

NECOWEL 700

Polyol component for water based two component polyurethane systems

Product properties

NECOWEL 700 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 hydrophylic isocyanates specially designed for waterborne systems, as well as common hydrophobic types can be used. Best results have been obtained by a mixture of both. As usual in PU systems, an excess of crosslinker is recommended (e.g. 150 % isocyanate).

In combination with appropriate hardeners film thicknesses of more than 100 µm can be achieved without blistering.

Application

- Two component polyurethane coatings.

Analytical data

- Solid content: 38 – 41 %
- Viscosity: 1.0 – 3.0 Pa.s, 25 °C
- pH-value: 6.5 – 7.5
- OH-value: 170 – 180 mg KOH/g
- OH-content: 5.2 – 5.5 %
- Neutralizer: AMP 90
- Solvent: water

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 700

Starting formulation

Code No.: 12311 2C-Clear coat based on NECOWEL 700

| Position | Product | Wt. % | Supplier |
|----------|-------------------|---------------|----------|
| A | NECOWEL 700 | 70,00 | ASK |
| B | Byk 3455 | 0,50 | Byk |
| C | Demin.Wasser | 28,10 | |
| D | Tafigel Pur 41 | 0,40 | Münzing |
| E | Byk Silclean 3720 | 1,00 | Byk |
| | | 100,00 | |

Procedure Mix position A – E under stirring.

Curing Mixing ratio = 3:1 p.b.wt. with ASK-Hardener 8382.

Code No.: 14965 ASK Hardener 14965

| Position | Product | Wt. % | Supplier |
|----------|---------------------|---------------|----------|
| A | Bayhydur XP 2655 | 80,00 | Bayer |
| B | Butyldiglykolacetat | 20,00 | |
| | | 100,00 | |

Test results:

| | |
|--------------------------|-------------------|
| Substrate: | Cold rolled steel |
| Gloss (20°): | > 85 GU |
| Hardness (König): | > 150 sec |
| Cross cut test: | Gt 0 |
| Cupping test (Erichsen): | 6.0 mm |

NECOWEL 700

Starting simulation

Code No.: 14476 2C-Top Coat based on NECOWEL 700

| Position | Product | Wt. % | Supplier |
|----------|---------------------|---------------|----------|
| A | NECOWEL 700 | 60,00 | ASK |
| B | Pigmentpaste # 4448 | 36,00 | |
| C | Byk 3455 | 0,50 | Byk |
| D | Demin.Wasser | 0,50 | |
| E | Byk Silclean 3720 | 3,00 | Byk |
| | | 100,00 | |

Procedure Mix position A – E under stirring.

Curing Mixing ratio = 4:1 p.b.wt. with ASK-Hardener 8382.

Code No.: 8362 ASK Hardener 8362

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

Code No.: 14448 Pigment paste

| Position | Product | Wt. % | Supplier |
|----------|---------------|---------------|----------|
| A | Demin. Wasser | 23,00 | |
| B | Disperbyk 192 | 6,50 | Byk |
| C | Byk 024 | 0,10 | Byk |
| D | Kronos 2310 | 70,00 | Kronos |
| E | Aerosil 200 | 0,20 | Evonic |
| F | Acticide MBS | 0,20 | Thor |
| | | 100,00 | |

Procedure Mix position A – F under stirring and disperse with dissolver or pearl / sand mill.

Test results:

| | |
|--------------------------|-----------|
| Substrate: | KTL plate |
| Gloss (60°): | > 90 GU |
| Gloss (20°): | > 85 GU |
| Demin. Water | > 300 sec |
| Cross cut test: | Gt 0 |
| Cupping test (Erichsen): | 8 mm |
| Condensation water: | > 250 h |