

Industrial coating
Powder coating, Polyester/TGIC, white
with natural barium sulfate

Basis Polyester

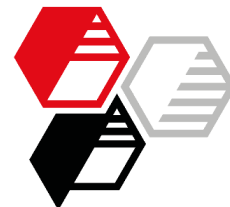
		Control	-20 % Titanium dioxide		
			BaSO ₄	- 33 % BaSO ₄	- 100 % BaSO ₄
			+ SILFIT Z 91	+ SILFIT Z 91	+ SILFIT Z 91
I 34402.5		[1]	[3]	[5]	[8]
Crylcoat 2441-3	(1)	59.00	59.00	59.00	59.00
TGIC	(2)	4.50	4.50	4.50	4.50
Kronos 2360	(3)	20.00	16.00	16.00	16.00
EWO	(4)	16.50	16.50	11.00	---
SILFIT Z 91	(5)	---	4.00	7.25	13.75
Modaflow P 6000	(1)	1.00	1.00	1.00	1.00
Benzoin		0.20	0.20	0.20	0.20
Total parts by weight		101.20	101.20	98.95	94.45

- Recommendation**
- [3] good optical properties, improved corrosion resistance
 - [5] like [3], higher spreading rate (lower density)
 - [8] outstanding optical properties, improved corrosion resistance, highest spreading rate (lowest density)

The partial replacement of titanium dioxide by SILFIT Z 91 offers a cost reduction potential up to 4 %.

- Application**
- Wagner powder spray gun (EPM Sprint, PEM-CG4 model 360); 90 kV
 - Curing: 10 min PMT 200 °C, Dry film thickness 80-90 µm
 - Substrate: chromated aluminum (Q-Panel AL 48)

- Suppliers**
- (1) Allnex
 - (2) Sigma Aldrich
 - (3) Kronos International
 - (4) Sachtleben Minerals
 - (5) HOFFMANN MINERAL



	Control	-20 % Titanium dioxide		
		BaSO ₄ + SILFIT Z 91	- 33 % BaSO ₄ + SILFIT Z 91	- 100 % BaSO ₄ + SILFIT Z 91
I 34402.5	[1]	[3]	[5]	[8]

Acetic salt spray test DIN EN ISO 9227 AASS, 2000 h

Degree of blistering <i>DIN EN ISO 4628-2</i>	5 % of area: 3 – 3 (S2)		no blistering	
Delamination at scribe <i>DIN EN ISO 4628-8</i>	mm 0.7	0.1	0.1	0.1

Humidity test DIN EN ISO 6270-2 CH, 2000 h

Degree of blistering <i>DIN EN ISO 4628-2</i>	30 % of area: 2 – 2 (S2)		no blistering	
Delamination at scribe <i>DIN EN ISO 4628-8</i>	mm 7	0	0	0



Artificial weathering, 1000 h (customer feedback)

Substitution of 10 to 50 % titanium dioxide by SILFIT Z 91:
after 1000 h no differences between the formulations, all results very good,
 ΔE approx. 1.3 and remaining gloss approx. 93 %
None of the formulations exhibited any signs of chalking or white spots after exposure.

Cycle: 4 h UVA light 340 nm at 50 °C + 4 h 100 % relative humidity at 50 °C

More information on this topic:

[Calcined Neuburg Siliceous Earth in Powder Coatings \(Polyester, TGIC-based, white\)](#)