Industrial coating
Road marking paint, water-based, yellow
Cost saving potential as a pigment extender

Basis Acrylic emulsion

		Control	Variant 1 -10 % yellow pigm. -5 % TiO2	Variant 2 -20 % yellow pigm. -10 % TiO2	Variant 3 -30 % yellow pigm. -15 % TiO2
L 00055.1		[20]	[35]	[27]	[36]
-- part 1 --					
Fastrack 53	(1)	38.38	38.38	38.38	38.38
Foamaster MO 2134	(2)	0.25	0.25	0.25	0.25
AS 238 NF	(3)	0.86	0.86	0.86	0.86
-- part 2 --					
Ti-Pure R-900	(4)	2.10	1.99	1.89	1.78
Novoperm Yellow HR 70	(5)	3.15	2.84	2.52	2.21
TP 2023032	(6)	---	0.63	1.26	1.88
Omyacarb 5	(7)	47.81	47.60	47.39	47.19
-- part 3 --					
Tergitol 15-S-40 (70 %)	(8)	0.30	0.30	0.30	0.30
-- part 4 --					
Ethanol		1.24	1.24	1.24	1.24
Foamaster MO 2134	(2)	0.03	0.03	0.03	0.03
Deionized water		1.90	1.90	1.90	1.90
-- part 5 --					
Texanol	(8)	3.98	3.98	3.98	3.98
Total weight-%		100.00	100.00	100.00	100.00

Note The reduced proportion of yellow pigment is replaced by TP 2023032 in a ratio of 1:2 (by weight).
The amount of titanium dioxide contained is reduced by half of the reduced yellow pigment.

Recommendation TP 2023032

- partial replacement of yellow pigment up to 30 % and titanium dioxide up to 15 %
- compliance with the color requirements DIN EN 1436
- environmentally friendly and sustainable mineral with low carbon footprint
- easy dosing and dispersion
- cost savings potential of up to 8 %

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Mixing

- charge part 1 and stir in part 2
- add part 3 drop by drop
- pre-mix and add part 4
- complete by part 5
- disperse by dissolver at 5 m/s for 10 min

Application

- doctor blade
- substrate: contrast cardboard
- dry film thickness: ~ 550 µm
- drying: 23 °C / 50 % relative humidity

Suppliers

(1) Dow Chemical Company
(2) BASF
(3) Lefrant-Rubco S.A.
(4) Chemours
(5) Heubach
(6) HOFFMANN MINERAL
(7) Omya
(8) Eastman Chemical Company

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L 00055.1		[20]	[35]	[27]	[36]
PVC	%	53.6	53.4	53.1	52.8
Solids content m/m	%	64.9	65.3	65.7	66.1
Viscosity after 1 d					
@ 0.1 s-1	Pa·s	22.4	22.8	21.7	23.1
@ 500 s-1	Pa·s	0.354	0.331	0.347	0.341
Gloss 85°	GU	4.5	5.5	4.9	5.3
Color with geometry 45°/0°, standard illuminant D65, observer 2°					
L*		79.6	79.9	79.9	80.1
a*		24.5	24.1	23.8	23.1
b*		79.6	79.4	79.1	79.8
Chromaticity coordinate x	)*	0.496	0.494	0.494	0.493
Chromaticity coordinate y	)*	0.438	0.439	0.444	0.441

)* key data limiting the color space for yellow road marking paints acc. to DIN EN 1436

Class Y1 for permanent yellow road marking paints

	1	2	3	4
x	0.443	0.545	0.465	0.389
y	0.399	0.454	0.534	0.431

Class Y2 for temporary yellow road marking paints

	1	2	3	4
x	0.494	0.545	0.465	0.427
y	0.427	0.454	0.534	0.483

Cost saving potential on total formulation	%		2.7	5.4	8.2

More information on this topic:

Neuburg Siliceous Earth as pigment extender in yellow road marking paint, water-based

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