Industrial coating
Anti-corrosion primer for high requirements
very high solid, VOC 250 g/l, good acid resistance

Basis Epoxy resin (bisphenol A + bisphenol A/F and polyamidoamine adduct)

			R 24403 C
Component A	Araldite GZ 7071 X 75	(1)	130.87
	Araldite GY 783	(1)	98.15
	Luvotix P 25 X	(2)	1.00
	n-Butanol		40.00
	Byk-057	(3)	3.50
	Zinkphosphat ZP 10	(4)	53.90
	Bayferrox 222	(5)	35.90
	AKTISIL AM	(6)	212.33
Component B	Shellsol A 100	(7)	39.10
	Aradur 450	(1)	81.20
	Total parts by weight		695.95

Mixing The preparation of component A was realized by dissolver with adapted bead mill after predispersion by grinding (20 min, 7.8 m/s).
Before adding pigment and filler, the liquid parts of component A are premixed for 5 min (using a part of the grinding beads). For activating Luvotix, the temperature of the mill base should exceed 55°C.

Application Spraying by air pressure, single-layered with a dry film thickness of 250 µm on cold-rolled steel (Sa 2½, sandblasted medium (G) according to ISO 8503-1)

Technical Data	Solids content (m/m)	%	85
	PVC	%	29
	VOC	g/l	250

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				Control with talc and barite	R 24403 C with AKTISIL AM
Properties	Fineness of grind		µm	*20*	10-15
	Sedimentation component A	28 d, 50°C		*a lot of, hard*	none
	Dynamic viscosity A+B	0.1 s^{-1}, 23°C	Pa·s	*10.2*	15.4
	Dynamic viscosity A+B	1000 s^{-1}, 23°C	Pa·s	*2.4*	1.7
	Pot life (viscosity doubled)		min	*50*	66
	Pendulum hardness after 336 h		s	*76*	95
	Cross-cut test (3 mm after tape tear-off)			*0*	0-1
	Abrasion loss		mg	*253*	128
	Salt spray test DIN EN ISO 9227 NSS, 4000 h				
	Rating according to DIN EN ISO 4628 part 2-5 and 8				
	Degree of blistering			*0*	0
	Degree of rusting			*0*	0
	Degree of cracking			*0*	0
	Degree of flaking			*0*	0
	Degree of corrosion around a scribe		mm	*< 0.3*	< 0.3
	Degree of delamination around a scribe		mm	*34*	23
	Cross-cut test (3 mm after tape tear-off)			*0-1*	0-1
	Humidity test DIN EN ISO 6270-2 CH, 2000 h				
	Rating according to DIN EN ISO 4628 part 2-5 and 8				
	Degree of blistering			*0*	0
	Degree of rusting			*0*	0
	Degree of cracking			*0*	0
	Degree of flaking			*0*	0
	Degree of corrosion around a scribe		mm	*0.4*	0.3
	Degree of delamination around a scribe		mm	*not evaluated*	not evaluated
	Cross-cut test (3 mm after tape tear-off)			*0-1*	0-1
	Chemical resistance DIN EN ISO 2812-1				
	Rating according to DIN EN ISO 4628 part 2				
	10 % sulfuric acid, 23°C	1000 h		*5 (S5)*	0
	10 % acetic acid, 23°C	168 h		*3-4 (S4)*	3-4 (S3)*

* *To improve the resistance to organic acids, a cycloalphatic hardener based on IPD is recommended, whereby results comparable to aromatic amine hardeners can be attained:*

10 % acetic acid, 23°C	*168 h*		*0*	*0*
	760 h		*4 (S4)*	*2-3 (S5)*

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Suppliers

(1) Huntsman Advanced Materials
(2) Lehmann & Voss
(3) Byk Chemie
(4) Heubach
(5) Lanxess
(6) HOFFMANN MINERAL
(7) Shell Chemicals

More information on this topic:
Neuburg Siliceous Earth in High Solid Epoxy Coatings

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