

VP Disp. WF 7620

A new functionalized
AEROSIL[®] dispersion for
optimized water-based coatings
(especially for spray application)



BL Coating Additives

RE-CAD

AEROSIL[®] 

Water-based



Automotive



Plastic



Wood



VP Disp. WF 7620

Products for optimized water-based coatings

Facts & Figures

- Ongoing shift from solvent-based to eco-friendly coatings systems
- Water-based industrial coating systems need rheology control agents
- Standard AEROSIL® fumed oxides - hydrophilic or hydrophobic - is often not compatible and/or not effective enough in water-based coatings (e.g. rheology, anti-settling)
- Applications: automotive, plastic and wood coatings

Solution

Functionalized AEROSIL® dispersion for water-based coatings was developed



VP Disp. WF 7620

Description

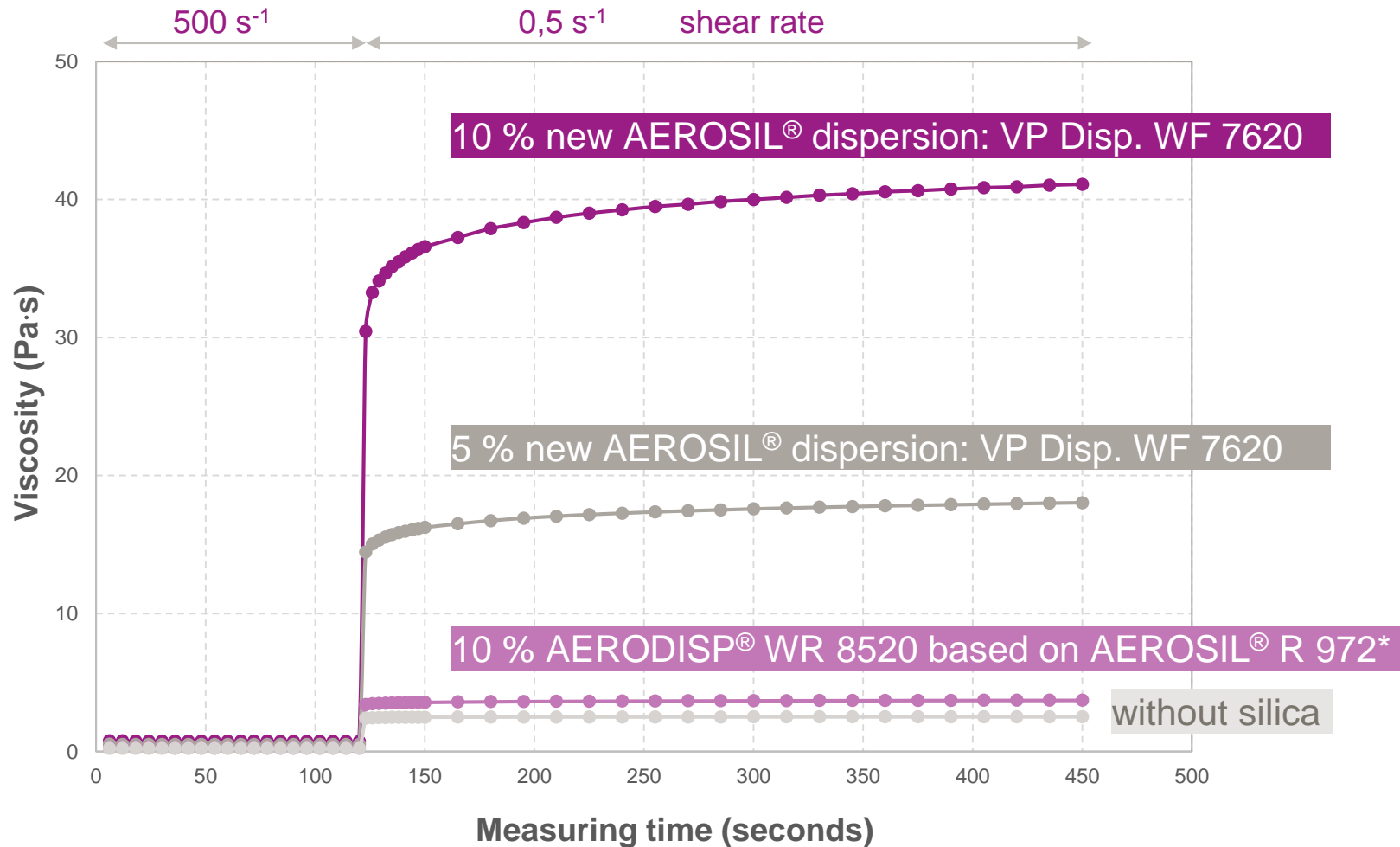
VP Disp. WF 7620 is a

- New aqueous dispersion of a **functionalized** fumed silica with 20 % AEROSIL®
- Manufactured via a **new/unique** and **patent protected** production technique - no classic hydrophilic or hydrophobic functionalization
- The dispersion contains DMEA and further additives from Evonik
- Special shear forces were applied during production



Superior viscosity jump curves

e.g. water-based acrylic resin w/o AEROSIL[®] dispersion



* AEROSIL[®] R 972 technology is the current market standard for water-based formulations

VP Disp. WF 7620

Key benefits

- **Water-based** dispersion
- Much **more compatible** than AEROSDISP® WR 8520
- **Easy to incorporate**
- **Suitable** for **pigmented** and **clear** water-based formulations
- **Excellent rheology effect:**
 - Rheology control (**Anti-sagging**)
 - **Anti-settling**
 - Pigment stabilization
- **Improvement** of mechanical **film properties**



VP Disp. WF 7620

Typical applications

■ Industries

- General industrial coatings
- Transportation coatings
- Car OEM and repair coatings
- Plastic coatings
- Wood coatings



■ Recommended addition level

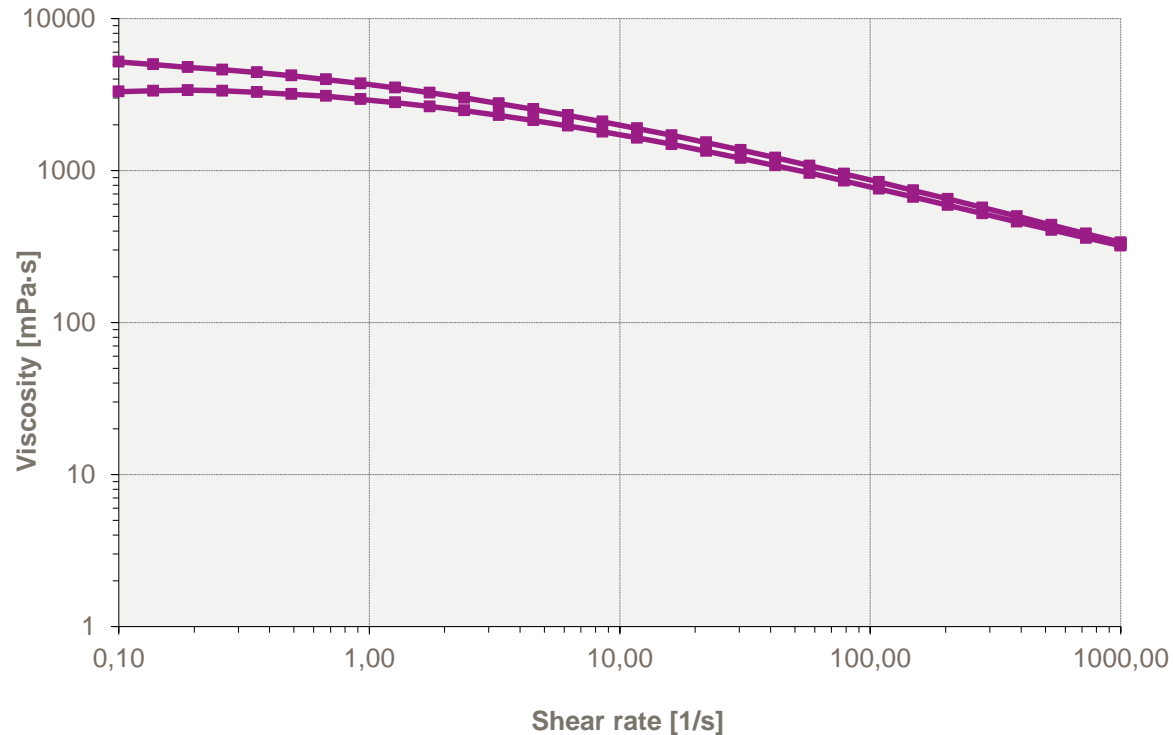
As supplied **5-10** % dispersion (respect. **1-2** % AEROSIL®) in dependance of the total formulation

■ Processing instructions

- Addition at the let-down stage while slight stirring is recommended
- With the water content of VP Disp. WF 7620 of about 60 % the water content of the coating formulation should be recalculated

VP Disp. WF 7620 - Technical Data

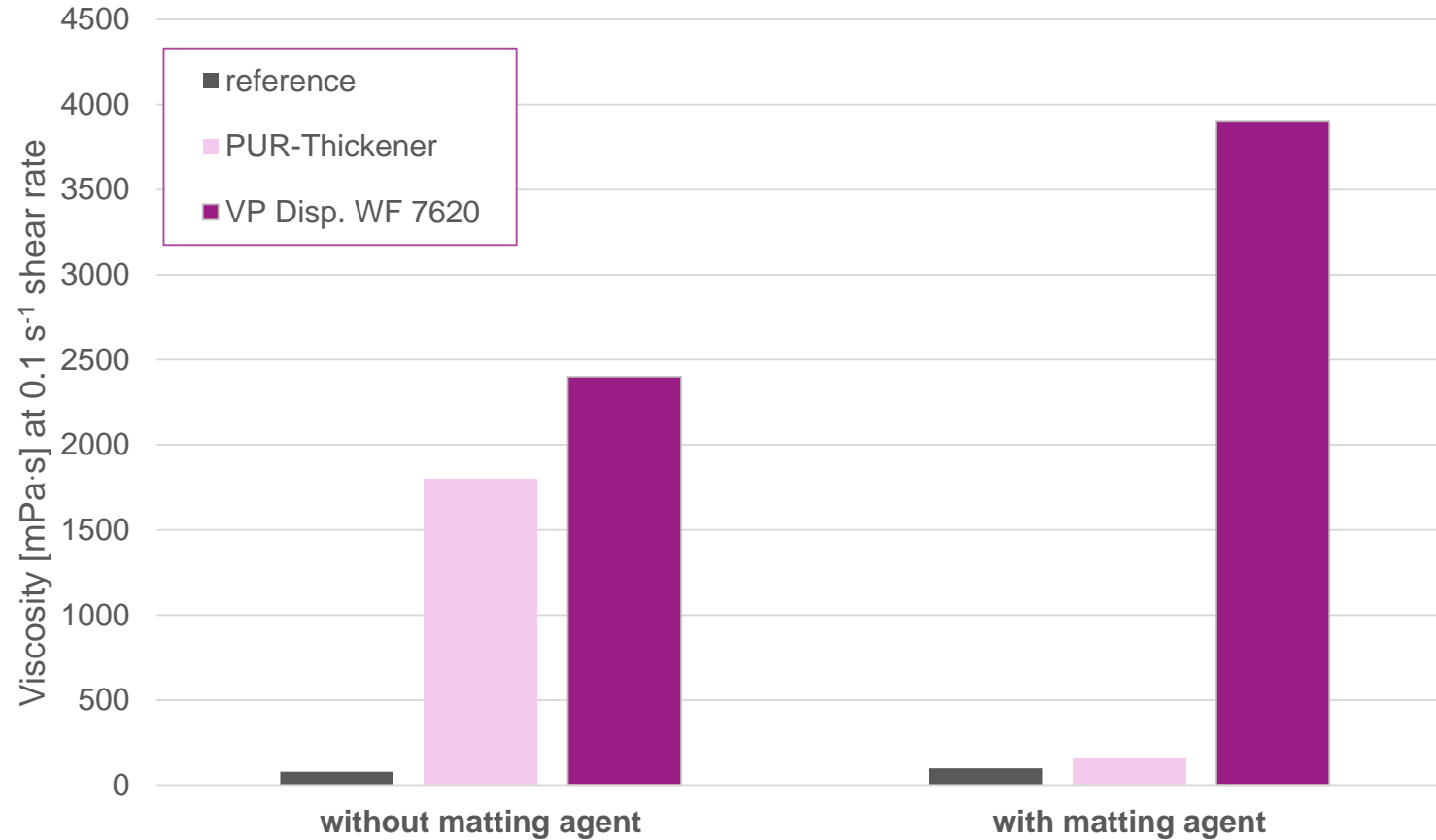
Easy to handle properties



Technical data	
Viscosity at 100 s ⁻¹	< 2000 mPa s
pH value	10 – 11
SiO ₂ content	approx. 20 %
Stabilizing agent	DMEA
VOC content ASTM D6886-14e1	< 1.6 % by weight

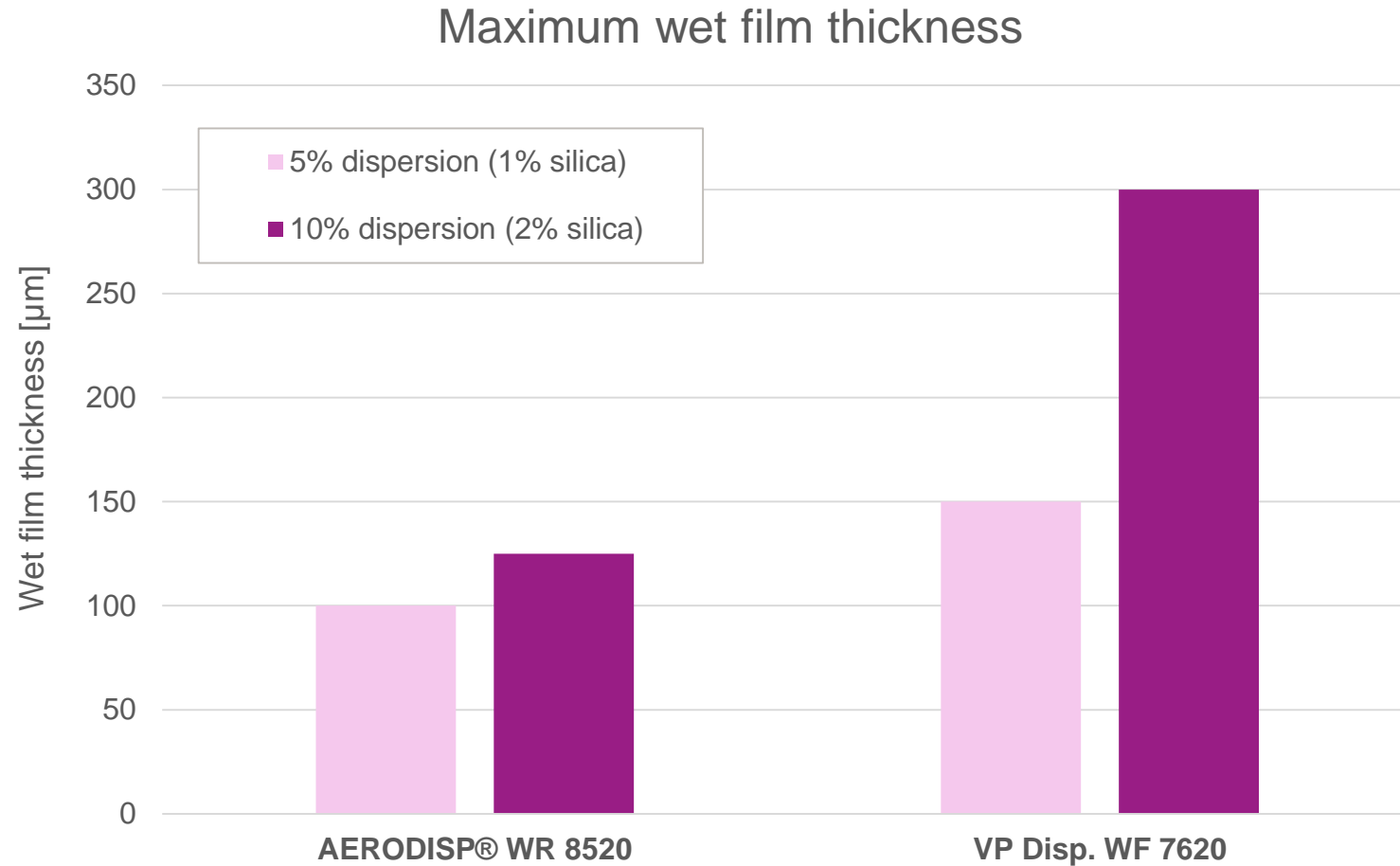
Superior rheological efficiency

e.g. in water-based matt wood formulation with Neo-Cryl[®] XK-15



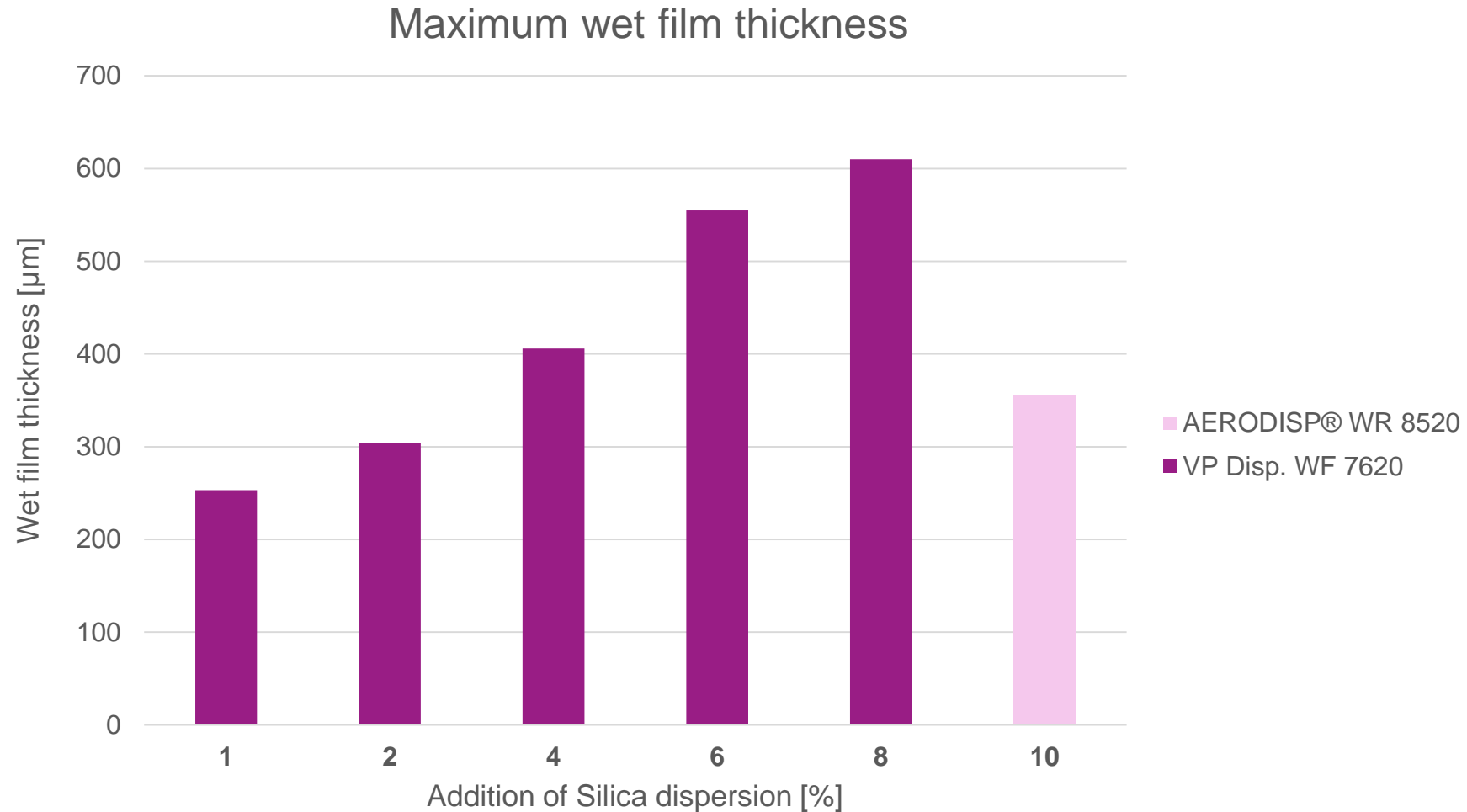
Higher wet film thickness

e.g. in water-based matt wood formulation with Ecrothan[®] 2012



Higher wet film thickness

e.g. in water-based glossy clear coat with Neo-Cryl[®] A-6085



Rheological test results for VP Disp. WF 7620 in 5 water-based coatings for spray application

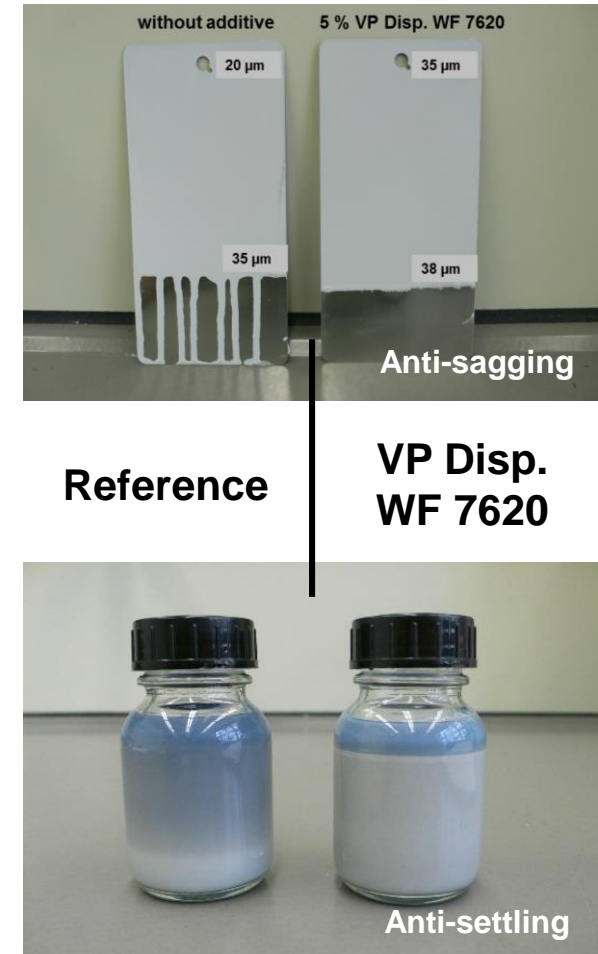
1C white pigmented Top Coat, glossy (Bayhydrol® A 2227/1 / Cymel® 327)	PES-PAC / Melamine
2C Clear Coat, glossy (Bayhydrol® A 145, hardener: Bayhydur® 304)	OH-PAC / Isocyanate
1C Clear Wood coating, matt (Neo-Cryl® XK-15)	Pure acrylic
1C Clear Wood coating, glossy (Ecrothan® 2012)	PUR acrylic
1C Clear Wood coating, matt (Ecrothan® 2012)	PUR acrylic



VP Disp. WF 7620 for optimized water-based coatings

Summary

- 20 % dispersion **based on AEROSIL®**
- **Water-based**, functionalized with additives
- **Tailor-made** and **easy to handle** dispersion
- **Stable** and **compatible** in different lacquer systems
- **Effective rheology** and/or **anti-settling agent**
- **Low impact on gloss** in clear coat systems
- **Samples available**





EVONIK

POWER TO CREATE