



**Industrial coating**  
**Powder coating for pipelines**  
**good corrosion protection and hot water resistance**

**Basis** Epoxy resin (bisphenol A and accelerated dicyandiamide)

R 34401.2		[9]	[11]	[13]
Epikote Resin 1055	(1)	827.00	827.00	827.00
Epikure Curing Agent P-104	(1)	33.00	33.00	33.00
Byk-368 P	(2)	10.00	10.00	10.00
Bayferrox 222	(3)	15.00	15.00	15.00
SILLITIN Z 86	(4)	148.57	---	---
AKTISIL AM	(4)	---	148.57	---
AKTISIL MM	(4)	---	---	148.57
Total parts by weight		1033.57	1033.57	1033.57

**Recommendation**

[9] SILLITIN Z 86: favorable price/performance ratio

[11] AKTISIL AM: best results in resistance tests

[13] AKTISIL MM: low delamination and better mechanical properties

**Preparation**

- premix and extrusion in a twin screw extruder (MP 19, APV Baker)  
D = 19 mm and L = 25 D, screw speed 300 min<sup>-1</sup>
- grind at 16000 min<sup>-1</sup>
- screening through 100 µm mesh

**Application**

- for optical assessments and Martens hardness with corona spray gun (70 kV) on Q-Panel sheets R 36; film thickness 110-120 µm
- for mechanical and chemical tests by tribo application on blasted steel sheets (surface roughness 50-70 µm, before application pre-heated to 200°C); film thickness approx. 400 µm
- curing at 200°C subject temperature for 10 min

**Suppliers**

- (1) Westlake
- (2) Byk Chemie
- (3) Lanxess
- (4) HOFFMANN MINERAL

**More information on this topic:**  
[Neuburg Siliceous Earth for Epoxy Pipeline Powder Coatings](#)



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<b>Technical Data</b>	PVC	%	7.6	7.6	7.6
<b>Properties</b>	Gel time <i>ISO 8130-6</i>	s	40-48	40-48	40-48
	Gloss 20° <i>DIN EN ISO 2813</i>	GU	71	67	60
	Gloss 60° <i>DIN EN ISO 2813</i>	GU	96	95	93
	Martens hardness <i>DIN EN ISO 14577</i>	N/mm <sup>2</sup>	140-160	140-160	140-160
	Abrasion loss CS 17, 1 kg, 1000 rev. <i>ASTM D 4060-01</i>	mg	37	28	35
	S 42, 5.4 N, 100 rev. <i>DIN 53754</i>	mg	50	57	54
	Impact test <i>DIN EN ISO 6272-1</i>	kg-cm	> 200	> 200	> 200
	Reverse impact test <i>DIN EN ISO 6272-1</i>	kg-cm	40-60	60-80	> 100
	Cupping test <i>DIN EN ISO 1520</i>	mm	9,9	> 10	> 10
	Mandrel bending test (32 mm) <i>DIN EN ISO 1519</i>		fine cracks	fine cracks	fine cracks
	Cross-cut test <i>DIN EN ISO 2409</i>		0	0	0



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<b>Salt spray test 2000 h</b>				
<i>DIN EN ISO 9227</i>				
Delamination around a scribe	mm	4.5	4.8	5.3
<i>DIN EN ISO 4628-8</i>				
Corrosion around a scribe	mm	0.4	0.5	0.6
<i>DIN EN ISO 4628-8</i>				
<b>Humidity test 4000 h</b>				
<i>DIN EN ISO 6270-2</i>				
Delamination around a scribe	mm	0.4	0.3	0
<i>DIN EN ISO 4628-8</i>				
Cross-cut test		0	0	0
<i>DIN EN ISO 2409</i>				
<b>Chemical resistance, immersion in distilled water at 90°C, 1700 h</b>				
<i>DIN EN ISO 2812-2</i>				
Color change delta E		1.0	1.3	2.9
<i>Illuminant D65, geometry d/8°</i>				
Remaining gloss 60°	%	86	95	98
<i>DIN EN ISO 2813</i>				
Remaining pendulum hardness	%	83	90	89
<i>DIN EN ISO 1522</i>				
Cross-cut test		0	0	0
<i>DIN EN ISO 2409</i>				
<b>Chemical resistance, immersion in 10 % sulfuric acid at 23°C, 1000 h</b>				
<i>DIN EN ISO 2812-1</i>				
optical change		no	no	no
<b>Chemical resistance, immersion in 10 % caustic soda at 23°C, 1500 h</b>				
<i>DIN EN ISO 2812-1</i>				
optical change		no	no	no
<b>Cathodic disbondment</b>	mm	0-1	0-1	0-1
<i>DIN EN ISO 15711</i>		<i>formulation without fillers: approx. 10 mm</i>		

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