

NECOWEL 750

Polyol component for water based two component polyurethane systems

Product properties

NECOWEL 750 is a polyol component to formulate high quality two component polyurethane lacquers. The emulsion does not contain APEO and is free of VOC and SVOC. Coatings based on this patented binder system show good solvent, weather and yellowing resistance as well as high gloss.

As crosslinker HDI and IPDI based oligomeric polyisocyanates are recommended. Basically hydrophilic isocyanates specially designed for waterborne systems, as well as in combination with common hydrophobic types can be used. As usual in PU systems, an excess of crosslinker is recommended (e.g. 110 - 150 % degree of crosslinking). Isocyanates can be premixed with cosolvents to improve the incorporation. Suitable solvents are e.g. butylglycolacetate and butyldiglycolacetate. Cosolvents with high boiling points (butyldiglycolacetate) can improve the flow and leveling, but prolongate the drying time.

In combination with appropriate hardeners high film thicknesses in one layer can be achieved without blistering.

Potlife of the paint – hardener mixture depends on isocyanate component, formulation, mixing ratio and catalyst. Suitable formulations typically achieve a potlife of more than 4 hours. The end of potlife is not indicated by an increase of viscosity.

Application

- Two component polyurethane coatings.

Analytical data

- Solid content: 41 – 44 %
- Oil length: ca. 18 %
- Type of oil: peanut oil
- Viscosity: 2.0 – 5.0 Pa.s, 20 °C
- pH-value: 7 – 8
- OH-content: 3.1 – 3.5 %
- Neutralizer: triethylamine
- Solvent: water

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Packaging and storage

- Packaging: 180 kg drum | 900 kg IBC | tank car
- Transportation and storage: Protect from freezing
- Minimum shelf life: 6 months in closed original packaging
- Detailed health and safety information please find in the corresponding safety data sheet.

NECOWEL 750

Starting formulation

Code Nr.: 170206 2 Component-clearcoat with NECOWEL 750

Position	Product	Wt. %	Supplier
A	NECOWEL 750	70,00	ASK
B	Byk 3455	0,50	Byk
C	Dem.water	28,10	
D	Tafigel Pur 41	0,40	Münzing
E	Byk Silclean 3720	1,00	Byk
		100,00	

Mix A – E

Mixing ratio = 4:1 by weight with ASK-Hardener 8382

Code Nr.: 8382 ASK Hardener 8382

Position	Product	Wt. %	Supplier
A	Bayhydur XP 2655	80,00	Covestro
B	Butylglykolacetat	20,00	
		100,00	

Test results:

Substrate:	CRS, with basecoat
Film thickness:	50 µm
Drying:	drying stage 4 after 20 min at 80 °C or 24 h at room temperature
Gloss (20°)	> 85 GU
Pendulum hardness (König):	> 120 sec (after 7 days at room temperature)
Cross cut adhesion:	Gt 0
Cupping test (Erichsen):	> 6,0 mm

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Starting formulation

Code Nr.: 14730 2 Component-topcoat with NECOWEL 750

Position	Product	Wt. %	Supplier
A	NECOWEL 750	60,00	ASK
B	Pigmentpaste # 14448	35,00	ASK
C	Byk 3455	0,50	Byk
D	Tafigel PUR 41	0,10	Münzing
E	Dem. water	4,40	Byk
		100,00	

Mix A – E

Mixing ratio = 5:1 by weight with ASK-Hardener 8382

Code Nr.: 8382 ASK Hardener 8382

Position	Product	Wt. %	Supplier
A	Bayhydur XP 2655	80,00	Covestro
B	Butylglykolacetat	20,00	
		100,00	

Code Nr.: 14448 Pigmentpaste

Position	Product	Wt. %	Supplier
A	Dem. water	22,80	
B	Disperbyk 192	6,50	Byk
C	Byk 024	0,10	Byk
D	Kronos 2310	70,00	Kronos
E	Orisil 200	0,40	Orisil
F	Acticide MBS	0,20	Thor
		100,00	

Mix A – F, thereafter disperse with dissolver or pearl mill to a particle size < 10µm

Test results:

Substrate:	CRS, with cationic e-coat
Film thickness:	50 µm
Drying:	drying stage 4 after 20 min at 80 °C or 24 h at room temperature
Gloss (20°)	> 85 GU
Pendulum hardness (König):	> 120 sec (after 7 days at room temperature)
Cross cut adhesion:	Gt 0
Cupping test (Erichsen):	> 6,0 mm