



Industrial coating

Powder coating, white

Basis Hybrid powder (polyester / epoxy)

		-20 % titanium dioxide		
		Control	SILFIT Z 91 as TiO ₂ extender	no natural barium sulfate
I 34401.5		[2]	[8]	[14]
Crylcoat 1771-3	(1)	39.0	38.9	42.4
Epikote Resin 1003	(2)	18.0	18.0	19.6
Additol P896	(1)	3.0	3.2	3.5
Sachtleben R-KB-2)*		19.5	15.6	16.9
EWO	(3)	20.0	20.0	---
SILFIT Z 91	(4)	---	3.9	17.1
Benzoin		0.5	0.5	0.5
Total % by weight		100	100	100

)* Sachtleben R-KB-2 is no longer available
Recommended: suitable titanium dioxide grade

Recommendation [8] improved scratch resistance
[14] low haze, high gloss, good leveling, improved impact, high spreading rate

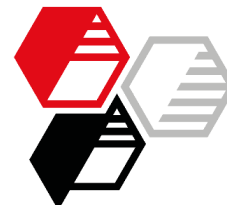
The partial replacement of titanium dioxide by Silfit Z 91 offers a cost reduction potential up to 5 %.




Preparation

- Premix : Mixaco Mixer LAB CM 3, 2 min, 1000 min⁻¹
Extruder: Coperion ZSK 18, heating zone 50/100/100/100/100°C, 350 min⁻¹
- Micronizing: Retsch ZM 100, 0.5 sieve, 18000 min⁻¹
- Sieving: Fritsch Analysette 3 PRO, 5-8 min, Amplitude 2.5 mm, mesh size 100 µm, DIN 4188
- Application: powder gun GEMA Corona, Typ PG 1-B, 80 kV / 2 bar
- Curing: convection oven, 15 min @ 180°C (corresponds to approx. 10 min PMT 180°C)
- Dry film thickness approx. 70 µm

Suppliers

- (1) Allnex
- (2) Hexion
- (3) Sachtleben Minerals
- (4) HOFFMANN MINERAL



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Technical data	PVC	%	16.3	17.1	17.1	
	Density (calculated)	g/cm ³	1.67	1.66	1.52	
	Index spreading rate	%	100.0	100.6	109.9	
	with same powder coating material and film thickness coatable area					
Optical properties	Substrate: aluminum A 48					
	Haze	HU	329	339	199	
	Gloss 20°	DIN EN ISO 2813	GU	58	58	78
	Gloss 60°	DIN EN ISO 2813	GU	87	89	97
	Color d/8° L*		95.2	94.2	93.5	
	Color d/8° a*		-0.8	-0.7	-0.7	
	Color d/8° b*		2.1	2.6	2.8	
	Hiding power		98.9	98.1	98.7	
	Opacity at 70 µm dry film thickness					
	Leveling		moderate	moderate	good	
	Visual assessment					
	reflection of overhead light					
Mechanical properties	Substrate: aluminum A 36					
	Cupping test	DIN EN ISO 1520	mm	6.9	6.4	6.4
	Reverse impact	ASTM D 2794	inch-pounds	18	14	28
	2 lbs, no visible cracks					
Substrate: aluminum A 48						
Scratch resistance Corrocutter			N	14	18	16
force applied to scratch the coating down to the substrate						

More information on this topic:

[Calcined Neuburg Siliceous Earth in Hybrid Powder Coatings](#)

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