

Industrial coating
Clear coat for furniture, water-based
preferably as topcoat
fast drying, good sandability and blocking resistance
good resistance to chemicals and water

Basis Acrylic dispersion (core-shell), self cross-linkable

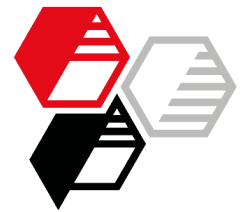
I 13401.1		[4]	[7]
Alberdingk AC 25381	(1)	74.50	74.50
Tego Foamex 822	(2)	0.60	0.60
Dowanol DPM	(3)	5.00	5.00
Dowanol DPnB	(3)	2.00	2.00
Deionized water		6.00	7.50
AKTISIL MAM	(4)	10.00	20.00
Aquacer 539	(5)	3.00	3.00
Byk-346	(5)	0.30	0.30
Rheovis PU 1214 NC	(6)	0.15	0.15
Total parts by weight		101.55	113.05

Recommendation [4] high transparency, especially for dark wood, good abrasion resistance, very good stain resistance
 [7] fast drying, matting

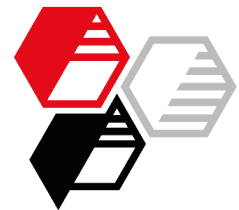
Mixing

- charge Alberdingk AC 25381 and add Tego Foamex
- premix and add Dowanol DPM, Dowanol DPnB and water
- add filler and disperse by dissolver (15 min, 4.2 m/s)
- complete by remaining additives

Technical Data		%	46.4	50.6
Solids content (w/w)		%	46.4	50.6
PVC		%	10.6	19.1



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Properties	Fineness of grind, DIN EN ISO 1524	µm	5	5	
	Dynamic viscosity, 23°C	at 0.1 s ⁻¹	Pa·s	1.46	1.40
		at 1000 s ⁻¹	Pa·s	0.17	0.18
	Storage stability, 23°C	28 d		very good	very good
				no gelling	no gelling
Sedimentation stability			good *	moderate *	
* <i>sedimentation stability and redispersibility can be improved by adding Laponite RD (0.2 pbw, Rockwood Additives)</i>					
The following properties were determined on knife-coated films:					
Drying time, based on ASTM D 5895					
Film applicator equipped with wire loop tool (Erichsen)					
Dry film thickness (DFT)	35 µm	min	21	18	
	75 µm	min	43	40	
Gloss 60°, DFT 35 µm, DIN EN ISO 2813		GU	23	8	
			comparable results at DFT 70 µm		
Transparency, DFT 35 µm					
Increase of L* over black substrate			0.9	1.9	
Pendulum hardness Koenig, DFT 30 µm					
	after 1 d	s	38	45	
	after 7 d	s	60	64	
	after 21 d	s	67	69	
Cross-cut test 1 mm, DIN EN ISO 2409					
after 7 d, on wood, after tape tear-off			0	0	
Sandability (manually tested)			good	very good	
Drying time for sufficient sandability					
	DFT 35 µm	h	24	6	
			comparable results at DFT 65 µm		
Abrasion loss CS 17, ASTM D 4060 (1000 g, per 500 revolutions)					
after 26 d, DFT 65 µm		mm ³	58	64	



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Blocking resistance on Leneta foil		
<i>Rating: 10 = not sticky, 0 = 75-100 % tear-off</i>		
Conditioning 24 h indoor climate, DFT 35 µm		
Loading: 100 g/cm ² for 1 h, 23°C	8	9
Loading: 100 g/cm ² for 1 h, 40°C	7	7-8
Conditioning 30 min 23°C + 30 min convection oven 40°C, DFT 65 µm		
Loading: 100 g/cm ² for 1 h, 23°C	7	7-8
Chemical resistance, DIN EN 12720, stain resistance on beech after 10 d drying, DFT 90 µm (3 x 30 µm)		
<i>Rating: 5 = no visible change, 1 = clear marking</i>		
deionized water 16 h	5	3-4
acetic acid 10 % 16 h	4	3-4
ethanol 48 % 1 h	4-5	3-4
ammonia 10 % 2 min	5	5
soluble coffee 16 h	4	3-4
cola 16 h	5	4-5
red wine 6 h	5	4-5
mustard 6 h	5	4-5
ink 16 h	5	4
hand cream „Nivea“ 16 h	4-5	4-5
butter 16 h	4-5	4-5

Suppliers

- (1) Alberdingk Boley
- (2) Evonik Tego Chemie
- (3) Dow Chemical Company
- (4) HOFFMANN MINERAL
- (5) Byk Chemie
- (6) BASF

More information on this topic:

[Neuburg Siliceous Earth in Water-based Acrylic Clear Coats for Wood](#)

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