Industrial coating
Coil coating topcoat, solvent-based, white, glossy
cost-effective

Basis Polyester

			Substitution of 20 % titanium dioxide	
		Control	by equal volume	by equal weight
T 24401.1		[1]	[5]	[6]
Dynapol LH 538-02	(1)	43.2	43.2	43.2
Solvesso 150	(2)	6.0	6.0	6.0
Aerosil 200	(1)	0.2	0.2	0.2
Kronos 2310	(3)	28.1	22.5	22.5
SILLITIN Z 89	(4)	---	3.7	5.6
Cymel 303 LF	(5)	7.0	7.0	7.0
Cymel 327	(5)	1.5	1.5	1.5
Nacure 2500	(6)	0.7	0.7	0.7
Resiflow FL 2	(7)	0.5	0.5	0.5
Byk-057	(8)	0.5	0.5	0.5
Butyl diglycol acetate	(9)	12.3	12.3	12.3
Total parts by weight		100.0	98.1	100.0

Mixing

- Dynapol and Solvesso were charged
- Aerosil, Kronos and SILLITIN Z 89 were stirred in at 500 rpm
- grinding by dissolver with adapted bead mill (9 min, 6.3 m/s, cooled)
- the remaining components were premixed with a propeller stirrer, added after the grinding and incorporated homogeneously (1 min, 6,3 m/s)

Application The formulations were applied to galvanized steel plates (0.55 mm, pretreated chromate-free, Bonder 1303, with PU standard primer 5 µm) and stoved in a continuous furnace with circulating air (320°C, dwell time 38 s, PMT 241°C).

Technical Data					
	Fineness of grind	µm	< 10	< 10	< 10
	PVC	%	17.5	17.5	19.1
	Solids content (by volume)	%	53.7	53.7	54.1

Münchener Straße 75 • DE-86633 Neuburg (Donau)
Phone +49 8431 53-0 • info@hoffmann-mineral.com

					Substitution of 20 % titanium dioxide	
				Control	by equal volume	by equal weight
	T 24401.1			[1]	[5]	[6]
Properties	Dry film thickness		µm	17	15	15
	Color d/8° L*			94.5	93.7	93.7
	Color d/8° a*			-1.3	-1.3	-1.3
	Color d/8° b*			-1.3	-0.9	-0.7
	Haze		HU	205	336	352
	Gloss 20°	DIN EN ISO 2813	GU	71	50	44
	Gloss 60°	DIN EN ISO 2813	GU	92	86	83
	Cross-cut test (1 mm)	DIN EN ISO 2409		0	0	0
	Pendulum hardness	DIN EN ISO 1522	s	167	169	173
	Impact test	DIN EN ISO 6272-1	kg·cm	55	55	50
	Cupping test	DIN EN ISO 1520	mm	7.9	7.9	8.2
	Scratch resistance Corrocutter		N	18	18	18
	(force applied to scratch the coating down to the substrate)					
	MEK resistance		double strokes	> 200	> 200	> 200
	QUV-B 313 nm, 400 h (cycle: 4 h UV 60°C + 4 h condensation 50°C)					
	Gloss 20°before weathering		GU	71	49	42
	Gloss 20° after weathering		GU	33	17	14
	remaining gloss 20°		*%*	*47*	*35*	*33*
	Gloss 60°before weathering		GU	94	86	82
	Gloss 60° after weathering		GU	71	52	46
	remaining gloss 60°		*%*	*76*	*61*	*56*
	Chalking (rel.)		%	1	2	3
	Δ E		%	0.7	0.8	0.9

Suppliers

(1) Evonik Industries
(2) ExxonMobil
(3) Kronos International
(4) HOFFMANN MINERAL
(5) Allnex
(6) King Industries (Worlée-Chemie)
(7) Worlée-Chemie
(8) Byk Chemie
(9) BASF

More information on this topic

Neuburg Siliceous Earth in a White Polyester-based Coil Coating Top Coat

Münchener Straße 75 • DE-86633 Neuburg (Donau)
Phone +49 8431 53-0 • info@hoffmann-mineral.com