



Dow Coating Materials

RCA 18-108

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Analytical time: 9 hours

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Subject:

Determine the formaldehyde absorption on dry paint panels:

Paint A: pass control PRIMAL™ SF-208ER

Paint B: fail control PRIMAL™ SF-016

Paint 1: Sample 1 **Holzer Neo Azalea** from *Holzerfarbe*

Paint 2: Sample 2 from *Holzerfarbe*

Method:

The formaldehyde was analysed by UPLC

Formaldehyde absorption method

Painted surface 0.008m²

Bag sealed with the glass plate sample.

8 Liters of air injected.

10µL of formaldehyde solution at 0.1% in DIW are injected into the bag.

Air is collected from the bag after 24h with a flow of 1L/min during 2 min.

DNPH Sorbent Sample Tubes (Cat. Nos.226-119 and 226-119-7) are used for the collection of aldehydes in air.

Extraction of Sorbent Sample Tubes is done by adding of 2mL of Acetonitrile then Ultra Sonic 30min.

Extractions are analyzed by UPLC after filtration under 0.45µm PTFE Acrodisc CR 13

Blank bags, with and without formaldehyde solution, are added at each analyze.

Pass and failed control paints are replicated.

Results:

Drying time of the paint: 4 days

Paint	% absorbed
Paint A (pass control)	98
Paint B (fail control)	45
Paint 1 Holzer Neo Azalea	98
Paint 2	64

Annex I – DOW pass control paint

Name	Weight (kg)	Volume (L)	Level (%)
Grind			
Water	66.45	66.45	
Tego Foamex 805	1.69	1.67	
OROTAN™ 731-A ER	12.60	11.46	0.99
ACRYSOL™ RM-5000	3.50	3.35	
Ti-Pure R-706	174.00	43.50	15.29
Minex S6	144.09	56.06	19.71
End Grind	402.318	182.503	
LetDown			
PRIMAL™ SF-208 ER	423.57	407.28	
ACRYSOL™ RM-5000	19.41	18.62	
ACRYSOL™ RM-8W	5.98	5.75	
Water	148.72	148.72	
End LetDown	597.682	580.373	
Totals	1000.000	762.876	

Property	Value	(w/o Additives)
Total PVC	35.000	%
Volume Solids	37.289	%
Weight Solids	51.928	%
Density	1.311	kg/L
Dry Density	1.813	kg/L
Total Coalescent	0.000	%
Total Dispersant	0.990	%
VOC Generic Water Exc	0.000	g/L

Annex II- DOW fail control paint

Name	Weight (kg)	Volume (L)	Level (%)
Grind			
Water	65.75	65.75	
Byk-024	1.69	1.67	
OROTAN™ 731-A ER	12.65	11.51	1.00
ACRY SOL™ RM-5000	3.51	3.37	
Ti-Pure R-706	173.00	43.25	15.29
Minex S6	143.27	55.75	19.71
End Grind	399.872	181.297	
LetDown			
PRIMAL™ SF-016 ER	411.39	389.57	
ACRY SOL™ RM-5000	34.28	32.88	
ACRY SOL™ RM-8W	20.75	19.95	
Water	133.72	133.72	
End LetDown	600.128	576.122	
Totals	1000.000	757.419	

Property	Value	(w/o Additives)
Total PVC	35.000	%
Volume Solids	37.343	%
Weight Solids	52.402	%
Density	1.320	kg/L
Dry Density	1.831	kg/L
Total Coalescent	0.000	%
Total Dispersant	1.000	%
VOC Generic Water Exc	0.000	g/L

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