

Automotive Coatings

EU SF 5.2.

Aqueous two-pack PU clear coat,
based on Bayhydrol A 145 and Bayhydur 304

	Raw Material	Supplier	A clearcoat % by wt.	B clearcoat % by wt.
Comp. 1	1. Bayhydrol A 145, 46%	(1)	48.35	48.35
	2. Surfynol 104 BC	(2)	1.10	1.10
	3. Borchi® Gel PW 25	(3)	0.15	–
	4. Borchi® Gel O621	(3)	–	0.12
	5. Borchi® Gol LA 200 / Borchi® Gol LA 50 (3/7), 10% in butyl glycol	(3)	1.00	1.00
	<i>Total</i>		50.60	50.60
Comp. 2	6. Bayhydur 304	(1)	15.10	15.10
	7. Dipropylene glycol DME	(4)	3.80	3.80
	<i>Total</i>		18.90	18.90
	8. Water (for thinning)		30.50	30.53
	<i>Total</i>		100.00	100.00

Indications

Formulation of clearcoat, comp. 1:

Place const. 1. in a dissolver. Add in const. 2.-4. under stirring
(10 min at 2000 rpm). Leave to deaerate for one day.

Application

Compressed-air spraying, nozzle 1.3 mm
1 cross spraying, 5 min intermediate deaeration
1 cross spraying, 10 min final deaeration

Remarks

Light stabilizer to improve weather stability (add before component 2)
Clearcoat: 1% Tinuvin 292 (solid / solid resin)
2% Tinuvin 1130 (solid / solid resin)

Data	A and B clearcoat
NCO :OH - ratio	1.5
Ratio comp. 1:2	2.7 : 1
Flow time, DIN 53211-cup 4 mm, at 23 °C	25 s
Cosolvent	9.2 %
Density	1.0 kg/l
VOC	194 g/l
pH-value	7.7
Solids content on application	38 %

Technical properties	A and B clearcoat	
	Viscosity increase: comp. (1 +2) DIN 4 (s) / pH-value	0 h
	3 h	34 / 7.2
Drying 30 min 60 °C	(0-5)*	2
T1 / T3 (DIN 53150)	h	1 / > 7
Pendulum hardness (s) DIN EN ISO 1522 (Substrate: glass)	1d RT	123
	7d RT	174
	16h 50°C	169
Film thickness	µm	50
Gloss 20° angle / visually (DIN 67530 / ISO 2813)		84 / 1
Haze (DIN 67530 / ISO 2813)		24

* Evaluation: 0 = no visible changes
5 = test surface was strongly changed respectively destroyed

Chemical resistance:

Paint system on car body panel + conv. two-pack-PU primer (+ conv. basecoat for Formulation A and B)

	A and B clearcoat	
	H ₂ O (1h)	immediately
	1d RT	2
	7d RT	1
	16h 50°C	1
5' premium gas / MPA / Xylene	immediately	4 3 4
	1d RT	2 3 3
	7d RT	1 1 1
	16h 50°C	1 1 1
Alkaline/acid** cleaning agent (1 h)	7d RT	0 / 0

* Evaluation: 0 = no visible changes
5 = test surface was strongly changed respectively destroyed

** Alkaline = 2% sodium hydroxide solution

Acid = 2% sulfuric acid

Suppliers

- (1) Covestro (www.covestro.com)
- (2) Air Products (www.airproducts.com)
- (3) Milliken (www.milliken.com)
- (4) Clariant (www.clariant.com)

borchers.com/contact

PLEASE NOTE: As each customer's use of our product may be different, information we provide, including without limitation, recommendations, test results, samples, care/labeling/processing instructions or marketing advice, is provided in good faith but without warranty and without accepting any responsibility/liability. Each customer must test and be responsible for its own specific use, further processing, labeling, marketing, etc. All sales are exclusively subject to our standard terms of sale posted at www.milliken.com/terms (all additional/different terms are rejected) unless explicitly agreed otherwise in a signed writing.