



Industrial coating
Powder coating, white
with precipitated barium sulfate

Basis Hybrid powder (polyester / epoxy)

		-20 % titanium dioxide		
		Control	SILFIT Z 91 as TiO ₂ extender	-33 % precipitated barium sulfate
I 34401.5		[3]	[9]	[11]
Crylcoat 1771-3	(1)	39.0	38.9	40.0
Epikote Resin 1003	(2)	18.0	18.0	18.5
Additol P896	(1)	3.0	3.2	3.3
Sachtleben R-KB-2)*	19.5	15.6	16.0
Sachtofine P)**	20.0	20.0	13.7
SILFIT Z 91	(3)	---	3.9	8.0
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
- ** Sachtofine P is no longer available




Recommendation [9] low haze, good optical properties
 [11] improved scratch resistance, 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) HOFFMANN MINERAL



		-20 % titanium dioxide				
		Control	SILFIT Z 91 as TiO ₂ extender	-33 % precipitated barium sulfate		
		[3]	[9]	[11]		
	I 34401.5					
Technical data	PVC	%	16.3	17.1	17.1	
	Density (calculated)	g/cm ³	1.67	1.66	1.61	
	Index spreading rate	%	100.0	100.6	103.7	
	<i>with same powder coating material and film thickness coatable area</i>					
Optical properties	<u>Substrate: aluminum A 48</u>					
	Haze	HU	61	92	113	
	Gloss 20°	DIN EN ISO 2813	GU	91	88	86
	Gloss 60°	DIN EN ISO 2813	GU	99	98	97
	Color d/8°	L*	95.8	94.5	94.3	
	Color d/8°	a*	-0.8	-0.8	-0.7	
	Color d/8°	b*	1.7	2.2	2.6	
	Hiding power		98.8	98.6	98.2	
	<i>Opacity at 70 µm dry film thickness</i>					
	Leveling		moderate	moderate	moderate	
	Visual assessment					
	<i>reflection of overhead light</i>					
						
Mechanical properties	<u>Substrate: aluminum A 36</u>					
	Cupping test	DIN EN ISO 1520	mm	6.8	7.0	6.6
	Reverse impact	ASTM D 2794	inch- pounds	16	10	14
	<i>2 lbs, no visible cracks</i>					
	<u>Substrate: aluminum A 48</u>					
Scratch resistance	Corrocutter	N	15	16	18	
<i>force applied to scratch the coating down to the substrate</i>						

More information on this topic:

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

Our applications engineering advice and the information contained in this formulation are based on experience and are made to the best of our knowledge and belief, they must be regarded however as non-binding advice without guarantee. Working and employment conditions over which we have no control exclude any damage claim arising from the use of our data and recommendations. Furthermore we cannot assume any responsibility for patent infringements, which might result from the use of our information.