

# Neodur® Pool



## Aliphatic polyurethane coating, ideal for swimming pools

### Description

Two-component solvent-based, glossy aliphatic polyurethane coating with UV filters, ideal for the protection and decoration of swimming pools.

### Fields of application

- Exterior and interior swimming pools
- Fountains, water tanks, boats
- Metallic and polyester surfaces

*The surfaces require appropriate preparation and priming prior to the application of Neodur® Pool.*

### Properties - Advantages

- Remains unaffected by UV radiation and weather conditions, with exceptional resistance to yellowing – Contains UV filters
- Highly resistant to the chlorination chemicals of swimming pools
- Excellent resistance to abrasion and mechanical stress
- Very high adhesion strength and scratch resistance
- Resistant to alkalis and dilute acids, petroleum products, fresh water, sea water and many solvents
- Broad service temperature range
- May be also used for the creation of exterior anti-slip floors (e.g. in the pool perimeter or on stairs) by appropriate broadcast of quartz sand or incorporation of anti-slip additive
- Remarkable durability

### Certificates – Test reports

- CE Certification acc. to EN 1504-2  
*Certificate of Conformity No. 1922-CPR-0386*
- Test report by the external independent quality control laboratory Geoterra (No. 2023/702\_6)
- Complies with the V.O.C. content requirements acc. to the E.U. Directive 2004/42/CE



### Packing

Sets (A+B) of 10kg, 5kg and 1kg

### Colours

9003	1013
1533	2930
RAL 7035	

Technical characteristics	
Mixing ratio A:B (w/w)	75:25
Density (EN ISO 2811-1)	1,30kg/L (±0,1)
Gloss (60°)	>90
Abrasion resistance (Taber Test, CS 10/1000/1000, ASTM D4060)	52mg
Adhesion strength (EN 1542)	≥3N/mm <sup>2</sup>
Flexibility (ASTM D522, 180° bend, 1/8" mandrel)	Pass
Scratch hardness (Sclerometer Test - Elcometer 3092)	10N
Skid resistance (EN 13036-4, wet surface, with 2,5% w/w addition of Neotex® Antiskid M)	36 (PTV – slider 55)
Skid resistance (EN 13036-4, wet surface, by broadcasting Quartz Sand M-32)	>40 (PTV – slider 55)
Liquid water permeability (EN 1062-3)	<0,02kg/m <sup>2</sup> h <sup>0,5</sup>
Permeability to CO <sub>2</sub> – Diffusion-equivalent air-layer thickness Sd (EN 1062-6)	>50m
Water vapour permeability – Diffusion-equivalent air-layer thickness Sd (EN ISO 7783)	>5m (Class II)
Service temperature (dry loading)	min. -30°C / max. +80°C
<b>Consumption: 250-330gr/m<sup>2</sup> for two layers (depending on the substrate)</b>	

Application conditions	
Substrate moisture content	<4%
Relative air humidity (RH)	<70%
Application temperature (ambient - substrate)	+12°C min. / +35°C max.

Curing details		
Pot life (RH 50%)	+12°C	1 hour
	+25°C	45 minutes
	+30°C	30 minutes
Dry to recoat (RH 50%)	+12°C	30 hours
	+25°C	24 hours
	+30°C	18 hours
Full hardening	~ 7 days	
* Low temperatures during application and/or curing prolong the above times, while high temperatures and humidity reduce them		

### Appropriate primers on cementitious substrate

	Primer	Description - Details
Solvent-based	<b>Epoxol® Primer</b>	Two-component solvent-based epoxy primer
Solvent-free	<b>Epoxol® Primer SF</b>	Two-component, solvent-free epoxy primer for flooring applications
	<b>Epoxol® Primer SF-P</b>	Two-component, solvent-free epoxy primer, ideal in cases of substrates with increased porosity
	<b>Neopox® Primer WS</b>	Two-component, solvent-free epoxy primer for wet surfaces (without ponding water or rising moisture)
	<b>Neopox® Primer AY</b>	Two-component, solvent-free anti-osmotic epoxy primer, for floors with rising moisture
Water-based	<b>Acqua Primer</b>	Two-component, water-based epoxy primer

### Appropriate primers on metallic substrate (iron - steel)

Solvent-based	<b>Neopox® Primer 815</b>	Two-component, anticorrosive solvent-based epoxy primers suitable for metallic surfaces
	<b>Neopox® Special Primer 1225</b>	

### Appropriate primers on galvanized substrate - stainless steel

Water-based	<b>Neotex® Inox Primer</b>	One-component, water-based primer, ideal for inox, aluminium, galvanized surfaces
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## Instructions for use

### **Substrate preparation**

#### *Concrete - cement screed*

Concrete pools should be fully waterproofed in advance – for this purpose it is recommended to apply a suitable cementitious waterproofing system (e.g. **Revinex® Flex U360**) on the concrete surface, in min. 3 layers, as well as an appropriate smoothing layer.

The concrete must be min. Grade C20/25, with a tensile strength of  $\geq 1,5\text{MPa}$ , and allowed to cure for at least 28 days, taking all the necessary maintenance measures during its curing period.

The cementitious substrate on which the protective coating system of **Neodur® Pool** is to be applied, must be properly prepared mechanically to smooth out the irregularities, achieve an open-textured surface and ensure optimum adhesion.

The surface must be dry and protected from rising moisture, stable, clean and free of dust, grease, oil, etc. Loose friable material must be fully removed by brushing or sanding with a suitable machine and a high suction vacuum cleaner.

The surface must be as smooth and flat as possible, as well as continuous (ie without voids, cracks etc.)

Repairs to the substrate, filling of joints, blowholes/voids and surface leveling must be carried out using appropriate repairing products, such as the epoxy putty **Epoxol® Putty**, after proper priming.

*Metallic surfaces (iron – steel)*

The metallic surfaces must be properly prepared by sandblasting or sanding with a wire brush and should be dry, free of dust, dirt, greasy and oily substances, as well as any poorly adhering coatings. In rusty areas, it is recommended to locally apply the chemical rust converter **Neodur<sup>®</sup> Metalforce**. New metallic surfaces should be degreased with solvent **Neotex<sup>®</sup> 1021**.

**Priming**

For the stabilization of the substrate and sealing of pores, as well as for creating the optimum conditions for stronger adhesion and higher coverage of the subsequent polyurethane coating, it is recommended to apply the solvent-based epoxy **Epoxol<sup>®</sup> Primer** or an alternative appropriate **NEOTEX<sup>®</sup>** primer (see table), depending on the substrate. In cases of substrates with increased porosity, an additional priming layer may be required.

**Application**

*Smooth polyurethane coating*

Once the primer is dry to overcoat, it is recommended to apply the first layer of **Neodur<sup>®</sup> Pool** diluted 10% w/w with solvent **Neotex<sup>®</sup> PU 0413**, by roller, brush or airless spray. The second layer is applied in the same way ~24 hours after the application of the first one (depending also on the atmospheric conditions), diluted 5-10% w/w with solvent **Neotex<sup>®</sup> PU 0413**. For any additional layers, **Neodur<sup>®</sup> Pool** shall be diluted 5% w/w with solvent **Neotex<sup>®</sup> PU 0413**.

The two components A & B are mixed in the predetermined ratio (75A : 25B w/w) and, after the addition of the solvent, they are stirred for app. 3-5 minutes with a low-speed electric stirrer. It is important to stir thoroughly at the bottom of the container, as well as near the sides, so that the hardener (component B) is evenly distributed.

The mixture is left for a short time period in the container (~1-2 minutes) and then applied. Prior to mixing, mechanical stirring of component A is recommended.

Indicative consumption of **Neodur<sup>®</sup> Pool**: 0,25-0,33kg/m<sup>2</sup> in two layers

*Anti-slip polyurethane coating with addition of Neotex<sup>®</sup> Antiskid M*

Once the primer is dry to overcoat, **Neodur<sup>®</sup> Pool** is applied as mentioned above by roller, brush or airless spray. During the mixing process of **Neodur<sup>®</sup> Pool** prior to the application of the final layer of the system, the anti-slip additive **Neotex<sup>®</sup> Antiskid M** is included in the mixture at a ratio of 1,5-2,5% w/w. Then, the mixture is stirred again with a low-speed electric stirrer for ~1 minute and **Neodur<sup>®</sup> Pool** is applied on the surface by roller or brush.

Indicative consumption of **Neodur<sup>®</sup> Pool**: 0,25-0,33kg/m<sup>2</sup> in two layers

*Anti-slip polyurethane coating with broadcast of Quartz Sand M-32*

After the priming and the application of the first layer of **Neodur<sup>®</sup> Pool** (diluted 10% w/w with solvent **Neotex<sup>®</sup> PU 0413**), it is recommended to broadcast Quartz Sand M-32 until saturation on the still fresh layer of **Neodur<sup>®</sup> Pool**, with an estimated sand consumption of 2-3kg/m<sup>2</sup>. After drying, any loose grains should be removed with a high suction vacuum cleaner and any surface irregularities should be sanded down.

The surface is then sealed with **Neodur<sup>®</sup> Pool**, diluted 5-10% w/w with solvent **Neotex<sup>®</sup> PU 0413**, applied in 1 or 2 layers, depending on the desired slip resistance.

Indicative consumption of **Neodur<sup>®</sup> Pool**: ~0,40-0,50kg/m<sup>2</sup> in two or three layers

*Anti-slip sand carpet system (sand look ideal for pool entrance and surrounding areas)*

After priming and during the application of the first or second layer (depending on the substrate) of **Neodur® Pool** in the shade of *light beige 1013*, it is recommended to broadcast Quartz Sand M-32 until saturation on the still fresh layer of **Neodur® Pool**, with an estimated sand consumption of 2-3kg/m<sup>2</sup>. After drying, any loose grains should be removed with a high suction vacuum cleaner and any surface irregularities should be sanded down.

The surface is then sealed with **Neodur® Varnish**, applied by roller in 3 layers.

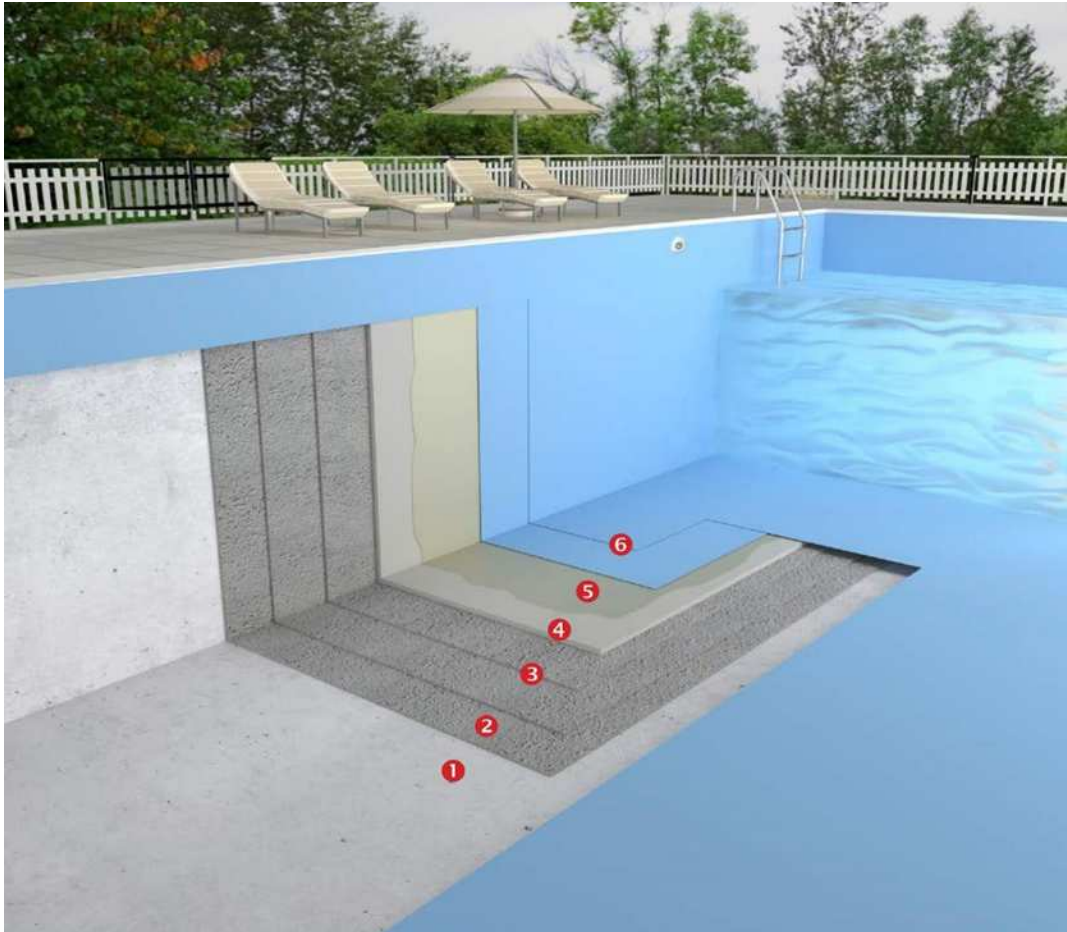
Indicative consumption of **Neodur® Pool**: 0,20-0,35kg/m<sup>2</sup> in one or two layers

Indicative consumption of **Neodur® Varnish**: 0.35-0,50kg/m<sup>2</sup> in three layers

## Special notes

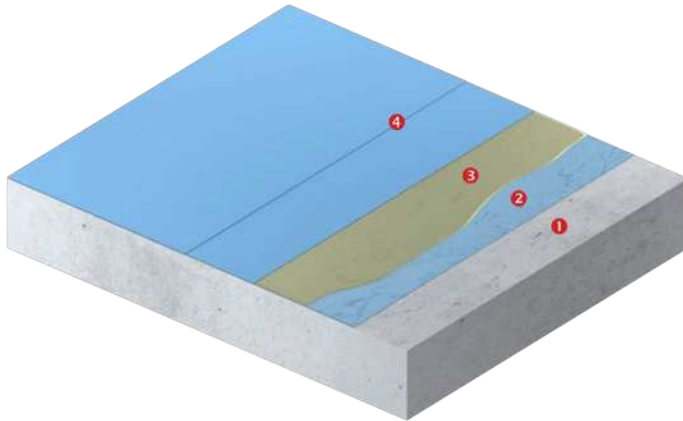
- **Neodur® Pool** should not be applied under wet conditions, or if wet conditions or rainy weather are expected to prevail during the application or the curing period of the product.
- The components should not have been stored at very low or very high temperatures, especially before mixing. Mixing and stirring of the mixture should be preferably done in the shade. The stirring of the mixture must be done mechanically and not manually with a rod, etc.
- Excessive stirring of the material should be avoided, in order to mitigate the risk of air entrapment. After stirring the mixture, it is recommended to apply the material shortly in order to avoid the development of high temperatures and potential hardening inside the can
- The substrate temperature must be at least 3°C above dew point to reduce the risk of condensation or blooming on the floor finish
- In case that an extended period of time (>36 hours) has passed between successive layers, it is recommended to lightly sand the surface of the previous layer, in order to avoid possible adhesion problems of the next layer
- Prior to the application on existing epoxy or polyurethane coatings, light sanding of the whole surface is required
- Depending on the desired slip resistance, quartz broadcast may be done by using quartz sand of greater granulometry (e.g. 0,4-0,8mm). In such case, the number of sealing layers and total consumption may increase

## Indicative systems build-up



### WATERPROOFING AND PROTECTION OF SWIMMING POOLS

- ① Concrete
- ② **Revinex® Flex FP** (min. 1 layer)
- ③ **Revinex® Flex U360** (min. 2 layers)
- ④ Smoothing layer
- ⑤ **Epoxol® Primer** (or alternative **NEOTEX®** epoxy primer)
- ⑥ **Neodur® Pool** (min. 2 layers)



**Substrate:** Old coating

**Final appearance:** New coating

- ① Concrete
- ② *Old coating:* Cleaning by mechanical means, sanding and inspection – if needed, puttying with **Epoxol® Putty**
- ③ **Epoxol® Primer** (or alternative **NEOTEX®** epoxy primer)
- ④ **Neodur® Pool** (min. 2 layers)


## 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® Pool**, depending also on the prevailing weather conditions during curing.
- 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): ~150ppm
  - pH: 7,2 - 7,6
  - Calcium hardness: ~300ppm
  - Chlorine at the lowest possible levels - Ideally 0,5-1,5ppm / always under 3ppm
- 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
- High levels of algaecides and over-chlorination must be avoided, since this may lead to the immediate appearance of chalking
- 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.)



<b>Appearance (cured)</b>	Glossy
<b>Colours</b>	White, Light beige 1013, Light blue 1533 Sky blue 2930, Light grey RAL 7035 Available in other shades upon request
<b>Packing</b>	Sets (A+B) of 10kg, 5kg and 1kg in metallic containers
<b>Cleaning of tools – Stains removal</b>	By <b>Neotex® PU 0413</b> immediately after application. In case of hardened stains, by mechanical means
<b>Volatile organic compounds (V.O.C.)</b>	V.O.C. limit acc. to the E.U. Directive 2004/42/CE for this product of category AjSB: 500g/l (Limit 1.1.2010) - V.O.C. content of the ready-to-use product <500g/l
<b>UFI code</b>	<i>Component A:</i> GJM0-R020-Q00D-VDW6 <i>Component B:</i> RNMO-70RE-000V-JRGF
<b>Storage stability</b>	<i>Component A:</i> 2 years, stored in its original sealed packing, protected from frost, humidity and exposure to sunlight <i>Component B:</i> 1 year, stored in its original sealed packing, protected from frost, humidity and exposure to sunlight



 1922	
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1922-CPR-0386 DoP No.: 4950-99  <b>EN 1504-2</b>  <b>Neodur® Pool</b>  Surface protection products  Coating	
Water vapour permeability	Class II
Adhesion strength	≥1,5N/mm <sup>2</sup>
Capillary absorption and permeability to water	W<0,1Kg/m <sup>2</sup> h <sup>0,5</sup>
Permeability to CO <sub>2</sub>	S <sub>D</sub> >50m
Reaction to fire	Euroclass F
Dangerous substances	Complies with 5.3

The information supplied in this datasheet, concerning the uses and the applications of the product, is based on the experience and knowledge of NEOTEX® SA. It is offered as a service to designers and contractors to help them find potential solutions. However, as a supplier, NEOTEX® SA does not control the actual use of the product and therefore cannot be held responsible for the results of its use. As a result of continual technical evolution, it is up to our clients to check with our technical department that this present data sheet has not been modified by a more recent edition.

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