



**Industrial coating**  
**Powder coating, white**

**Basis** Hybrid powder (polyester / epoxy)

		-20 % titanium dioxide		
		Control	SILFIT Z 91 as TiO <sub>2</sub> 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<sup>-1</sup>
- Extruder: Coperion ZSK 18, heating zone 50/100/100/100/100°C, 350 min<sup>-1</sup>
- Micronizing: Retsch ZM 100, 0.5 sieve, 18000 min<sup>-1</sup>
- 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) Westlake
- (3) Sachtleben Minerals
- (4) HOFFMANN MINERAL



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<b>Technical data</b>	PVC	%	16.3	17.1	17.1	
	Density (calculated)	g/cm <sup>3</sup>	1.67	1.66	1.52	
	Index spreading rate	%	100.0	100.6	109.9	
	<i>with same powder coating material and film thickness coatable area</i>					
<b>Optical properties</b>	<u>Substrate: aluminum A 48</u>					
	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	
	<i>Opacity at 70 µm dry film thickness</i>					
	Leveling		moderate	moderate	good	
	Visual assessment					
<i>reflection of overhead light</i>						
						
<b>Mechanical properties</b>	<u>Substrate: aluminum A 36</u>					
	Cupping test	DIN EN ISO 1520	mm	6.9	6.4	6.4
	Reverse impact	ASTM D 2794	inch-	18	14	28
			pounds			
	<u>Substrate: aluminum A 48</u>					
Scratch resistance	Corrocutter	N	14	18	16	
<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](#)

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