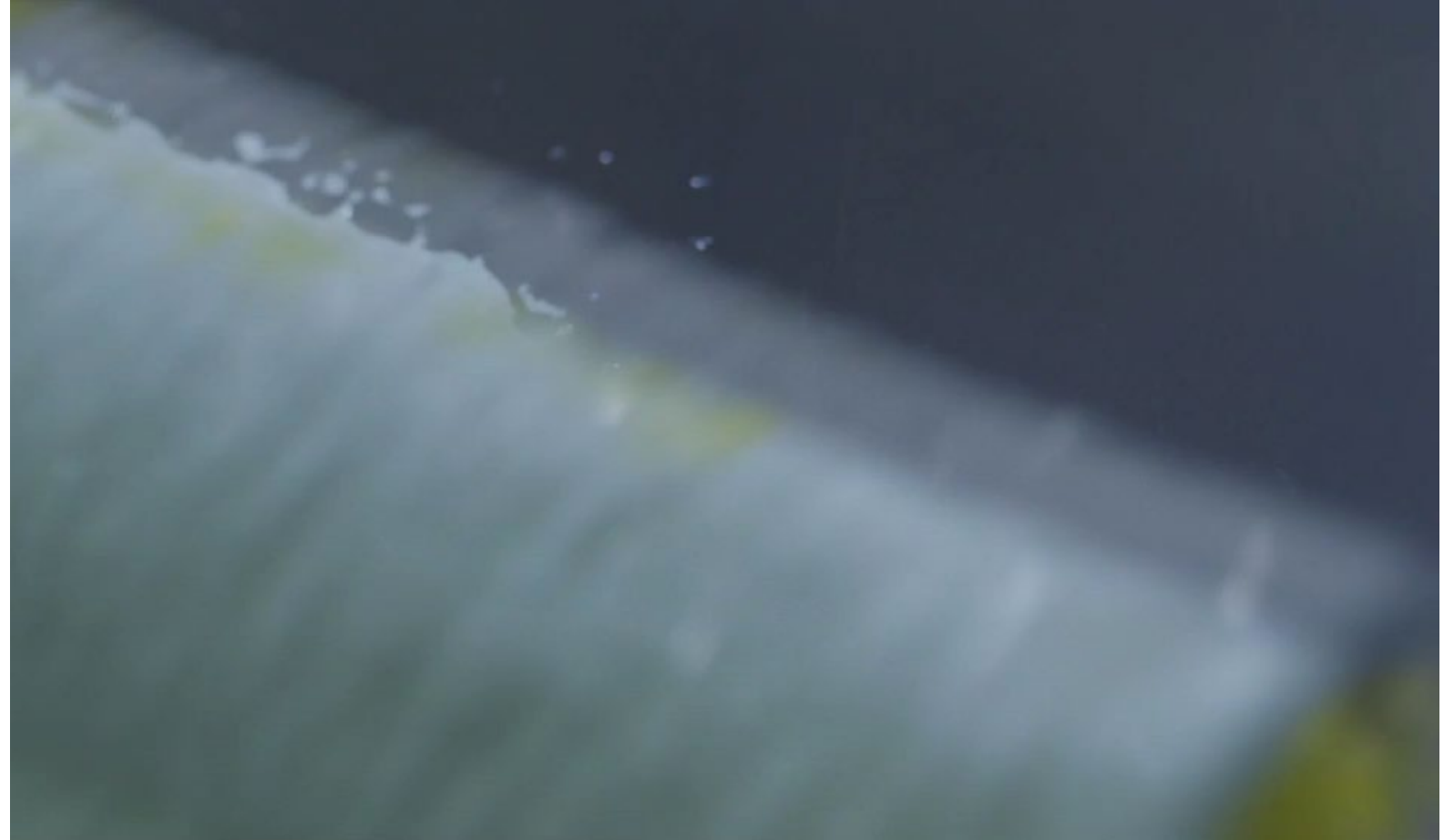
Source: BASF Formulation Additives Defoamer Video

Foamaster® WO 2310 and NO 2331

Defoamer test methods

- Application tests try to simulate the (paint) application:
e.g. sponge roller test, spray application or simple draw down
- Check for remaining foam bubbles, craters, fisheyes, orange peel, turbidity and gloss

Important: defoamers tend to lose activity in the final formulation after storage. Repeat test after storage (eg. 2 weeks at 40°C) !

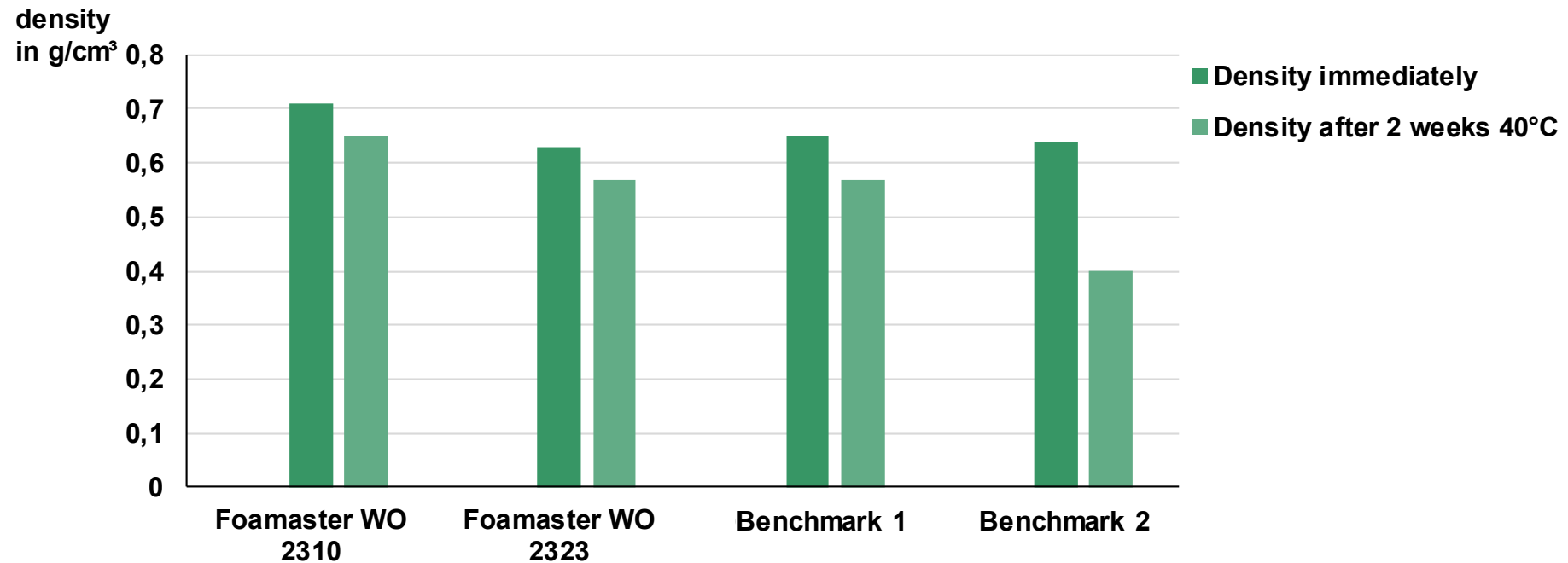


Source: BASF Formulation Additives Defoamer Video

Foamaster® WO 2310 – Architectural paints

Performance tests in Acronal® S 790

Defoamer efficiency of various defoamers
vs. Foamaster® WO 2310 in Acronal® S 790

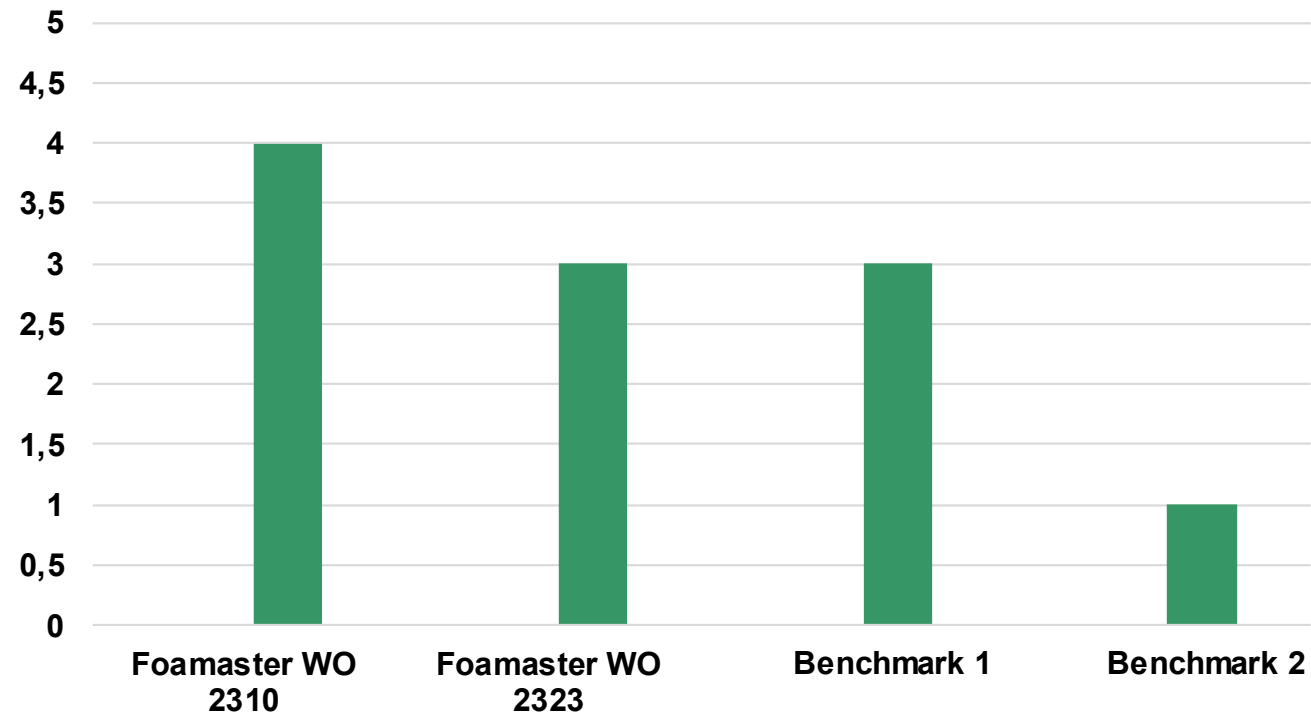


Foamaster® WO 2310 – Architectural paints

Performance tests in Acronal® S 790

Rating:
5 no foam
1 lots of foam

Sponge roller test in Acronal® S 790



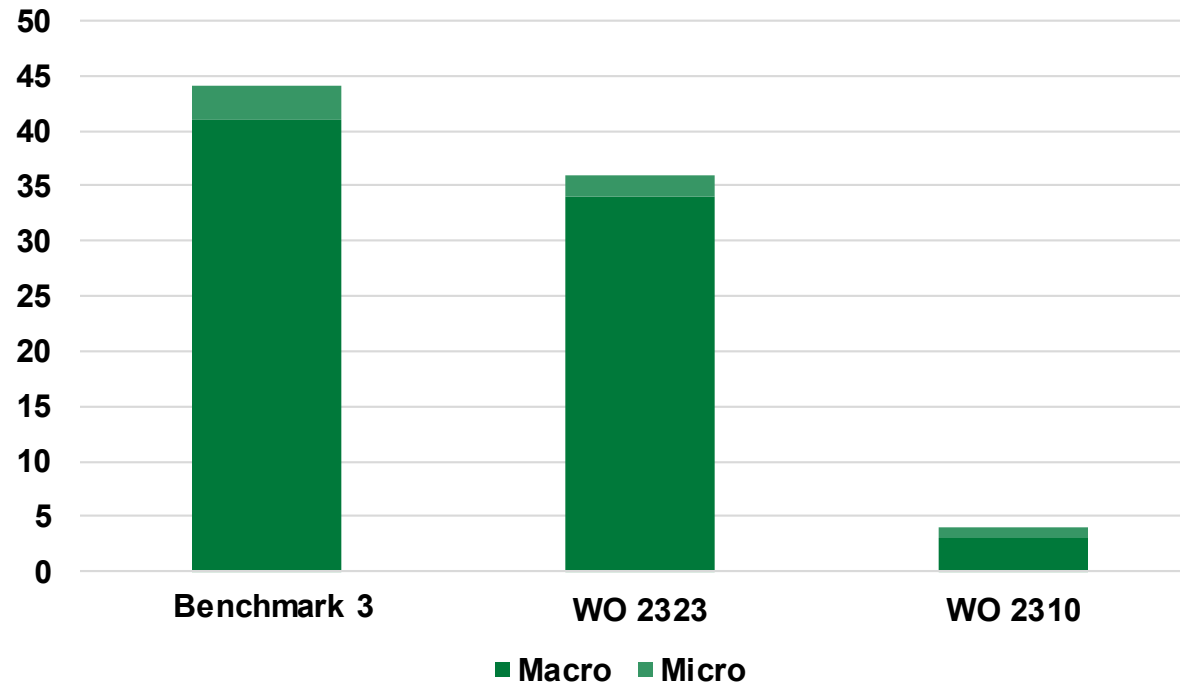
Foamaster® WO 2310 – Adhesives

Comparison in an acrylic copolymer (vinyl acetate- modified)

10 min after shaking

Air Entrainment [%]

Defoamer addition 0,15%

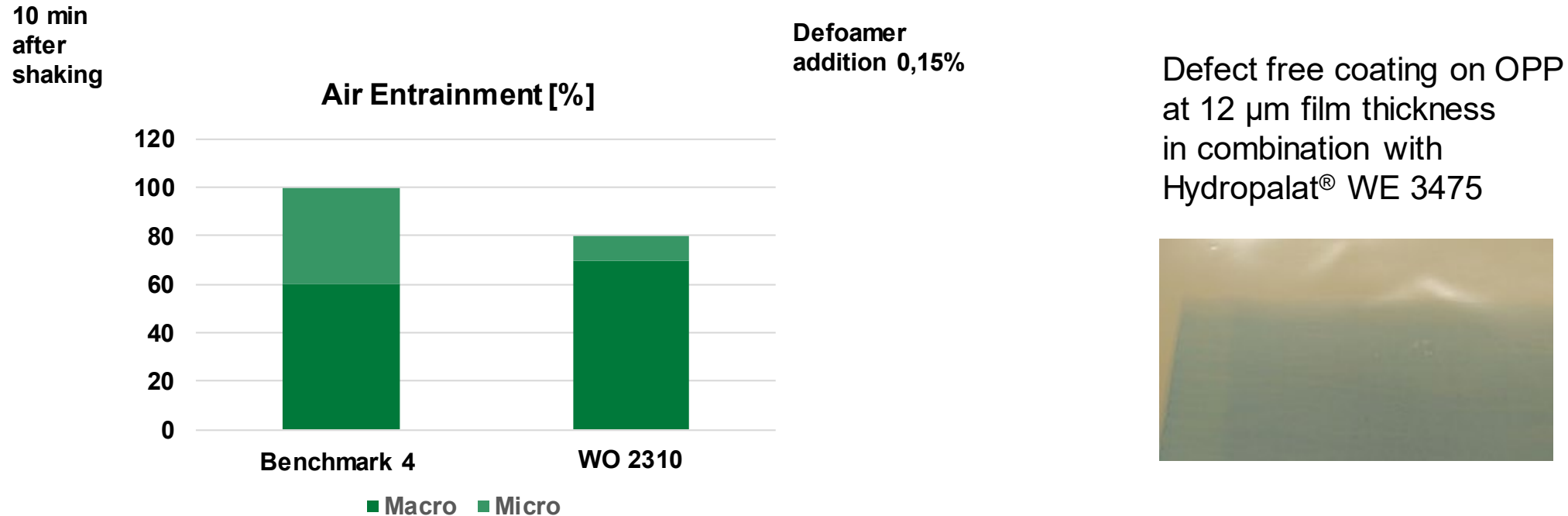


Foamaster® WO 2310 performs better than WO 2323 and a competitive siloxane based emulsion defoamer for micro and macro defoaming

Foamaster® WO 2310 – Adhesives

Comparison in an acrylic copolymer- acrylic/methacrylic/styrene

Defoaming results in the presence of a sulfosuccinate wetting agent



Even in the presence of a strongly foaming wetting agent, Foamaster® WO 2310 performs very well

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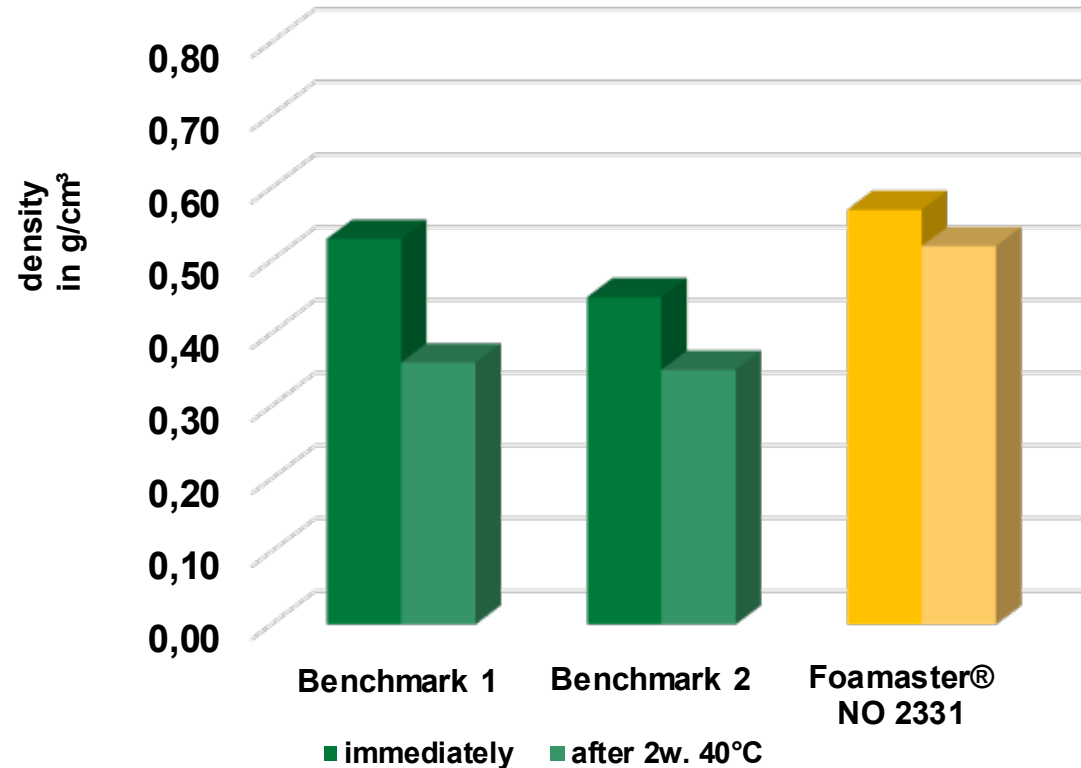
Foamaster® NO 2331 – Architectural paints

Performance tests in Mowilith® LDM 1871

Improved
defoaming
performance



defoamer test in Mowilith® LDM 1871



Foamaster® NO 2331 offers excellent defoaming and long term persistency vs market standards in a copolymer dispersion based on vinyl acetate and ethylene.

Foamaster® NO 2331 – Architectural paints

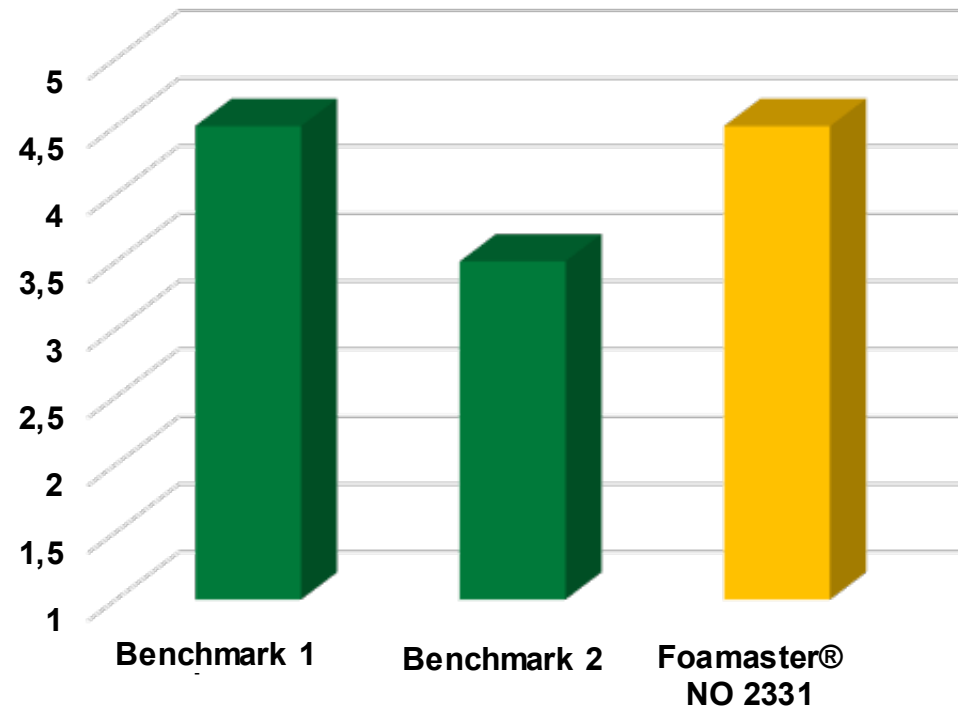
Performance tests in Mowilith® LDM 1871

excellent appearance



very bad appearance

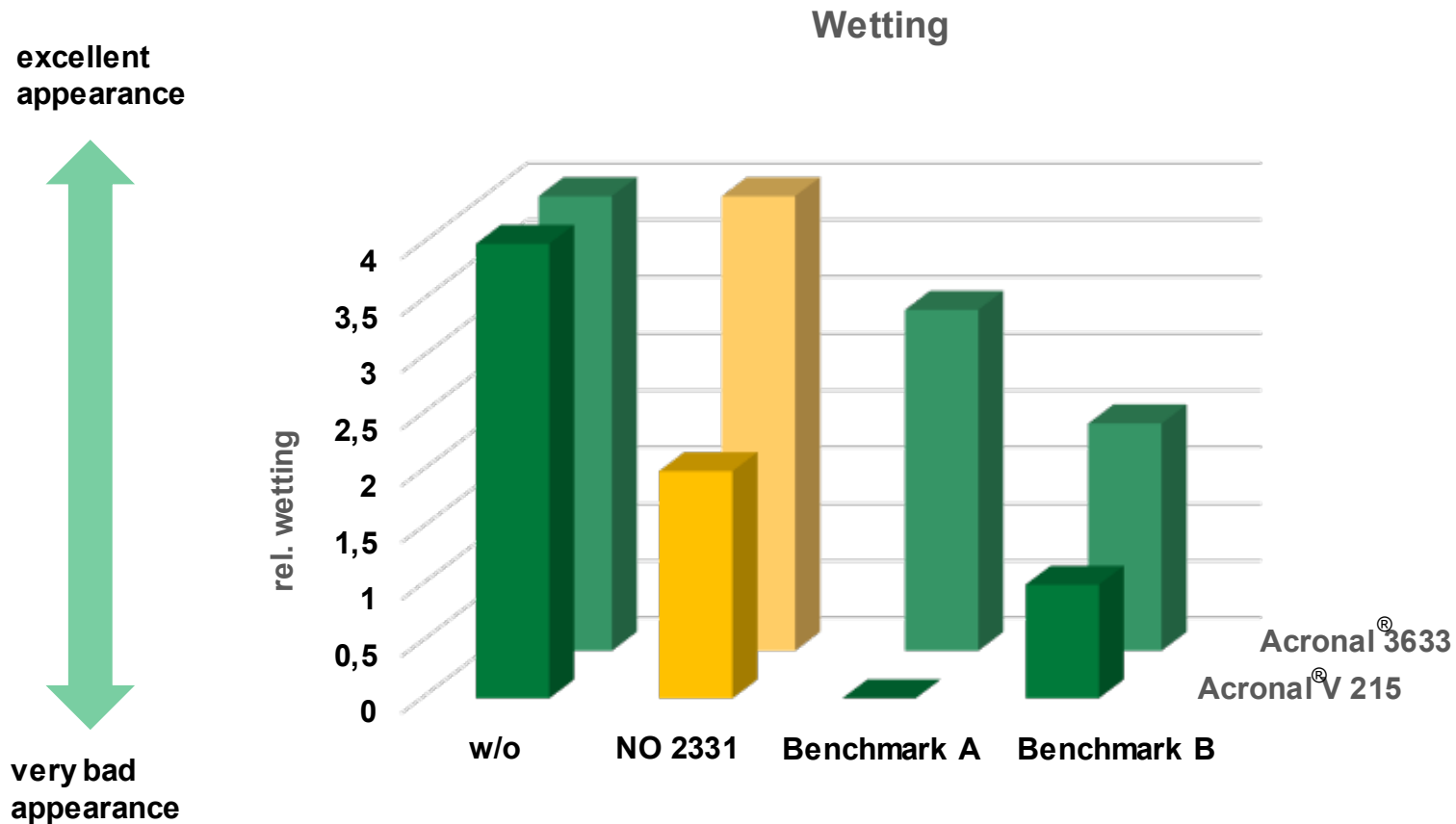
sponge roller test in Mowilith® LDM 1871



Foamaster® NO 2331 offers excellent appearance to the paint film based on Mowilith® LDM 1871

Foamaster[®] NO 2331 – Adhesives

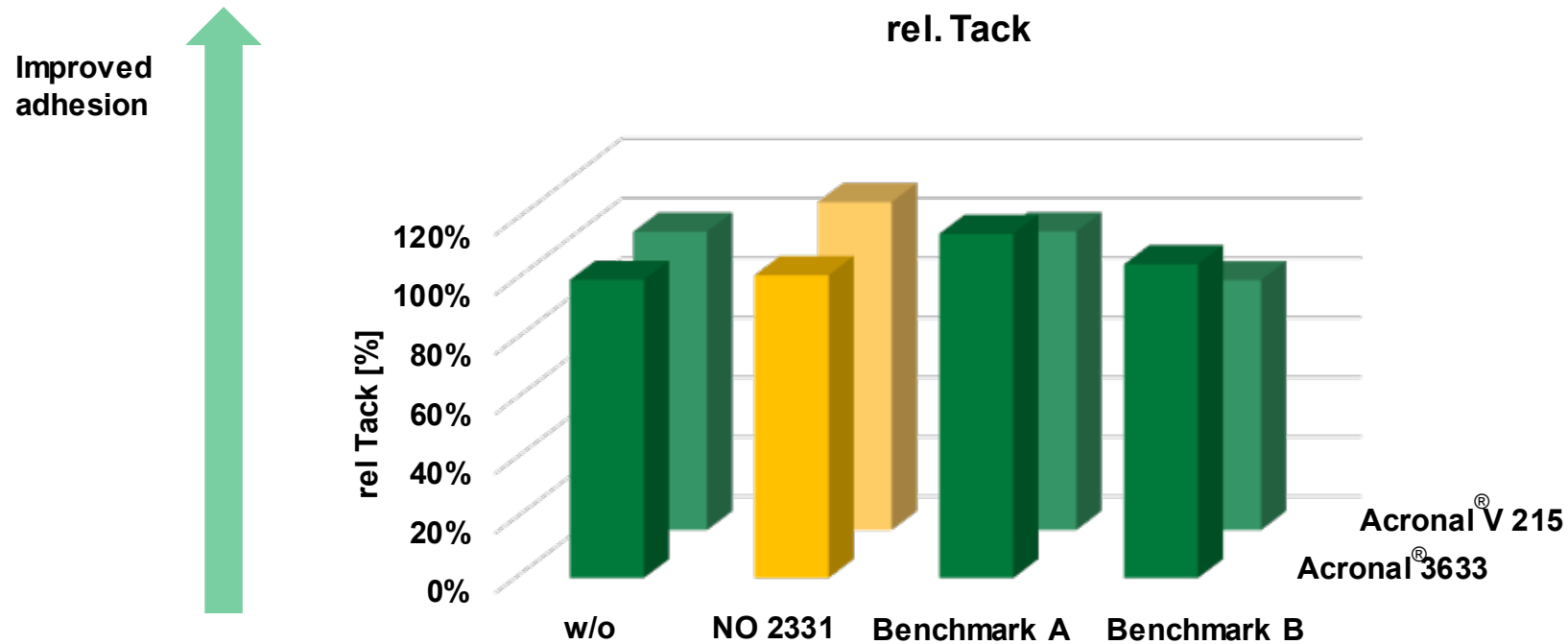
Performance tests in Acronal[®] PSA for tapes and labels



Foamaster[®] NO 2331 offers excellent to better appearance vs. competitive products in adhesive films for pressure sensitive adhesives

Foamaster[®] NO 2331 – Adhesives

Performance tests in Acronal[®] PSA for tapes and labels



Foamaster[®] NO 2331 offers constant adhesion values for acrylic co-polymer dispersion for pressure sensitive adhesives

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Summary

Foamaster[®] WO 2310 and Foamaster[®] NO 2331

- Broadest food contact compliance
- High efficiency combined with excellent long term persistency
- Very low VOC and SVOC values
- Broad compatibility with a wide range of resins/dispersions
- Well suited for adhesives, emulsion polymerization but also for inks and coatings applications where broad food contact compliance is essential
- Foamaster[®] WO 2310 conforms with Norm RAL UZ 113
- Foamaster[®] NO 2331 shows a high renewable content



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We create chemistry

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