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CONSTRUCTION CHEMICALS SINCE 1959
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THESSALONIKI: Ionias Str., GR 57009 Kalochori, Thessaloniki, Greece, Tel.: +30 2310 467275, Fax: +30 2310 463442

Neodur® Varnish

Transparent two-component polyurethane glossy varnish, with UV filters

CE

Description

Transparent two-component solvent-based polyurethane glossy varnish with UV filters, cured with aliphatic polyisocyanates, suitable for the protection and decoration of micro-cement coatings and various other construction surfaces

Fields of application

- Protection and decoration of micro-cement coatings
- Protection and decoration of cementitious and metallic surfaces, natural stone, polyester, industrial floors, epoxy and other resinous systems in interior and exterior areas
- As a protective varnish in pools on top of the epoxy coating **Neopox® Pool**, offering further resistance to the chlorination chemicals and protection against UV radiation, enhancing the durability of the epoxy coating by delaying the chalking phenomenon (*only the glossy version of **Neodur® Varnish** is proposed in pool applications*)

Properties - Advantages

- Protects against water absorption and enhances the mechanical strength of micro-cement coatings and several other substrates
- Contains UV filters, offering long-term resistance to solar radiation and yellowing
- Excellent adhesion properties on numerous surfaces
- Renders a glossy finish of high hardness
- High resistance to chemicals (dilute acids, alkalis), abrasion and mechanical stress
- Very good gloss retention, even after several years
- Excellent resistance to adverse weather conditions – suitable for constructions in areas adjacent to the sea
- CE certified acc. to EN 1504-2

Technical characteristics

Mixing ratio A:B (by weight)	36:14
Gloss (60°)	>98
Abrasion Resistance (Taber Test ASTM D4060, CS 10/1000/1000)	42mg
Adhesion strength (EN 1542)	≥2,5N/mm²
Liquid water permeability (EN 1062-3)	0,003kg/m^{2}h^{0,5}
CO_2 diffusion - Equivalent air layer thickness S_d (EN 1062-6)	>50m
Water-vapor diffusion - Equivalent air layer thickness S_d (EN ISO 7783)	6m (Class II)

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Flexibility (ASTM D522, 180° bend, 1/8" mandrel)	Pass
Scratch hardness (Sclerometer test - Elcometer 3092)	7N
Skid resistance (EN 13036-4, wet surface, with 2,5% w/w addition of Neotex® Antiskid M)	37 (PTV)
Resistance to temperatures (dry loading)	-30°C min. / +80°C max.
Consumption	**~125 gr/m² per layer (on properly prepared surfaces)**

Curing details

Pot life (RH 50%)

Temperature	Time
+12°C	2,5 hours
+25°C	2 hours
+30°C	1 hour

Dry to recoat (RH 50%)

Temperature	Time
+12°C	36 hours
+25°C	24 hour

Walkability (RH 50%)

Temperature	Time
+12°C	36 hours
+25°C	24 hours

Total hardening ~ 7 days

Instructions for use

Surface preparation: The surface must be stable, clean, dry, protected from rising moisture and free of dust, grease and loose materials. Any poorly adhering materials and older coatings should be removed and the surface should be thoroughly cleaned mechanically or chemically. Depending on the substrate, appropriate mechanical preparation may be required, in order to smooth the irregularities, open the pores and create the optimum conditions for adhesion.

Priming: Especially in the case of a micro-cement substrate, it is advisable to prime the surface with the hybrid primer **Neodur® Varnish PR** diluted 25-30% w/w with water. This way, the natural appearance of the micro-cement coating is mostly maintained, without darkening its colour or creating a “wet” effect after the application of **Neodur® Varnish**.

Mixing - Application: Components A & B are mixed at the predetermined ratio and stirred for app. 3 minutes with a low-speed electric stirrer until the mixture is homogeneous. The surface is then covered by roller or brush. The mixture should

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be left for app. 5 minutes and then, the varnish is applied by roller or brush in at least two layers. For enhanced anti-slip properties, it is recommended that the final layer of **Neodur® Varnish** is applied after the product has been mixed 1,5-2,5% w/w with the anti-slip additive **Neotex® Antiskid M.**

Notes

- *Application Conditions*: Substrate moisture content <4%. Relative air humidity <65%. Temperature: +12°C min. / +35°C max
- High atmospheric humidity may negatively affect the curing of the varnish. In the case of exterior applications, the application of the varnish must be postponed if rainfall or highly humid conditions are expected to prevail in the next 48 hours.
- **Neodur® Varnish** should not be applied on surfaces where water-repellent impregnation materials (e.g., siloxane -based) have been applied in the past
- **Neodur® Varnish** may be diluted with solvent **Neotex® 1021**

Cleaning and maintenance instructions

- In case of minor spills and stains, it is recommended to remove them as soon as possible by using a soft cloth along with warm clean water (temperature <+60°C)
- For the maintenance cleaning of the surface from dust and dirt, it is recommended to use a vacuum cleaner or a soft bristle broom. The use of hard brushes or wires to remove the stains should be avoided.
- For cleaning the surface from hardened stains, it is recommended to use a hard foam mop with a solution of water and ammonia (~3% dilution). Then, rinse off with clean warm water (temperature <+60°C) and dry the surface with a soft towel.
- In case of using commercial cleaning products, the use of neutral ones is recommended (pH between 7 and 10). Soaps or all-purpose cleaners containing water-soluble salts or harmful ingredients with high concentration in alkalis or acids should be avoided. Follow the manufacturer's recommendations with respect to the optimum dilution with water. In any case, the first time a commercial cleaning product is used, it is recommended that a trial is made in a small surface area.

Preconditions for pools

- The pool should be filled with water after at least 7 days have passed from the application of the final layer of **Neodur® Varnish**
- It is advisable that balancing and maintenance of the water chemistry is managed professionally. The proposed chemical levels for the most important aspects that need balancing are:

  - Total Alkalinity (TA): 150-180ppm

  - pH: 7,2 - 7,6

  - Calcium Hardness: app. 300ppm

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- Chlorine: Ideally between 0,5-1,5ppm – Always under 3ppm

- Over-chlorination must be avoided. Algaecides' addition should be kept at the lowest possible levels
- All chemicals must enter the pool pre-dissolved and by dispersing the dilute solution inside the pool with agitation, in order to avoid large concentrations in places
- Monthly maintenance works are recommended, in order to remove any deposited salts, by brushing down intensively the walls and floor of the pool using long stiff bristle brooms. Following the scrubbing of the surface, the residues shall be allowed to settle and then be removed by appropriate means (pool vacuum, flocculant, etc.)

Cleaning of tools – Stains removal	Immediately after the application with solvent **Neotex® 1021.** In case of hardened stains, by mechanical means
Volatile organic compounds (V.O.C.)	V.O.C. limit acc. to the E.U. Directive 2004/42/CE for this product of category AjSB "Two-Pack reactive performance coatings": 500g/l (Limit 1.1.2010) V.O.C. content of the ready to use product <500g/l
UFI code	*A component:* 2H50-N0ET-G00T-5X27 *B component:* 4K50-5046-T00A-U8N9
Packing	Sets (A+B) of 15kg, 5kg and 1kg in metal cans
Storage Stability	*Component A:* 2 years if kept in the original sealed packaging, protected from frost, humidity, and exposure to solar radiation. *Component B*: 12 months if kept in the original sealed packaging, protected from frost, humidity, and exposure to solar radiation. Component B must be stored in an absolutely dry place protected from frost and humidity. In case of contact with ambient moisture it can be polymerized into the container

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1922-CPR-0386 Dop No./4950-47 EN 1504-2 Neodur® Varnish Surface Protection System for Concrete Coating

Water vapour permeability	Class II
Adhesion strength	≥1.5N/mm^2
Capillary absorption and permeability to water	W<0.1Kg/m^{2}h$^{0.5}$
Permeability to CO_2	S_D>50m
Reaction to fire	Euroclass F
Dangerous substances	Comply with 5.3