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## Industrial coating

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

Basis: Acrylate

		SILLITIN Z 89	AKTIFIT Q
	L 00012.1	[52]	[56]
<b>Pigment preparation</b>	-- part 1 --		
	Demineralized water	5.90	5.90
	Edaplan 490 (1)	1.20	1.20
	AMP-90 (2)	0.02	0.02
	Byk-024 (3)	0.10	0.10
	Byk-349 (3)	0.18	0.18
	-- part 2 --		
	Kronos 2190 (4)	17.70	17.70
	SILLITIN Z 89 (5)	7.50	---
	AKTIFIT Q (5)	---	7.50
<b>Let down</b>	-- part 3 --		
	Demineralized water	2.90	2.90
	-- part 4 --		
	Alberdingk AC 2403 (6)	57.90	57.90
	-- part 5 --		
	Byk-024 (3)	0.15	0.15
	-- part 6 --		
	Asconium-142DA (7)	1.90	1.90
	AMP-90 (2)	0.15	0.15
	Demineralized water	1.90	1.90
	-- part 7 --		
	Optifilm Enhancer 300 (8)	1.50	1.50
	Ascotran-H10 (7)	0.50	0.50
	Tafigel PUR 60 solution )*	0.50	0.50
	Total % by weight	100.00	100.00

)\* Tafigel PUR 60 solution:

Tafigel PUR 60	10.0
Dipropylene glycol monomethyl ether (DPM)	20.0
Demineralized water	70.0

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<b>Recommendation</b>	<u>SILLITIN Z 89 and AKTIFIT Q</u> <ul style="list-style-type: none"><li>- improvement of the adhesion after humidity test and salt spray test</li><li>- avoidance of under-film corrosion in the humidity test</li></ul> <u>SILLITIN Z 89</u> <ul style="list-style-type: none"><li>- reduced blistering at scribe in the salt spray test</li><li>- less delamination and rust creep at scribe</li></ul> <u>AKTIFIT Q</u> <ul style="list-style-type: none"><li>- avoidance of blistering at scribe in the salt spray test</li><li>- lowest delamination and rust creep at scribe</li></ul>
<b>Preparation</b>	
Pigment preparation	<ul style="list-style-type: none"><li>- mix raw materials from part 1</li><li>- premix raw materials from part 2 and add to part 1</li><li>- disperse with high shear for 10 min under cooling</li><li>- complete with part 3</li></ul>
Let down	<ul style="list-style-type: none"><li>- charge Alberdingk AC 2403 and add pigment preparation while stirring</li><li>- add part 5</li><li>- premix part 6 and add the clear solution to the batch (if cloudy: discard)</li><li>- complete with part 7</li></ul>
<b>Application</b>	<ul style="list-style-type: none"><li>- after 35 d maturing time</li><li>- substrate: cold-rolled steel, Q-Panel type R-48</li><li>- spraying: diluted with 10 % water, nozzle 3 mm</li><li>- dry film thickness: approx. 70 µm, single-layer</li></ul>
<b>Conditioning</b>	<ul style="list-style-type: none"><li>- drying conditions: 23 °C / 50 % relative humidity</li><li>- appearance and adhesion: 7d</li><li>- corrosion tests: 28 d</li></ul>
<b>Suppliers</b>	<ol style="list-style-type: none"><li>(1) Münzing Chemie</li><li>(2) Angus Chemical Company</li><li>(3) Byk Chemie</li><li>(4) Kronos International</li><li>(5) HOFFMANN MINERAL</li><li>(6) Alberdingk Boley</li><li>(7) Ascotec</li><li>(8) Eastman Chemical Company</li></ol>

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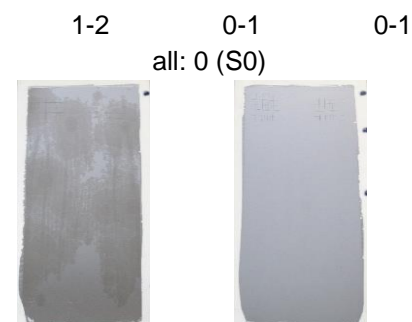
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		Control with calcium carbonate	SILLITIN Z 89	AKTIFIT Q
	L 00012.1		[52]	[56]
<b>Technical Data</b>	Solids content (w/w)	%	all: 56	
	PVC	%	all: 21	
<b>Properties</b>	Dynamic viscosity @ 23 °C, 35 d			
	0.1 s <sup>-1</sup>	Pa·s	12.6	10.1
	100 s <sup>-1</sup>	Pa·s	0.335	0.285
	Color d/8° L*		97.0	96.4
	Color d/8° a*		-1.1	-1.0
	Color d/8° b*		2.3	2.9
	Gloss 60°	GU	68	52
	Cross-cut test 2 mm, after tape tear-off		all: 0	

**Humidity test DIN EN ISO 6270-2 CH, 1000 h**

Cross-cut test 2 mm, after tape tear-off  
Degree of blistering DIN EN ISO 4628-2  
Under-film corrosion, stripped



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	Control with calcium carbonate	SILLITIN Z 89	AKTIFIT Q
L 00012.1		[52]	[56]

**Salt spray test DIN EN ISO 9227 NSS, 1000 h**

Cross-cut test 2 mm, after tape tear-off

Degree of blistering DIN EN ISO 4628-2

Under-film corrosion, stripped

Blistering at scribe

0-1

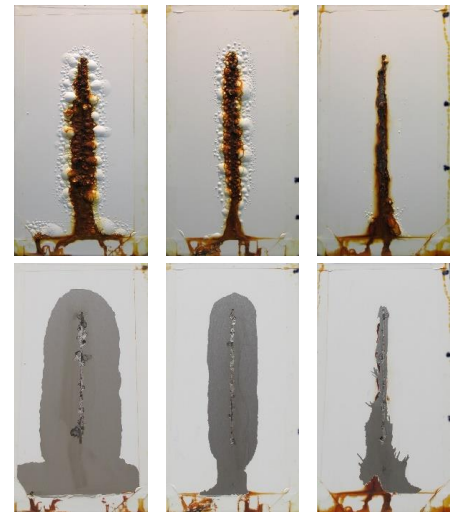
0

0

all: 0 (S0)

all: no corrosion

Delamination and rust creep at scribe



Delamination

mm

26.3

17.9

4.8

Rust creep

mm

1.4

0.7

0.6

**More information on this topic is available in this technical report:**

[DTM - Neuburg Siliceous Earth in Water-based Corrosion Protection - Acrylate Single-layer White](#)