NEUBURG SILICEOUS EARTH IN ARCHITECTURAL INTERIOR EMULSION PAINT

Low Cost / Straight Acrylic / PVC 83 % / TiO_2 6 %

TiO_2 Extension: Silfit Z 91 vs. Na/Al- and Alumo-Silicate

FORMULATION

* Base formulation by BASF		Control*	TiO_2 Extender varied					
Water deionized		366	Full TiO_2	TiO_2 reduced				
Additives		20		- 10 %		- 15 %	- 20 %	
TiO_2		**60**	**60**	**54**		**51**	**48**	
Precipitated Na/Al Silicate	BET 95 m²/g	**20**						
Special Alumo-silicate	28 µm	**20**						
Silfit Z 91			**40**	**60**	**80**	**40**	**60**	**80**
PCC	0.3 µm	50						
GCC	2 µm	80						
	5 µm	210						
Talc	5 µm	90						
Acronal ECO 6270		84						
Total parts by weight		1000						
Solids content w/w [%]		58.3						

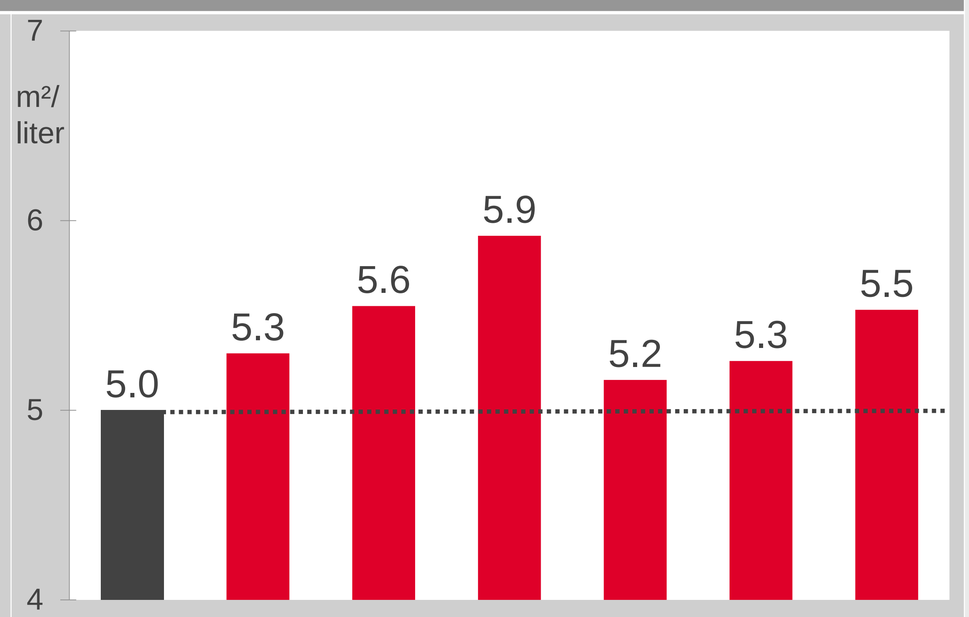
IMPROVED FEATURES AND COST PERFORMANCE

Undiluted formulations / drying time before testing: 7 days / 23°C / 50 % relative humidity

Hiding Power

Spreading rate
at contrast ratio 98 %
Class 2 DIN EN 13300

Contrast ratio
ISO 6504-3



Cost / Performance

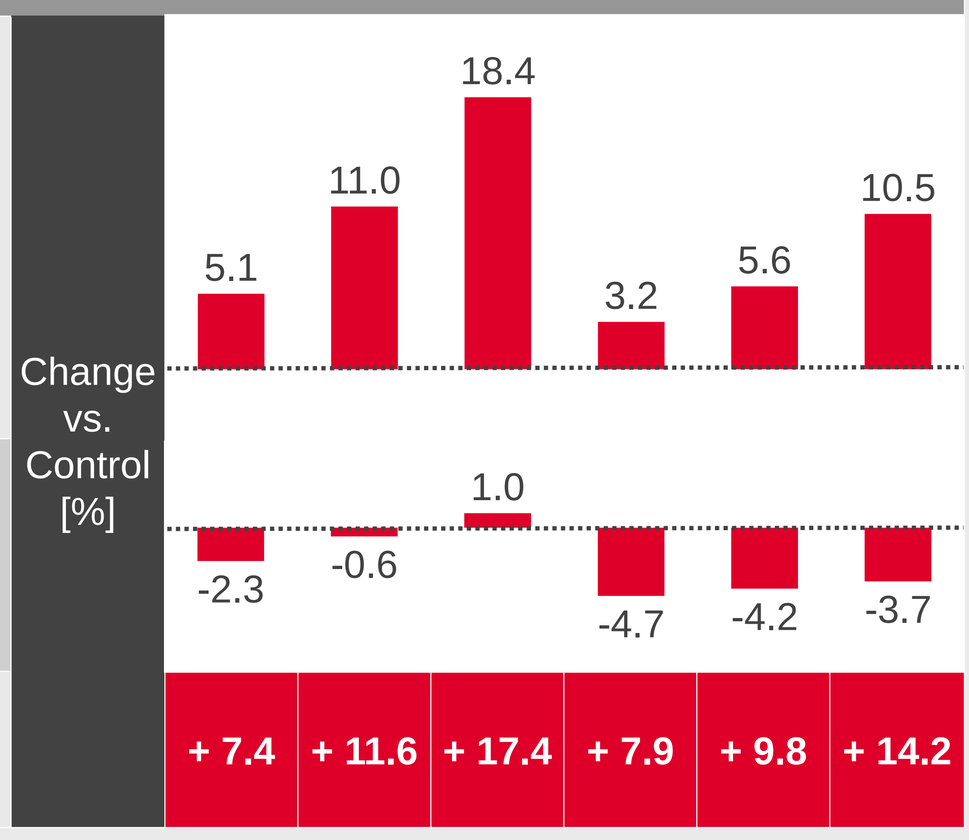
Germany 2019
at contrast ratio 98 %

	Full TiO_2			- 10 %	- 15 %	- 20 %
TiO_2	60			54	51	48
Silfit Z 91	40	60	80	40	60	80

Improved spreading rate / liter

Raw material cost / liter

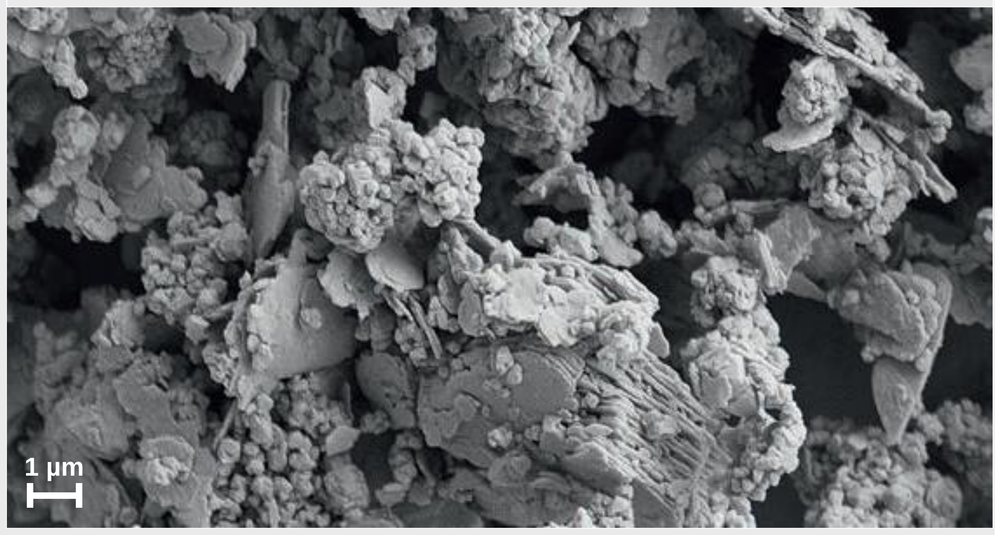
Total efficiency increase



RETAINED FEATURES

Without significant difference or minor effects:

- Preparation
  Dissolver equipped with toothed disc (Cowles blade)
  Dispersing 15 m/s for 20 min, water cooling, T max. 60°C
- Viscosity
  at low shear 0.1 s^{-1} 8.6 – 10.7 Pa*s
  at high shear 1000 s^{-1} 0.09 – 0.13 Pa*s (Searle, 23°C)
- Storage stability
  low phase separation; settling of sediment easy to re-stir and to homogenize (after 6 months, 23°C)
- Color
- Gloss
  85°: 4 to 8
- Wet-scrub resistance
  Dry film thickness loss ~ 30 µm per 200 cycles / ISO11998
  Class 3 DIN EN 13300



SUMMARY

Silfit Z 91 gains the following combined benefits

markedly higher hiding power / spreading rates at lower formulation cost

✓ **improved performance despite TiO_2 reduction and thus white pigment saving**

✓ **real high cost cutting potential**

HOFFMANN MINERAL