

**Industrial coating**  
**Powder coating, white**  
**with precipitated barium sulfate**

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

		-20 % titanium dioxide		
		Control	SILFIT Z 91 as TiO <sub>2</sub> 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<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) 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	1.61	
	Index spreading rate	%	100.0	100.6	103.7	
	<i>with same powder coating material and film thickness coatable area</i>					
<b>Optical properties</b>	<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>					
<b>Mechanical properties</b>	<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-	16	10	14
			pounds			
			<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](#)

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