High quality interior dispersion paint, no co-solvent, matte very bright, top hiding, highly wet-scrub resistant improving opacity, reducing titanium dioxide

Basis Vinyl acetate / ethylene dispersion (VAE)

			Control	70 pbw SILFIT Z 91 - PCC	57 pbw SILFIT Z 91 -10 % TiO_2	74 pbw SILFIT Z 91 -20 % TiO_2
	F 10402.3		[1]	[2]	[6]	[8]
Component A	Demineralized water		291	291	291	291
	Tylose MH 30000 YG8	(1)	4	4	4	4
	Calgon N, 10 % in water	(2)	5	5	5	5
	Lopon 895	(2)	3	3	3	3
	Agitan 315	(3)	2	2	2	2
	Parmetol MBX	(4)	1	1	1	1
Component B	Sachtleben RDDI	(5)	185	185	166	148
	Socal P2	(6)	70	---	70	70
	Omyacarb 2 GU	(7)	125	125	125	125
	Omyacarb 5 GU	(7)	90	90	90	90
	Omyacarb 10 GU	(7)	30	30	30	30
	Plastorit 00	(8)	40	40	40	40
	SILFIT Z 91	(9)	---	70	57	74
Component C	Agitan 315	(3)	2	2	2	2
	Caustic soda solution 10 %		2	2	2	2
	Mowilith LDM 1871	(10)	150	150	150	150
	Total parts by weight		1000	1000	1038	1037

Recommendation

[2] EU Ecolabel compliant high spreading rate through very high hiding power
[6] high hiding power despite reducing titanium dioxide
[8] cost reduction potential through high titanium dioxide savings

Mischen

- component A: charge water and add Tylose, let swell approx. 30 min while stirring
- add remaining ingredients of component A and stir for another 5 min
- premix and add component B, disperse by dissolver under cooling with water
- complete by component C and stir for another 5 min

The properties were determined on films applied with a doctor blade.

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			Control	70 pbw SILFIT Z 91 - PCC	57 pbw SILFIT Z 91 -10 % TiO_2	74 pbw SILFIT Z 91 -20 % TiO_2
	F 10402.3		[1]	[2]	[6]	[8]
Technical Data	Solids content w/w	%	63.0	63.0	64.3	64.3
	Titanium dioxide content w/w	%	18.5	18.5	16.0	14.3
	PVC	%	70.7	70.8	72.5	72.7
	Dynamic viscosity, 23 °C					
	at 0.1 s^{-1}	Pa·s	116	114	138	132
	at 1000 s^{-1}	Pa·s	0.39	0.38	0.40	0.38
	Storage stability 6 months, 23 °C		very good	very good	very good	very good
Properties	Color d/8°, DIN 5033-1					
	L*		97.4	97.2	97.3	97.2
	a*		-0.3	-0.3	-0.3	-0.3
	b*		2.3	2.3	2.3	2.3
	Classification along with DIN EN 13300					
	Degree of gloss, ISO 2813		matte	matte	matte	matte
	Gloss 85°	GU	8.1	9.9	9.6	9.5
	Wet-scrub resistance, ISO 11998					
	Class		1	1	1	1
	Abrasion loss after 200 cycles	µm	3.5	3.7	4.7	4.6
	Hiding power, ISO 6504-3					
	Spreading rate at class 2 (CR 98 %)	m^2/l	9.5	11.0	9.8	9.5
	Spreading rate at class 1 (CR 99.5 %)	m^2/l	5.4	6.1	5.7	5.5

Suppliers

(1) SE Tylose
(2) BK Giulini
(3) Münzing Chemie
(4) Vink Chemicals
(5) Venator Materials Corporation
(6) Solvay
(7) Omya
(8) Imerys Performance Minerals
(9) HOFFMANN MINERAL
(10) Celanese Emulsions

More information on this topic:

Silfit Z 91 vs. Precipitated Calcium Carbonate and Titanium Dioxide in Solvent-free VAE Paints

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