

# NEUBURG SILICEOUS EARTH IN SILICATE EMULSION PAINTS

## OBJECTIVE

Optimizing rheological stability and shelf life of paint with **Sillitin V 88** and **Sillitin Z 89**

## FORMULATION

Water deionized		27.6
Betolin V 30	Thickener	0.2
Sapetin D 20	Dispersant	0.2
Betolin Quart 44	Stabilizer for silicate solution	0.3
Byk 032	Defoamer	0.2
Silres BS 1306	Water repellent	1.0
Betolin A 11	Viscosity stabilizer	0.5
Crenox R-KB-5	Titanium dioxide	10.0
Fillers varied	Silicates (Base), Carbonates, <b>Neuburg Siliceous Earth</b> and combinations	33.0
Mowilith DM 765	Styrene / acrylic acid ester dispersion (50 % w/w)	8.0
Betolin P 35	Potassium silicate solution (29 % w/w)	18.0
<b>Total</b>		<b>99.0</b>

Basis: Guide formulation from Wöllner

## SUMMARY

Neuburg Siliceous Earth benefits compared to the use of silicate and especially carbonate fillers:

- Sediment-free storage with enhanced rheological stability
- Best stabilisation and thickening protection for prolonged shelf life with NSE used alone
- Prerequisite for consistently good processing properties
- High color neutrality, brightness and opacity

**Sillitin V 88** Low viscosity and yield point level even at high dosage. Easier and constant processability at high shear conditions (application). A coarser grade with strong matting effect.

**Sillitin Z 89** Viscosity / yield point adjustable via dosage level. Chiefly stabilizing in viscosity at low shear conditions. Sedimentation protection (storage) and better sag resistance / edge covering during application. Finer grade for improved hiding power or partial TiO<sub>2</sub> replacement.

For very color-critical applications, the calcined **Silfit Z 91** is recommended.

Use of all products preferably with silicate fillers or pure. The Neuburg Siliceous Earth grades can also be combined with one another so that many properties can be specifically adapted to the requirements.

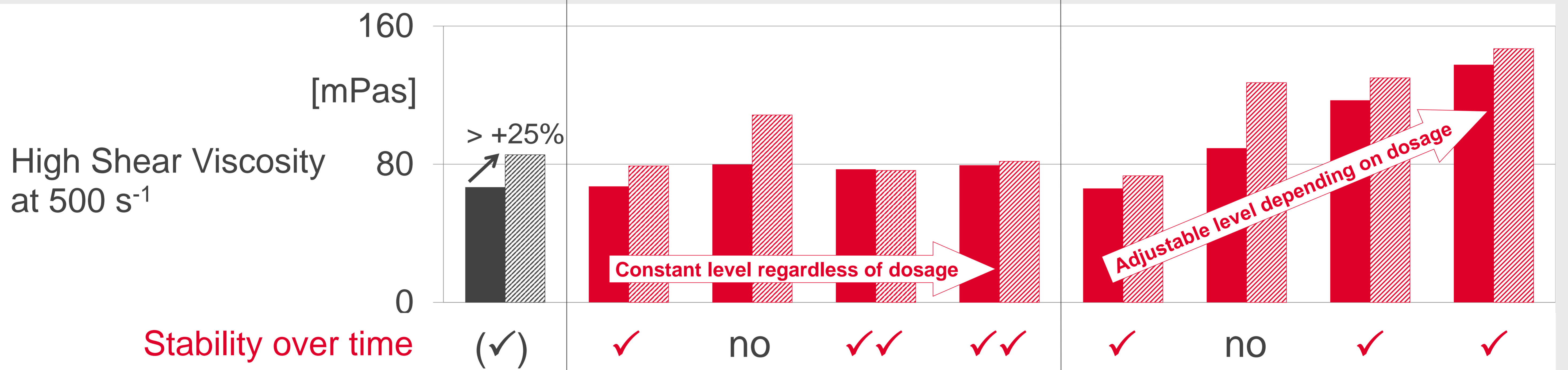
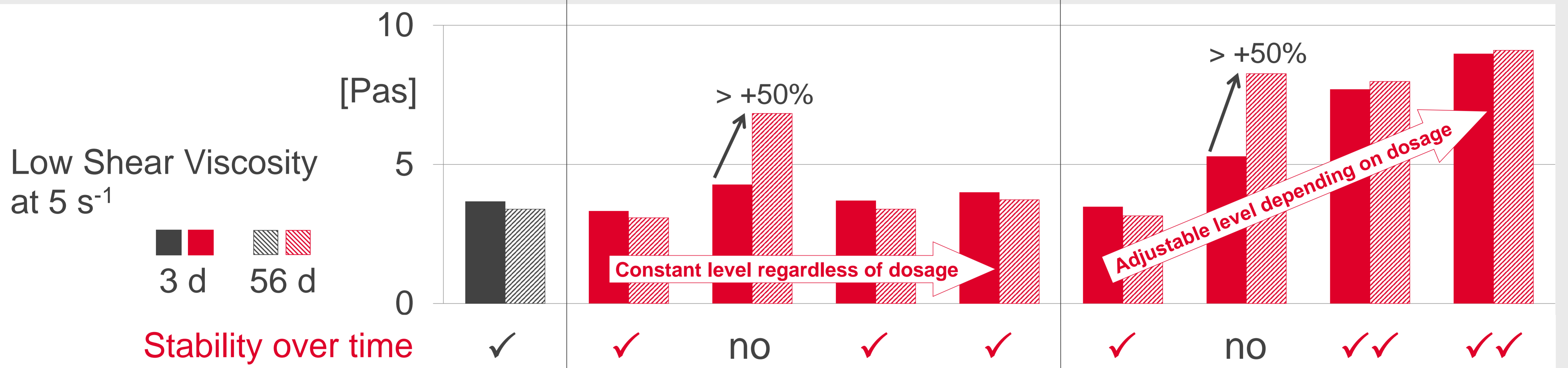
**HOFFMANN**  
**MINERAL**



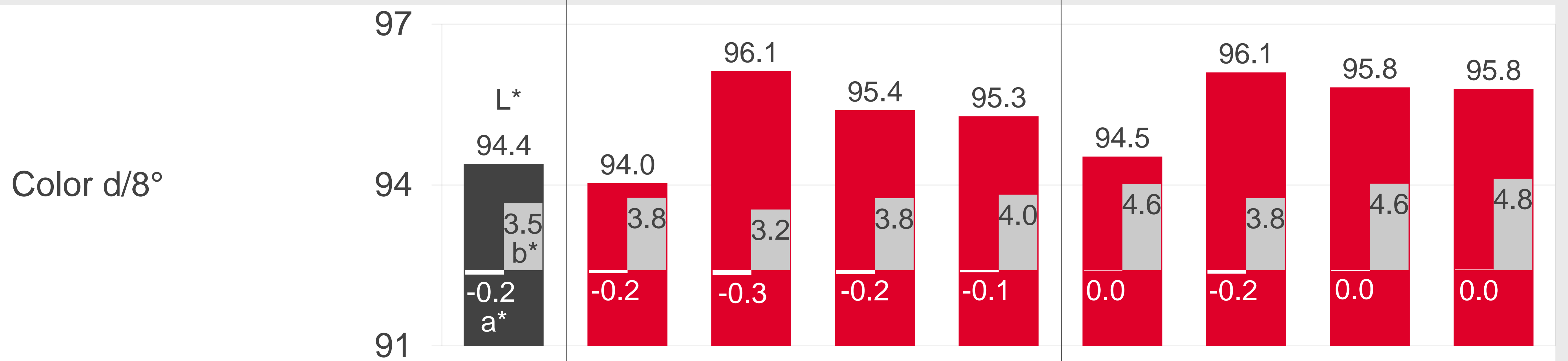
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## RESULTS

Filler Package [pbw]	Base	Sillitin V 88				Sillitin Z 89			
Silicate	✓	✓	✓	✓	pure	✓	✓	✓	pure
Carbonate			✓				✓		
<b>Neuburg Siliceous Earth</b>		<b>8</b>	<b>8</b>	<b>25</b>	<b>33</b>	<b>8</b>	<b>8</b>	<b>25</b>	<b>33</b>
Siliplast 910 <small>Feldspar / Kaolin / Quartz</small>	25	25				25			
Chinacell KF 82 <small>Kaolin</small>	3			3				3	
Talkum N <small>Talc</small>	5			5				5	
Omyacarb 5 GU <small>Calcium carbonate</small>			25				25		



Yield Point [Pa]	Base	Sillitin V 88 8/8/25/33	Sillitin V 88 8/8/25/33	Sillitin V 88 8/8/25/33	Sillitin V 88 8/8/25/33	Sillitin Z 89 8/8/25/33	Sillitin Z 89 8/8/25/33	Sillitin Z 89 8/8/25/33	Sillitin Z 89 8/8/25/33
Yield Point	15	15	18	15	18	15	22	30	37
Stability over time	✓	✓	no	✓	✓	✓	no	✓✓	✓✓



Storage Stability 56 d Perfect without syneresis, gelling or sedimentation