

**Industrial coating**

**Anti-corrosion coating, water-based, white
single-layer system, direct-to-metal (DTM)**

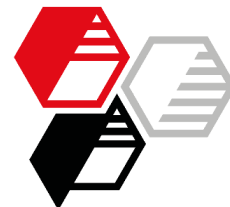
gloss retention and mechanical flexibility, without talc

Basis Alkyd resin

		Filler combination calcium carbonate with		
		HAR*- Talc (Comparison)	SILLITIN Z 89	AKTISIL PF 777/89
		[13]	[14]	[15]
Pigment preparation	L 00063.1			
	-- part 1 --			
	Demineralized water	8.60	8.60	8.60
	Edaplan 490 (1)	1.00	1.00	1.00
	Byk-349 (2)	0.20	0.20	0.20
	Byk-024 (2)	0.50	0.50	0.50
	AMP-90 (3)	0.20	0.20	0.20
	-- part 2 --			
	Omyacoat 850-OG (4)	2.00	2.00	2.00
	HAR-Talc)*	5.10	---	---
	SILLITIN Z 89 (5)	---	5.10	---
	AKTISIL PF 777/89 (5)	---	---	5.10
	Kronos 2190 (6)	17.20	17.20	17.20
	-- part 3 --			
	Asconium 111 (7)	2.40	2.40	2.40
Let down	-- part 4 --			
	WorléeSol E 330 W (8)	60.00	60.00	60.00
	Demineralized water	1.15	1.15	1.15
	Borchi OXY-Coat 1101 (9)	0.25	0.25	0.25
	Coapur 3025 (10)	1.60	1.60	1.60
	Ascotran-H10 (7)	0.20	0.20	0.20
	Total parts by weight	100.40	100.40	100.40

)* HAR = High Aspect Ratio

Recommendation [14] SILLITIN Z 89 for good price / performance ratio
 [15] AKTISIL PF 777/89 (alkyl functionalized SILLITIN Z 89) with even better adhesion level comparable to talc



Preparation

- Pigment preparation
- mix raw materials from part 1
 - premix ingredients of part 2 and add to part 1. Disperse by dissolver with toothed disc under cooling for 15 min at high shear force
 - add raw material of part 3
- Let down
- for completion, add raw materials from part 4 in the order given to pigment preparation

Application

- dilution with 10 % demineralized water to reach viscosity level for compressed air spraying at 2 bar with 2 mm nozzle
- dry film thickness $\approx 60 \mu\text{m}$, single-layer coating on cold-rolled steel Q-Panel R 48

Conditioning

- Drying @ standard climate 23/50
- optical properties and adhesion: 7 days
 - pendulum hardness, corrosion tests: 14 days

Suppliers

- (1) Münzing Chemie
- (2) Byk Chemie
- (3) Advancion
- (4) Omya
- (5) HOFFMANN MINERAL
- (6) Kronos International
- (7) Ascotec
- (8) Worlée Chemie
- (9) Borchers
- (10) Coatex (Arkema)

More information on this topic:

[DTM: Neuburg Siliceous Earth in water-based corrosion protection - Alkyd single-layer coating, white](#)



Filler combination
calcium carbonate with

HAR*- Talc (Comparison)	SILLITIN Z 89	AKTISIL PF 777/89
[13]	[14]	[15]

L00063.1

Technical Data

Solids content (w/w)	%	all: 51
PVC	%	all: 23

Properties

Dyn. viscosity	23 °C	0.1 s ⁻¹ Pa·s	3.85	3.52	3.40
		1000 s ⁻¹ Pa·s	0.79	0.81	0.78
Pendulum hardness, Koenig		s	29	29	31
Cross-cut test 1 mm, tape tear-off			0	0-1	0-1
Color d/8°	L*		95.5	96.0	95.9
	a*		-1.7	-1.7	-1.6
	b*		3.5	4.3	4.1
Gloss	60°	GU	51	81	82
	85°	GU	88	95	93
after 48 h Humidity test, DIN EN ISO 6270-2 CH					
	60°	GU	23	67	71
	85°	GU	47	91	91

Salt spray test, DIN EN ISO 9227 NSS, 160 h

Cross-cut test 1 mm, tape tear-off, after 24 h	0	1	0
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Rating acc. DIN EN ISO 4628 Part 2-5:

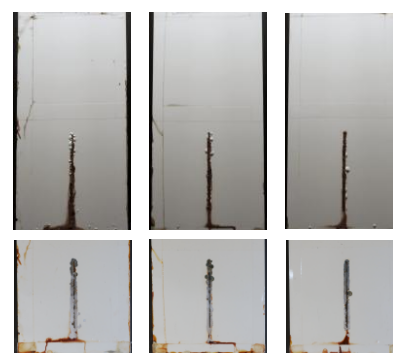
Blistering, cracking, flaking

all: 0 (S0)

Rusting

all: Ri 0

Scribe: Sikkens 1 mm

delaminated

Delamination at scribe

all: < 3 mm

Corrosion at scribe

all: very low

Cupping, Erichsen	mm	5.0	6.6	6.7
after 7 days standard climate 23/50				

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