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Industrial coating Coil coating primer, solvent-based, white

Basis: Polyester

			no talc -50 % anti-corrosion pigment		
			Control	SILLITIN Z 89	AKTIFIT AM
	T 24402.1		[22]	[28]	[31]
Component A	Dynapol LH 820-16	(1)	36.0	36.0	36.0
Component B	Aerosil 200	(1)	0.2	0.2	0.2
	Heucophos SAPP	(2)	9.5	4.75	4.75
	Kronos 2059	(3)	6.6	6.6	6.6
	Luzenac 10M0	(4)	5.7	---	---
	SILLITIN Z 89	(5)	---	10.45	---
	AKTIFIT AM	(5)	---	---	10.45
Component C	Methoxy propyl acetate (MPA)		13.5	13.5	13.5
Component D	Dynapol LH 820-16	(1)	1.9	1.9	1.9
	Epikote Resin 1004, 50 % in MPA	(6)	5.7	5.7	5.7
	Vesticoat Catalyst C 31	(1)	1.4	1.4	1.4
	Vestanat EP-B 1481 ND	(1)	5.7	5.7	5.7
	Resiflow FL 2, 10 % in Solvesso 150	(7)	2.8	2.8	2.8
	Nacure X49-110, 5 % in Isopropanol	(8)	1.0	1.0	1.0
	Cymel 202	(9)	2.4	2.4	2.4
	Solvesso 150	(10)	7.6	7.6	7.6
	Total % by weight		100.0	100.0	100.0

Recommendation SILLITIN Z 89: for cost-effective / low-cost formulations
 AKTIFIT AM: easy dispersing,
 higher hardness right after the corrosion test

Dependent on the formulation and the substrate it is advised to adjust the loading of the anti-corrosion pigment (e. g. 30 %.)

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Remarks	<p>Application behavior, when exclusively talc is replaced by AKTIFIT AM (no change for the anti-corrosion pigment):</p> <ul style="list-style-type: none">• good rheological properties, especially suitable for the direct roller coating process: considerably better leveling than talc, thus avoiding surface structures, which would be visible in the following topcoat and would deteriorate the appearance of the coating• quick deaeration after roller application, thus a smooth surface is feasible• improved hiding power, thus the amount of titanium dioxide can be reduced, which has a positive impact on costs
Preparation	<p>Grinding stage:</p> <ul style="list-style-type: none">- charge component A- stir in component B at approx. 500 min⁻¹- add component C- grind by dissolver with adapted bead mill (9 min, 6.3 m/s, cooled) <p>Let-down stage:</p> <ul style="list-style-type: none">- premix component D with a paddle mixer <p>Completion:</p> <ul style="list-style-type: none">- add component D to the grinding stage and mix in homogeneously (1 min, 6.3 m/s)
Application	<p>Substrate: hot dip galvanized (HDG) steel panels with Bonder 1303 treatment</p> <p>Primer: with wire-wound rod 14 µm wet film thickness (dry film thickness 5 µm)</p> <p>Top coat: Akzo PE-340-2027 with wire-wound rod 32 µm wet film thickness (dry film thickness 20 µm)</p>
Curing	<p>Primer: oven at 350°C, dwell time 24 s, PMT 230°C</p> <p>Top coat: continuous circulating air oven at 270°C, dwell time 35 s, PMT 240°C</p>

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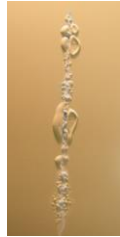








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			Control	SILLITIN Z 89	AKTIFIT AM	
	T 24402.1		[22]	[28]	[31]	
Technical data (Primer)	Fineness of grind	µm	< 10	< 10	< 10	
	PVC	%	20.1	20.8	20.8	
Properties (with top coat)	Color d/8° L*			all 89,0		
	Color d/8° a*			all 3,2		
	Color d/8° b*			all 15,8		
	Gloss 60°	DIN EN ISO 2813		all 40 GU		
	Cross-cut test (1 mm)	DIN EN ISO 2409		all 0		
	Pendulum hardness	DIN EN ISO 1522	s	64	64	66
	Cupping test	DIN EN ISO 1520	mm	11.1	11.6	11.2
	Impact test (Reverse impact)	ASTM D 2794-93	inch- pounds	52	52	54
	Humidity test DIN EN ISO 6270-2 CH, 1000 h					
	Cross-cut test 1 mm	DIN EN ISO 2409			all 0	
after 48 h at 23°C / 50 % rel. humidity						
Cupping test	DIN EN ISO 1520			all 9-10		
after 72 h at 23°C / 50 % rel. humidity		mm				
Remainig pendulum hardness						
right after humidity test		%	66	63	91	
after 72 h at 23°C / 50 % rel. humidity		%	103	96	117	
Rating of degradation according to DIN EN ISO 4628 part 1-8				no visible defects no blistering on the surface no blistering at scribe no rust at scribe no delamination no corrosion		

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		Control	SILLITIN Z 89	AKTIFIT AM
T 24402.1		[22]	[28]	[31]
Salt spray test DIN EN ISO 9227 NSS, 1000 h				
Cross-cut test 1 mm	DIN EN ISO 2409			
after 48 h at 23°C / 50 % rel. humidity			all 0	
Cupping test	DIN EN ISO 1520			
after 72 h at 23°C / 50 % rel. humidity	mm		all 10-11	
Remainig pendulum hardness				
right after humidity test	%	107	111	121
after 72 h at 23°C / 50 % rel. humidity	%	118	128	129
Rating of degradation according to DIN EN ISO 4628 part 1-8				
Surface		no visible defects, no blistering	localized, single and small blistering (close to the edge or scribe)	
Blistering at scribe				
Disbonding / rust creepage at scribe				
average of delamination	mm	3.2	3.9	4.3
corrosion at scribe	mm	2.2	2.7	2.9
				
average of delamination at cutted edge	mm	11	10	9
				

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- (1) Evonik Industries
- (2) Heubach
- (3) Kronos International
- (4) Imerys Talc
- (5) HOFFMANN MINERAL
- (6) Hexion
- (7) Worlée-Chemie
- (8) King Industries (Worlée-Chemie)
- (9) Allnex
- (10) ExxonMobil

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

[Neuburg Siliceous Earth in Polyester Based Coil Coating Primer](#)

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