

Kimicover 301 NF

Two-component aliphatic polyurethane resin for protective treatments of concrete structures, floors and resin coatings.



Scheda Tecnica rev.01_05/2025

DESCRIPTION

Kimicover 301 NF is an aliphatic bicomponent polyurethane resin with excellent resistance to UV rays, atmospheric agents, chemical aggressions, use and high temperatures (till 140°C).

It is available both in RAL colors or neutral version (it can be coloured with compatible universal creams) and in transparent version (> 90 gloss)

The product is transformed into a continuous film covering which is antiacid, anticarbonation, antidust, wear proofing, decorative and protective.

ADVANTAGES

- Excellent adhesion, uv rays, chemical aggressions, atmospheric agents and high temperature resistance (up to 140°C).
- versatile, available in several colours, neutral and transparent versions.
- easy to apply: can be applied by roller, brush or spray using an airless pump.

USES

Anti-carbonation protective treatment for reinforced concrete structures subjected to chemical pressures, protection of metallic structure, coloured and/or transparent painting of surfaces with no rising damp.

Pour component 'B' (hardener) into component 'A' (resin), mix well with a low spill drill (200-300 r.p.m.) until you get a perfect mixture, paying attention to do not incorporate air.

In case of partial mixing, read the mixing ratios in weight written on the packages.

Kimicover 301 NF can be applied by brush, roller or airless pump on dry, clean and compact substrates which are free from uneven parts.

Do not wait more than 24 hours between each coat, taking care to uniformly apply gradually in small quantity a time, with a consumption lower than 0.200 Kg/m² per single coat.

In order to facilitate cleaning, to ensure better

homogeneity of gloss, greater resistance to colour changes caused by chemical attack and wear, you may lay a final coat of transparent Kimicover 301 NF (consumption not exceeding 0.050 Kg/m²).

WORKS





- Painting of covering and metal structures (SA77).
- Floor finishings and resin coatings (SA78).

CERTIFICATIONS

It is CE marked as a protective coating according to 1504-2 for intervention principles PI, MC and IR.



APPLICATION

| | | | |
|---|---|---|----------------------------|
|  | Roller or brush application |  | Complete curing time: 7 dd |
|  | Mechanical device application | | |
|  | Thickness per coat: < 1 mm for horizontal application < 1 mm for vertical application | | |

CONSUMPTION

0.2 Kg/m²/coat.

PACKAGING

Con 5 Kg (A, resin: 4 Kg + B, hardener: 1 Kg)

Con 25 Kg (A, resin: 20 Kg + B, hardener: 5 Kg)

STORAGE

Protect Kimicover 301 NF from humidity; if used in partial way, clean the component A and B container edges with Solvente POLY, before closing.

Store in hermetic containers in a sheltered, dry and not subjected to temperature change. In these conditions the products stability is 24 months.

| CHARACTERISTICS | VALUE |
|---|--|
| Mixing ratio | A : B = 4 : 1 |
| Min. Temperature of application | +5 °c |
| Operative temperature | -30 / +100 °c |
| Early curing at about 20°c | 18 h |
| Complete curing at 20°c | 7 days |
| Pot life 200g at 20°c | 2 h |
| Viscosity (20°c/gir4/100 r.p.m.) | 800 - 1800 mpa·s (part a) |
| Resin density en iso 2811 -1 | 1,60 ± 0,05 g/cm ³ (part a) |
| Hardener density | 1,01 ± 0,05 g/cm ³ (part b) |
| Product density | 1,48 ± 0,05 g/cm ³ |
| Solid content en iso 3251 | 70% |
| Available colours | RAL: 7035, 7032, 9003 Kimia red, Neutral, Transparent |
| Walkability at about 20°c | 24 h |
| Hemispherical Reflectance* (ASTM E903-12) | 0.79 |
| Emittance* (ASTM E 1933-14) | 0.89 |
| SRI (Solar reflectivity index)* (ASTM E1980-11) | 98 |

| CHARACTERISTICS | EN 1504-2 LIMITS | VALUE |
|--|--|--|
| Adhesion to concrete EN 1542 | Flexible systems without trafficking >0,8 Mpa; with trafficking >1,5 Mpa. Rigid systems without trafficking >1 Mpa; with trafficking >2 MPa | On dry substrate: 2,76 N/mm ² On wet substrate: 1,81 N/mm ² |
| Permeability EN ISO 7783-2 | Class I (permeable to vapour) Sd < 5 m Class II 5 m ≤ Sd ≤ 50 m Class III (not permeable to vapour) Sd > 50 m | Class I |
| Permeability to carbon dioxide UNI EN 1062-6 | Sd > 50 m | Sd: 164 m (sp > 400 micron) |
| Capillar absorption and water permeability EN 1062-3 | < 0,1 kg/m ² ·h ^{0,5} | < 0,1 Kg/m ² ·h ^{0,5} |
| Fire reaction class | Declared value | F |

REFLECTION CHARACTERISTICS

Kimicover 301 NF white (RAL 9003) and suitable for painting tunnels and road underpasses, at high reflection.

| CHARACTERISTICS | VALUE |
|------------------------------|-------|
| Reflexión de la luz y (spin) | 85% |
| Reflexión de la luz y (spex) | 85% |

AGGRESSIONS RESISTANCE

Chemical resistance to acids

| | Initial variation of the surface (months) | Kind of variation | Total loss of protective power |
|-----------------------|---|-------------------|--------------------------------|
| Hydrochloric acid 5 % | 6 | Little bubbles | 36 |
| Sulfuric acid 5 % | 16 | Little bubbles | 36 |
| Sulfuric acid 10 % | 16 | Little bubbles | 36 |
| Nitric acid 5 % | 6 | Little bubbles | 13 |
| Sulfuric acid 5 % | 15 | Little bubbles | 52** |
| Sulfuric acid 50 % | 32 | Little bubbles | 52** |
| Boric acid 10 % | 15 | Little bubbles | > 52** |
| Acetic acid 5 % | 5 | Bubbles | 6 |
| Citric acid 10 % | 36 | Color changes | > 52** |
| Lactic acid 10 % | 42 | Little bubbles | > 52** |

** It is recommended to carry out maintenance and monitoring starting from the initial variation times of the surface.

Chemical resistance to alkali

| | Initial variation of the surface (months) | Kind of variation | Total loss of protective power |
|--------------------------|---|-------------------|--------------------------------|
| Sodium hydroxide 10 % | 9 | Opacity | > 52** |
| Potassium hydroxide 10 % | 9 | Opacity | > 52** |

** It is recommended to carry out maintenance and monitoring starting from the initial variation times of the surface.

Resistance to contact with hydrocarbons

| | Initial variation of the surface (months) | Kind of variation | Total loss of protective power |
|---------------------|---|-------------------|--------------------------------|
| Benzene | 52 | Little bubbles | > 52** |
| Benzene derivatives | 15 | Little bubbles | > 15** |

** It is recommended to carry out maintenance and monitoring starting from the initial variation times of the surface.

Chemical resistance of alcohols

| | Initial variation of the surface (months) | Kind of variation | Total loss of protective power |
|--------------|---|-------------------|--------------------------------|
| Methanol | 5 | Softening | 42 |
| Ethanol 96 % | 15 | Softening | > 52 |
| Ethanol 70 % | 18 | Softening | > 52 |
| Ethanol 40 % | 30 | Softening | > 52 |
| Ethanol 15 % | 52 | | |
| Isopropanol | 36 | Softening | > 52 |

| | Initial variation of the surface (months) | Kind of variation | Total loss of protective power |
|-------------------|---|-------------------|--------------------------------|
| Butanol | 36 | Softening | > 52 |
| Ethylglycol | > 52 | | |
| Glycerine | > 52 | | |
| Cyclohexanol | 36 | Softening | > 52 |
| Benzyl alcohol | 0,5 | Softening | 20 |
| Diacetone alcohol | 36 | Softening | > 52 |

** It is recommended to carry out maintenance and monitoring starting from the initial variation times of the surface.

Chemical resistance to solvents

| | Initial variation of the surface (months) | Kind of variation | Total loss of protective power |
|-----------------------|---|-------------------|--------------------------------|
| White spirit | > 52 | | |
| Dry cleaning gasoline | > 52 | | |
| Benzene | > 52 | | |
| Toluene | > 52 | | |
| Xylene | > 52 | | |
| Ethyl acetate | 36 | Softening | > 52 |
| Butyl acetate | > 52 | | |

| | Initial variation of the surface (months) | Kind of variation | Total loss of protective power |
|----------------------|---|---------------------------|--------------------------------|
| Methylglycol acetate | 20 | Softening | > 52 |
| Ethylglycol acetate | > 52 | | |
| Methyl acrylate | 11 | Softening + color changes | > 40 |
| Acetone | 3 | Softening | 24 |
| Methylketone | 15 | Softening | 36 |
| Methylisobutylketone | > 52 | | |
| Cyclohexanone | 36 | Softening | > 52 |
| Carbon tetrachloride | > 52 | | |
| Dichloroethane | 0,5 | Softening | 0,5 |
| Dichloropropane | 43 | Softening + color changes | > 43 |
| Trichlorethylene | 43 | Softening + color changes | > 43 |
| Perchloroethylene | > 43 | | |
| Chlorobenzene | 37 | Color changes | > 37 |
| Clophen A 30 | > 52 | | |
| Clophen A 60 | > 52 | | |

** It is recommended to carry out maintenance and monitoring starting from the initial variation times of the surface.

Resistance to contact with aqueous solutions*

| | Initial variation of the surface (months) | Kind of variation | Total loss of protective power |
|-------|---|-------------------|--------------------------------|
| Water | 12 | Little bubbles | > 12** |

*Solutions containing chlorine dioxide, in concentrations of 0.1 - 1.0 mg/L, for water purification treatments, can be assimilated to aqueous solutions that are not particularly aggressive.

** It is recommended to perform maintenance and monitoring starting from the initial variation times of the surface.

* The tests are performed in the laboratory and under controlled conditions; there may be variations in the result with real conditions of use.

Resistance to contact with substances at low temperatures

The product is suitable for covering floors for environments intended for cryogenic storage, where occasional contact with substances at very low temperatures may occur.

Resistance to contact with kerosene

The product is suitable for covering floors in contact with kerosene. Surface variations occur between 24 and 36 months after the application. Therefore we recommend periodic inspections and maintenance cycles within the indicated range (24-36 months).

WARNING

Product intended for professional use. The product can be diluted with the maximum of 15% of its weight with Solvente POLY.

There may be small differences in color between batches, therefore, if the product is used on large surfaces, organise the installation of the same material lot, or if not possible, apply for rooms or panels defined by dividing lines.

Do not apply the product in case of rain, if it is foggy or on surfaces soaked with dew.

The equipment used for the preparation and application of Kimicover 301 NF must be cleaned with Solvente POLY before curing starts.

The product must be handled with care: use gloves, protective creams and goggles to avoid contact with skin and eyes. In the case of contact with the eyes, rinse with abundant water and consult a doctor.

For further information and advice on safe handling, storage and disposal of chemical products, the user must refer to the most recent Safety Data Sheet, containing physical, ecological, toxicological and other data related to

safety. All technical data shown in this Technical Data Sheet are based on laboratory tests. Actual measurement data may vary due to circumstances beyond our control. The information and requirements indicated in this Technical Data Sheet are based on our current knowledge and experience and are to be considered, in any case, purely indicative. They cannot guarantee the final result of the applied product and they have to be confirmed by exhaustive practical applications; therefore the user must test the suitability of the product for the intended application and its purpose. Users must always refer to the latest version of the local technical data sheet related to the product.

TECHNICAL SPECIFICATIONS

SK77 - Painting of covering and metal structures

Cleaning of the support, so as to remove dust, grease, old friable paints, molds and any material that may affect a good adhesion of the resin.

The oxidized areas will be treated with a brush or roller of single component synthetic resin ready for use. Soluzione RUGGINE by Kimia S.p.A. or similar, formulated to remove rust transforming it into an insoluble complex and, at the same time, to make a protective film that is very adherent to the metal, replacing further applications of anti-rust paints.

Apply by brush, roller or airless pump on the surface of Kimicover 301 NF polyurethane resin by Kimia S.p.A. or similar to be applied in two coats with a total consumption of 0.4 Kg/sqm. If the oxidation in some areas has created cavities, these will be sealed with the same resin reinforced in the first coat with Kimitech S100 or similar type of fabric, specific for the reinforcement of synthetic resins waterproofing and protective.

The two-component aliphatic polyurethane resin will be prepared and applied scrupulously following the instructions on the technical data sheets provided by the manufacturer and must have the following characteristics:

- Min. Temperature of application: +5 °C;
- Hemispherical Reflectance (ASTM E903-12) = 0,79;
- Emittance* (ASTM E 1933-14) = 0,89;
- SRI (Solar reflectivity index) (ASTM E1980-11) = 98.
- Concrete adhesion EN 1542 > 2 N/mm²

The product will CE markedc as a protective coating type C according EN 1504-2, intervention principles MC and IR.

SK78 - Floor finishings and resin coatings

Cleaning of the support to eliminate dust, old paints and

any other material that could compromise a good adhesion of the further resin coating.

Application by double brush or roller over the whole surface of Kimicover 301 NF colored polyurethane resin by Kimia S.p.A. or similar to be applied in two coats with a total consumption of 0.4 Kg/sqm.

The two-component aliphatic polyurethane resin will be prepared and applied scrupulously following the instructions on the technical data sheets provided by the manufacturer and must have the following characteristics

- Min. Temperature of application: +5 °C;
- Hemispherical Reflectance (ASTM E903-12) = 0,79;
- Emittance* (ASTM E 1933-14) = 0,89;
- SRI (Solar reflectivity index) (ASTM E1980-11) = 98.
- Concrete adhesion UNI EN 1542 > 2 N/mm²

The product will CE markedc as a protective coating type C according EN 1504-2, intervention principles MC and IR.