

NEUBURG SILICEOUS EARTH IN WATER-BASED 2 C EPOXY PRIMER-SURFACER YELLOW

OBJECTIVE

Improving early sandability and corrosion resistance

Neuburg Siliceous Earth:

Aktisil AM, Aktifit AM

FORMULATION

Component A	Control with barium sulfate ppt			Replacement of filler			
	PVC	32 %	Filler dosage increased	Substitution by equal volume			
				+ Talc	Aktisil AM + Talc	Aktifit AM + Talc	Aktisil AM
Water demineralized		15.1	17.5	19.1	30.5	30.5	32.0
Dispersing additive		3.3	3.3	3.3	3.3	3.3	3.3
Defoaming additive		0.1	0.1	0.1	0.1	0.1	0.1
Titanium dioxide		8.0	8.0	8.0	8.0	8.0	8.0
Pigments yellow / red		2.53	2.53	2.53	2.53	2.53	2.53
Barium sulfate ppt	Pigment paste	45	75	50			
Talc				15	15	15	
Neuburg Siliceous Earth					30	30	44
Defoaming additive		0.05	0.05	0.05	0.05	0.05	0.05
Texanol		0.6	0.6	0.6	0.6	0.6	0.6
Rheology Modifier		0.6	0.6	0.6	0.6	0.6	0.6
Methoxypropanol		1.0	1.0	1.0	1.0	1.0	1.0
Beckocure™ EH 2261w/41WA (Amine hardener) ^{*1}		24.2	24.2	24.2	24.2	24.2	24.2
Corrosion inhibitors		2.4	2.4	2.4	2.4	2.4	2.4
Water demineralized		1.4					
Component B							
Beckopox™ EP 387w/52WA (Epoxy resin) ^{*1}		41.3	41.3	41.3	41.3	41.3	41.3
Water demineralised		4.6	4.6	4.6	4.6	4.6	4.6
Total		150.2	181.2	172.8	164.2	164.2	164.7
Solids content w/w [%]		59.9	66.4	63.7	54.8	54.8	54.3
Stoichiometric crosslinking ratio amin / epoxy	0.53						

Substrate: cold rolled steel Q-Panel R 48

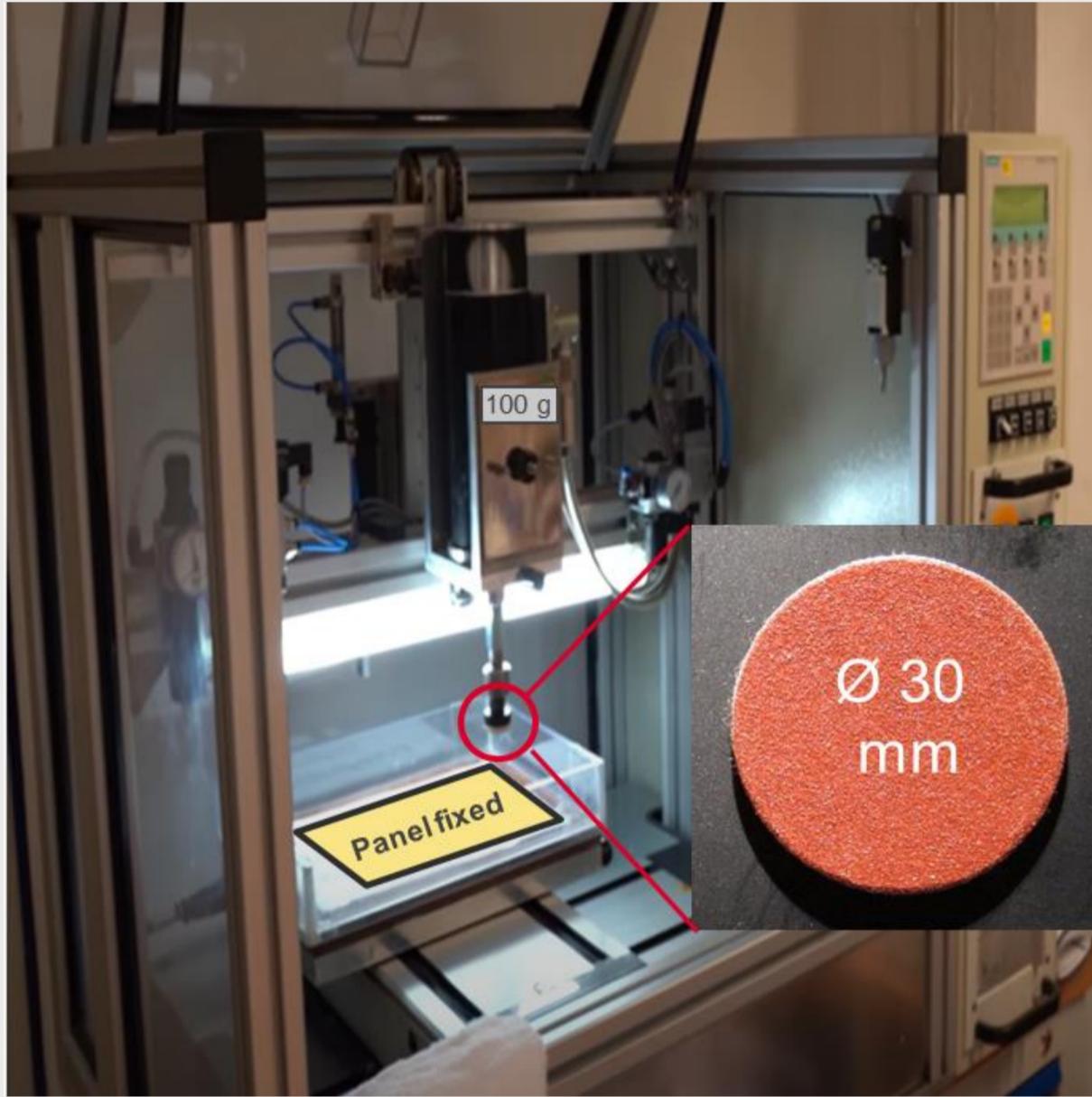
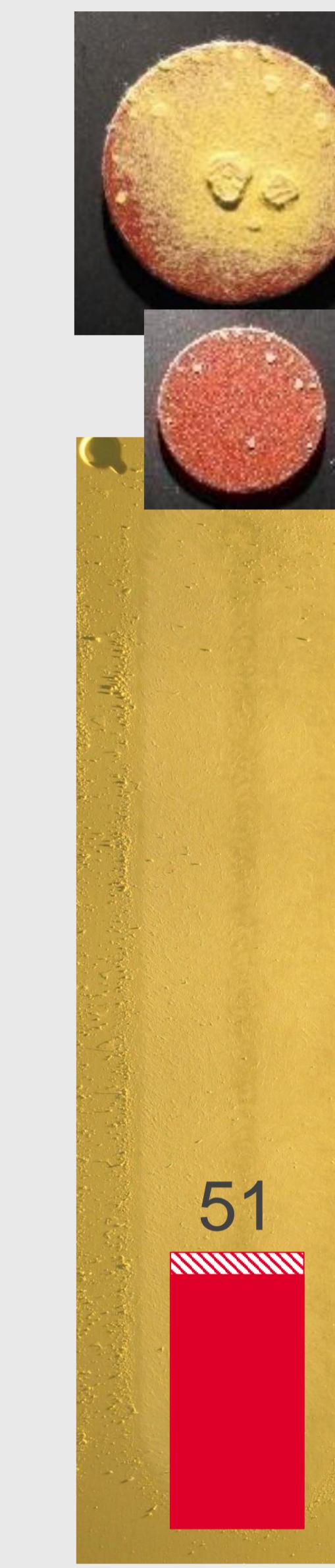
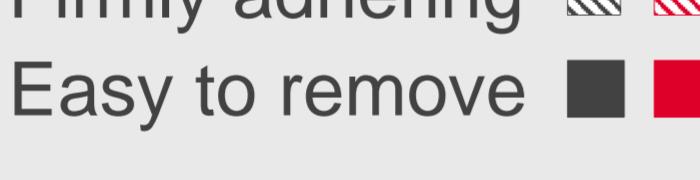
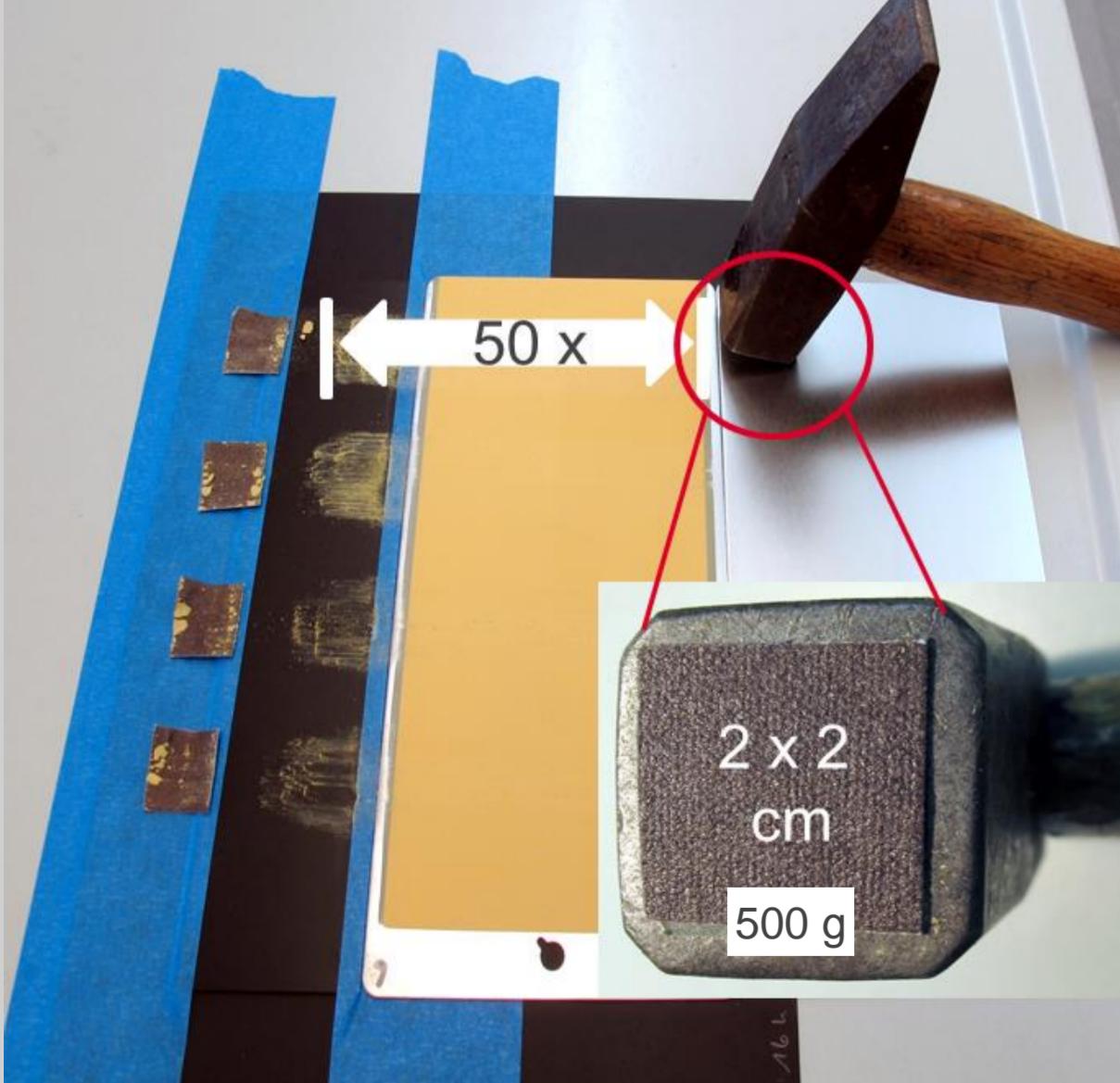
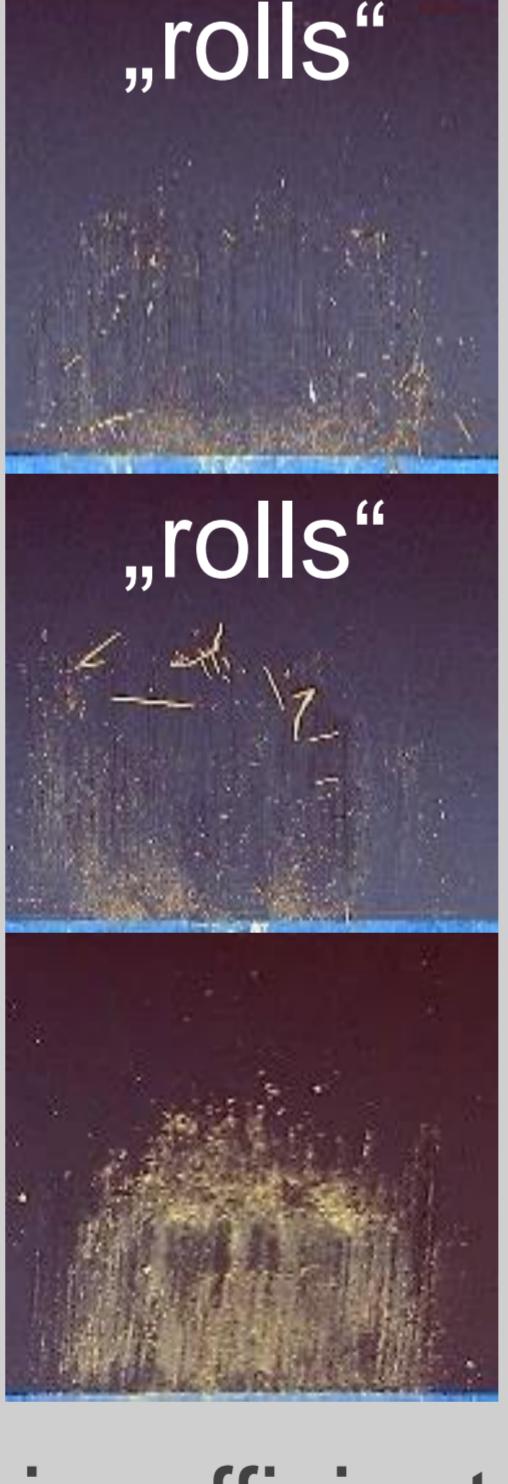
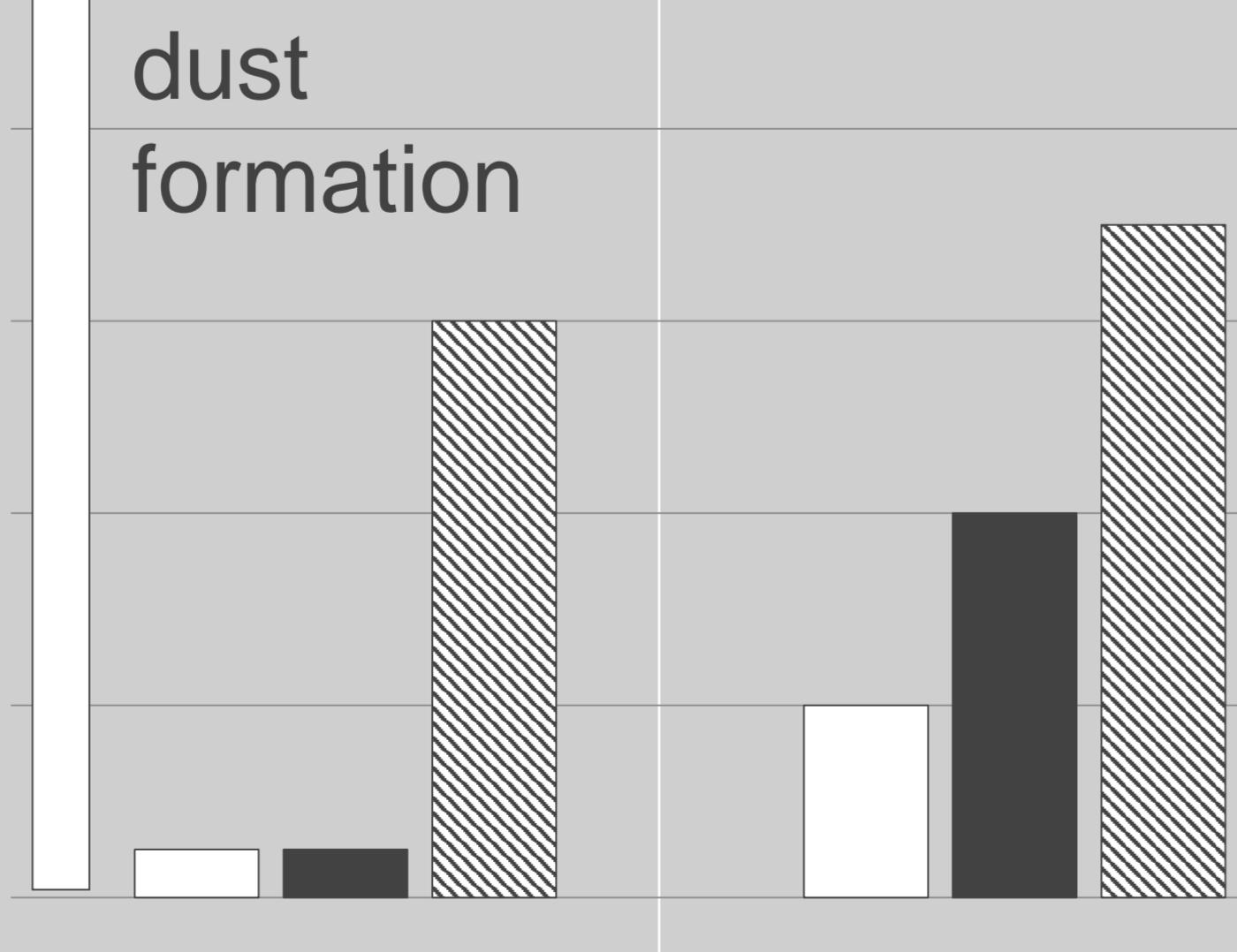
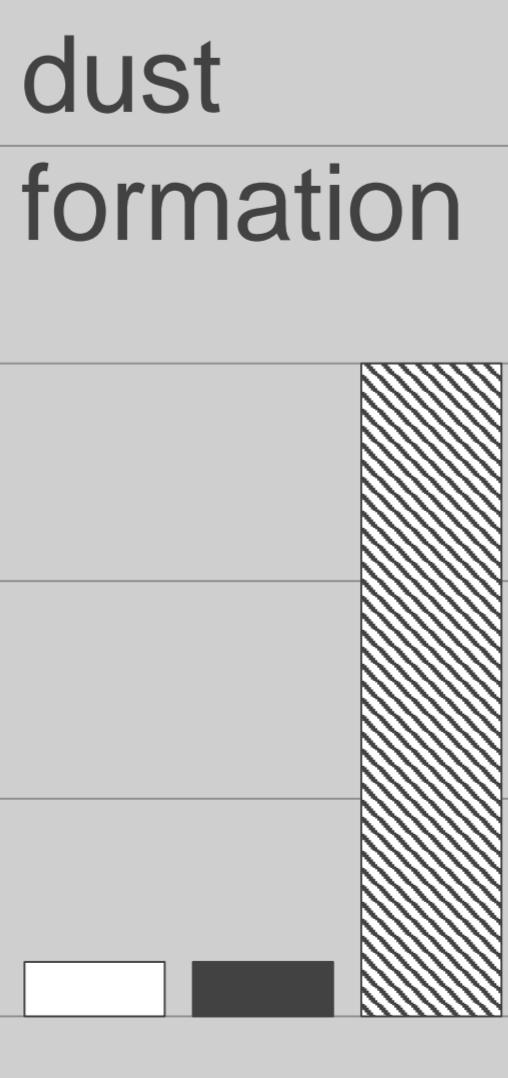
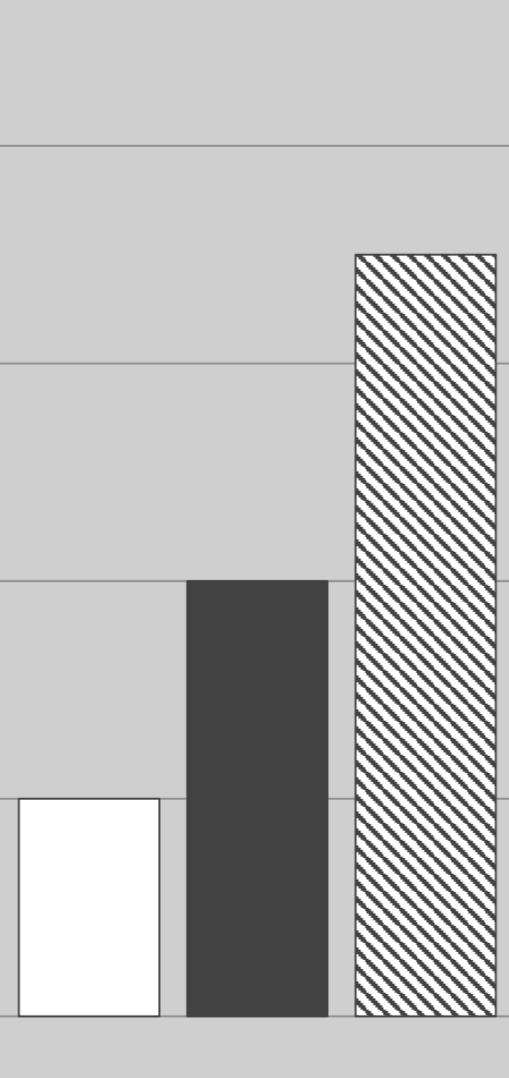
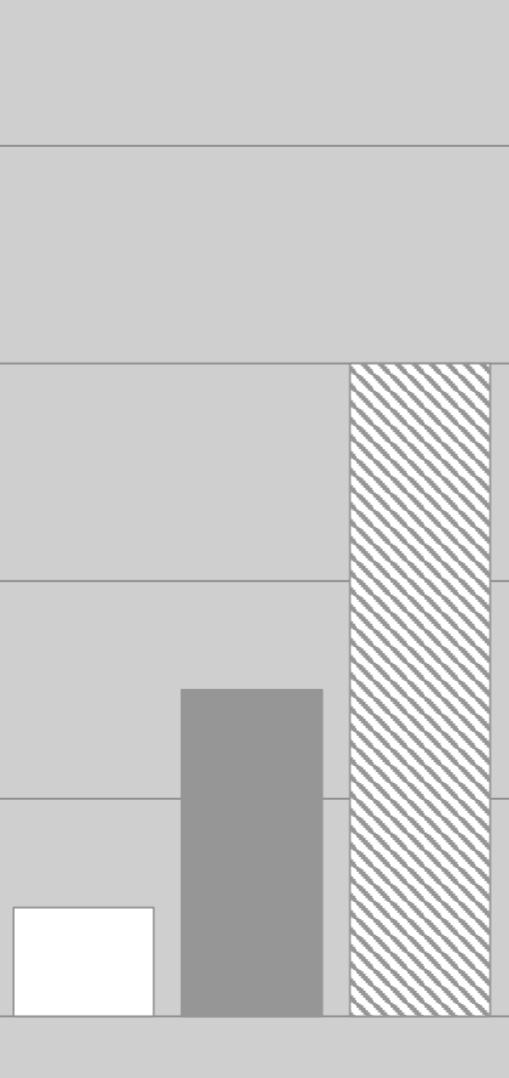
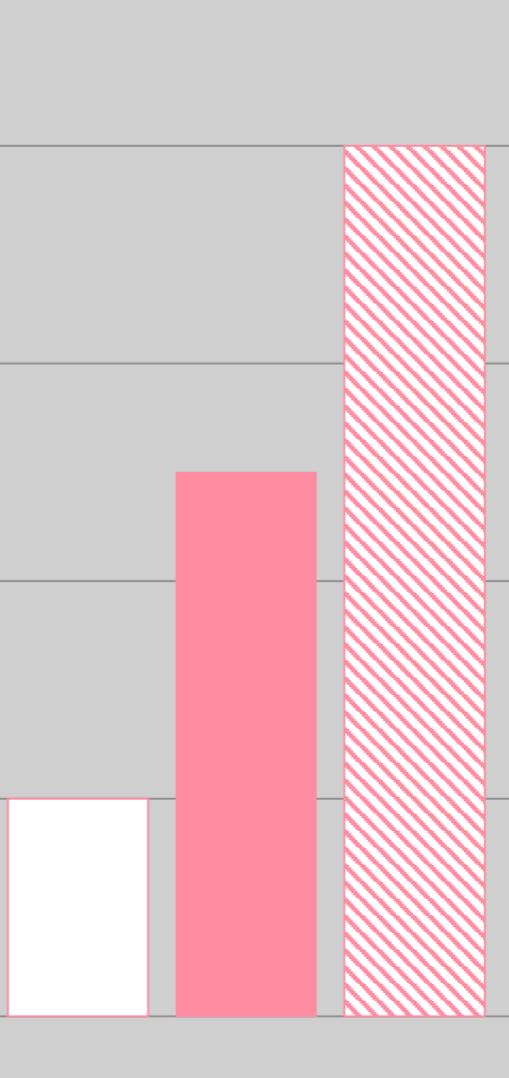
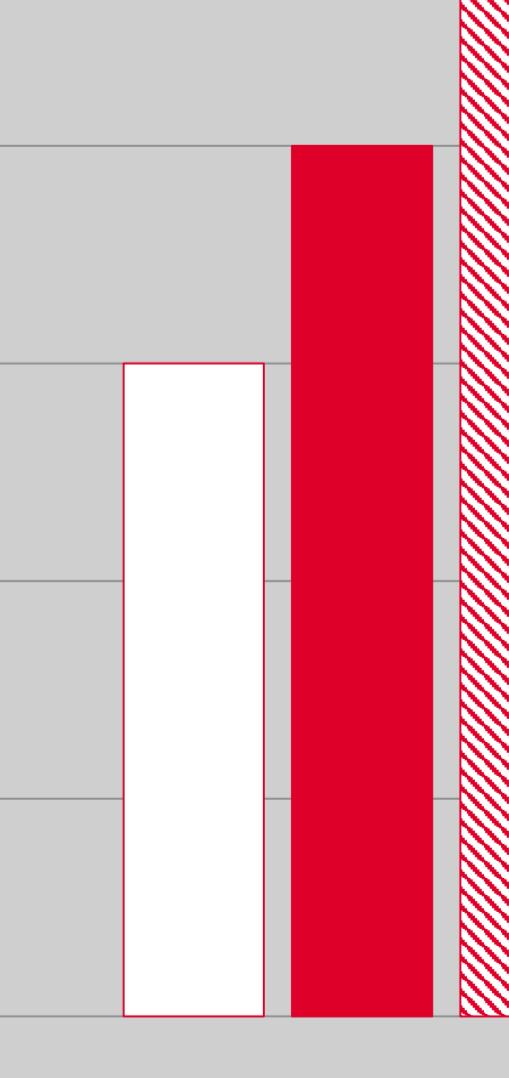
Drying: 23 °C / 50 % relative humidity

Dry film thickness: 80 µm single-layer

^{*1} <http://allnex.com/the-easy-cure-system>

NEUBURG SILICEOUS EARTH IN WATER-BASED 2 C EPOXY PRIMER-SURFACER YELLOW

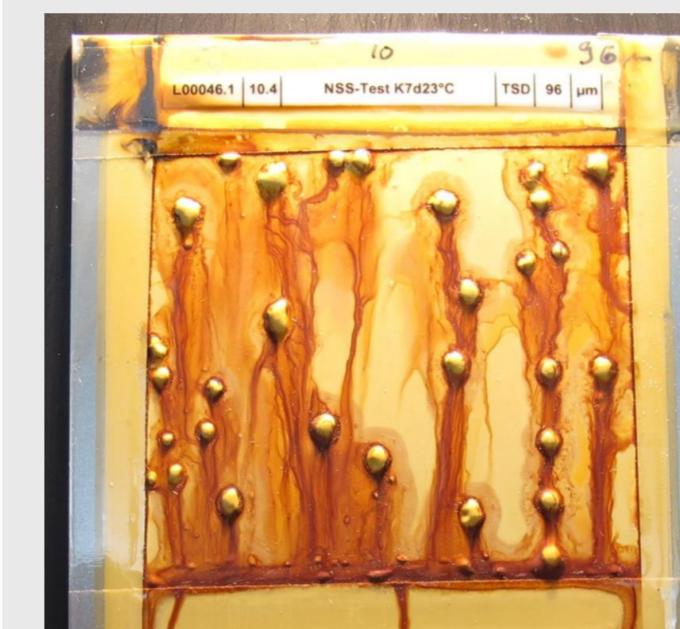
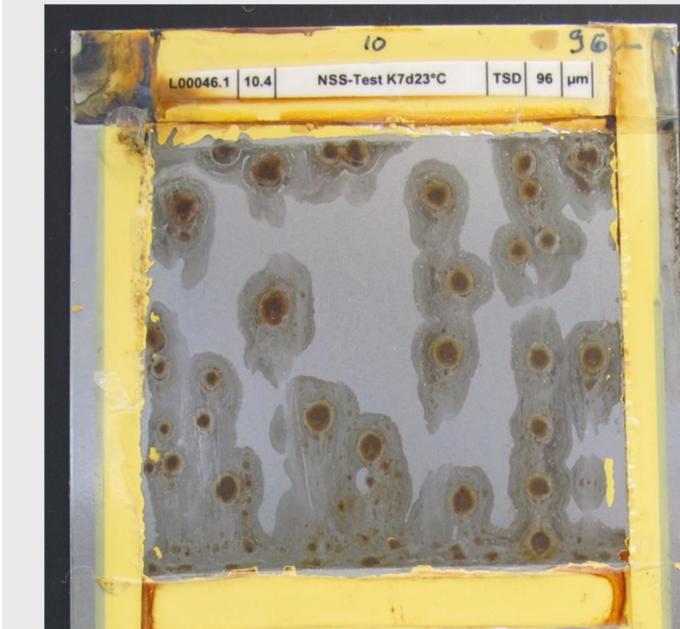
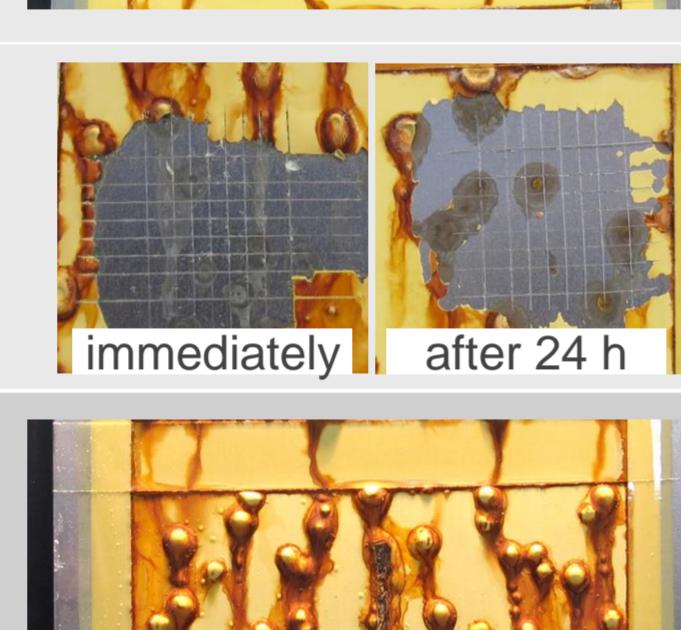
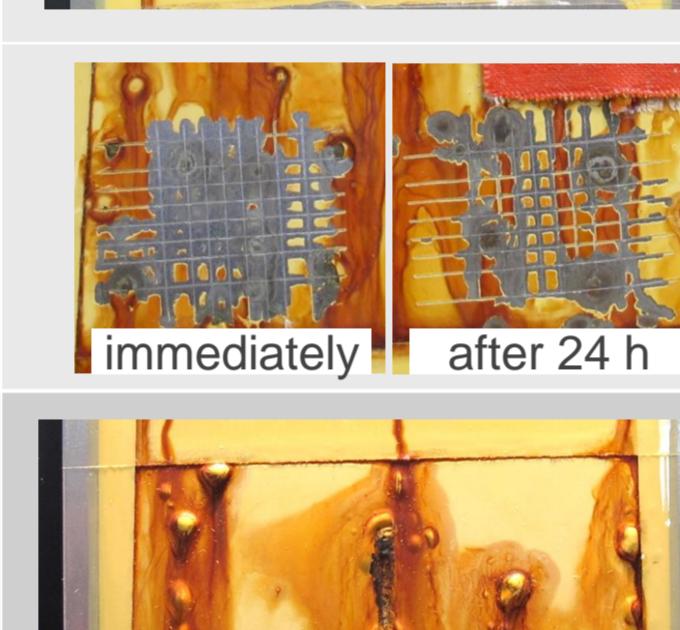
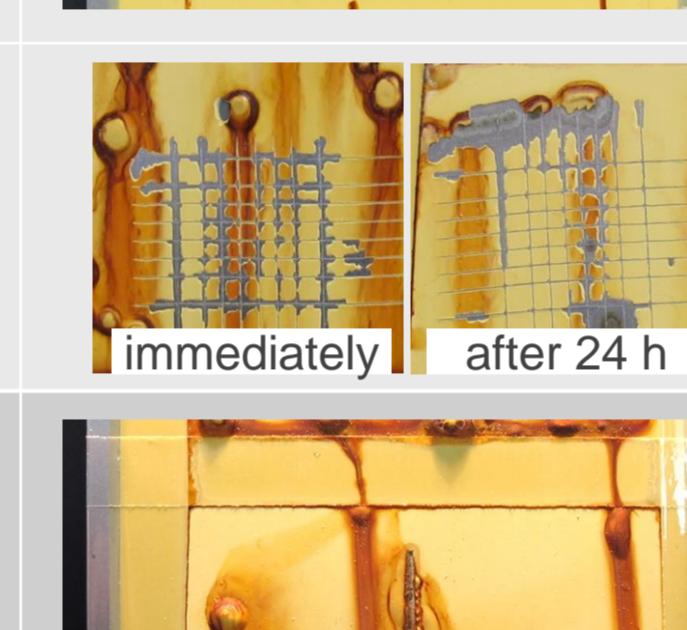
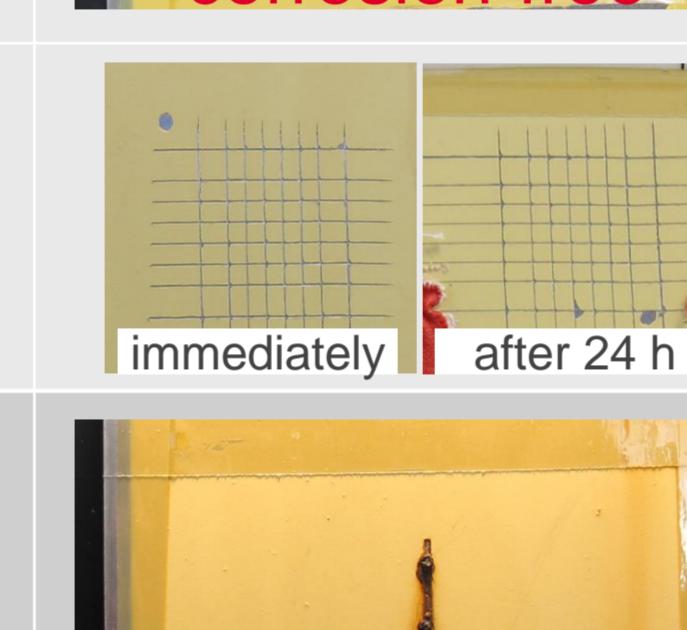
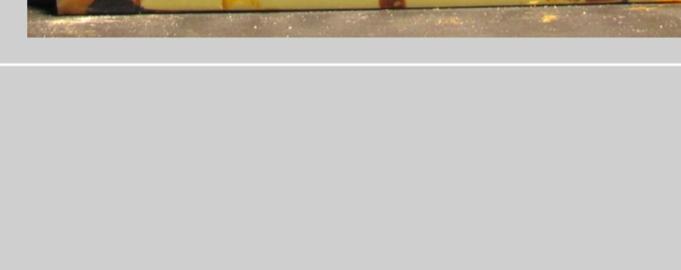
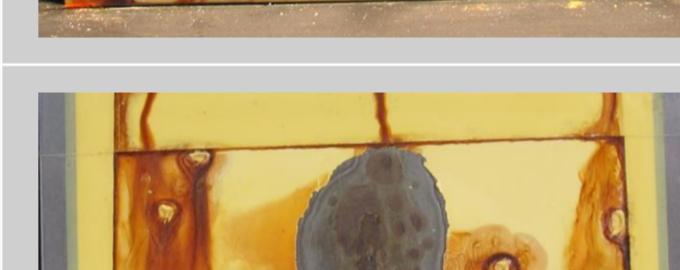
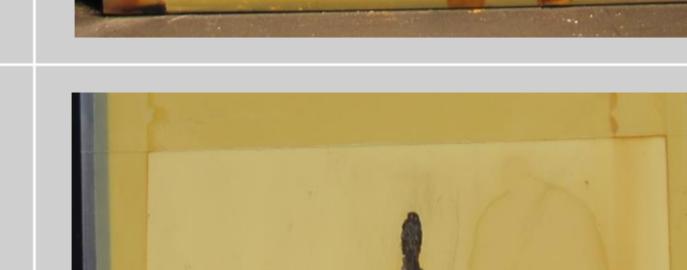
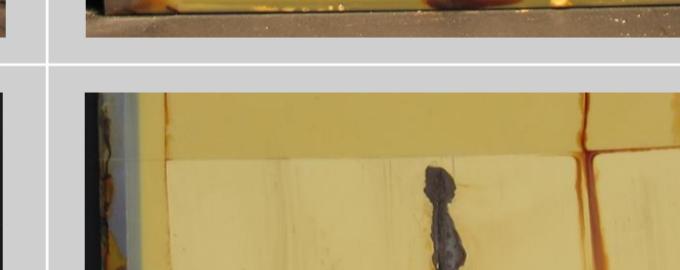
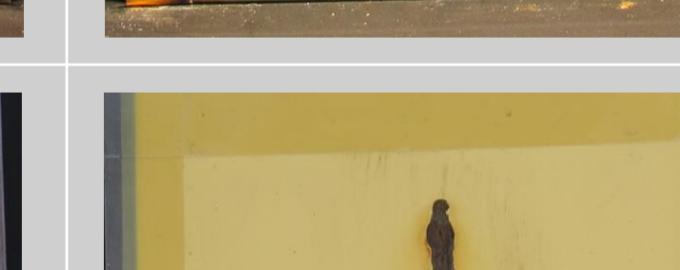
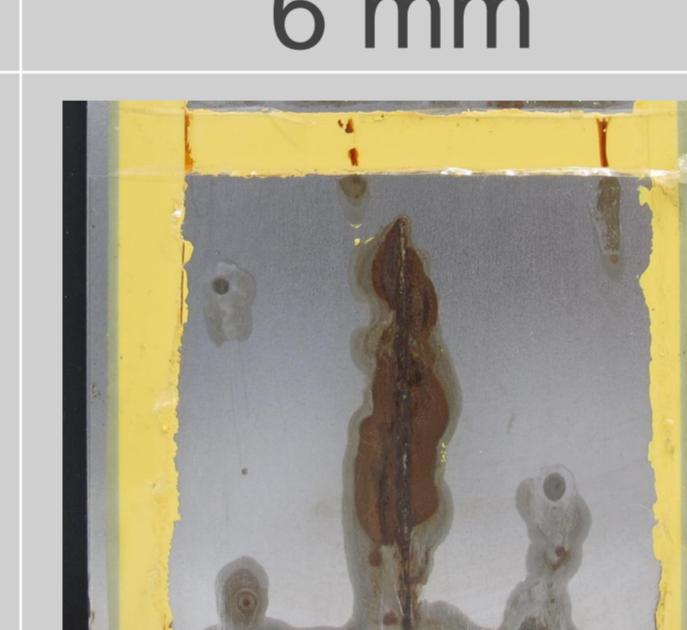
RESULTS

	PVC 32 %	PVC 42 %				
	Barium sulfate ppt	Barium sulfate ppt + Talc	Aktisil AM + Talc	Aktifit AM + Talc	Aktisil AM	
Sedimentation Stability	moderate	poor	poor	good	moderate	perfect
Pendulum Hardness	16 h	13	13	18	20	19
Koenig [s]	7 d	36	41	38	45	48
Adhesion, Cross-cut 2 mm	7 d	0	0-1	0	0-1	1
Machine Sanding after drying time 16 h 23 °C + 2 h 60 °C						
 <p>Hair brush</p>						
<ul style="list-style-type: none"> Lateral strokes with 3.5 cm / s under rotation 2000 rev / min Dry sandpaper grit P240 without dust suction Weight load 14 g/cm² 		 53	 73	 80	 93	 138
						
Manual Sanding Slow process after varied drying time 2 h 40 °C						
 <p>50 x</p> <p>2 x 2 cm</p> <p>500 g</p>		 insufficient				 perfect
			 1	 2	 3	 4
<ul style="list-style-type: none"> 50 lateral double strokes, 1 hub / s Dry sandpaper grit P240 without dust suction Weight load 125 g/cm² 						

HOFFMANN
MINERAL®

NEUBURG SILICEOUS EARTH IN WATER-BASED 2 C EPOXY PRIMER-SURFACER YELLOW

RESULTS

	PVC 32 %	PVC 42 %				
	Barium sulfate ppt	Barium sulfate ppt + Talc	Aktisil AM + Talc	Aktifit AM + Talc	Aktisil AM + Talc	
Salt Spray Test 300 h Panel drying 7 d 23°C / 50% RH Non-scribed area				 blister-free	 blister-free	 blister-free
Appearance				 corrosion-free	 corrosion-free	 corrosion-free
Metall corrosion Coating stripped				 corrosion-free	 corrosion-free	 corrosion-free
Adhesion Cross-cut 2 mm tape tear-off	 immediately	 immediately	 immediately	 immediately	 immediately	 immediately
 after 24 h	 after 24 h	 after 24 h	 after 24 h	 after 24 h	 after 24 h	
Scribed area Sikkens 1 mm width / 7 cm long						
Appearance						
Delamination at scribe 24 h regeneration time	entirely	 10 mm	 6 mm	 < 2 mm	 < 2 mm	 < 2 mm
Corrosion at scribe Coating stripped						

SUMMARY

Improved Features

- Optimized storage stability
- Faster hardness build-up
- Excellent, easier and earlier sandability
 - Aktifit AM + Talc for machine grinding
 - Aktisil AM pure for manual sanding
- Extended corrosion resistance
 - No blistering / corrosion-free at non-scribed area
 - Lowest delamination / corrosion effects at scribe
 - Aktisil AM + Talc for perfect paint adhesion even during exposure in wet state

The tested Neuburg Siliceous Earth grades overcome drawbacks in water-based 2C EP primer-surfacers:

- ✓ Faster sandability at lower drying temperatures
- ✓ Longer lasting performance and service life of sanding paper
- ✓ Accelerated, more productive coating process
- ✓ Savings in time, energy, maintenance work, waste, material cost
- ✓ Corrosion performance multiplying protection period and durability of coating
- ✓ No active anti-corrosive pigment needed
- ✓ Savings in resources (lower filler dosage) and formulation costs