

## 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. Borch <sup>i</sup> ® Gel PW 25	(3)	0.15	–
	4. Borch <sup>i</sup> ® Gel O621	(3)	–	0.12
	5. Borch <sup>i</sup> ® Gol LA 200 / Borch <sup>i</sup> ® Gol LA 50 (3/7), 10% in butyl glycol	(3)	1.00	1.00
	<i>Total</i>		<i>50.60</i>	<i>50.60</i>
Comp. 2	6. Bayhydur 304	(1)	15.10	15.10
	7. Dipropylene glycol DME	(4)	3.80	3.80
	<i>Total</i>		<i>18.90</i>	<i>18.90</i>
	8. Water (for thinning)		30.50	30.53
	<i>Total</i>		<i>100.00</i>	<i>100.00</i>

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 <sub>2</sub> 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](http://www.covestro.com))
- (2) Air Products ([www.airproducts.com](http://www.airproducts.com))
- (3) Milliken ([www.milliken.com](http://www.milliken.com))
- (4) Clariant ([www.clariant.com](http://www.clariant.com))

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