Neopox® CR

Two-component solvent-free epoxy system, with high chemical resistance

Description

Two-component solvent-free thixotropic epoxy coating system, suitable for applications which require very high chemical resistance

Fields of application

- Tanks (internally) and interior surfaces in direct contact (periodically or even permanently) with chemicals (acids, bases, petrochemicals)
- Sewage tanks, water treatment facilities, shafts

The surfaces require appropriate preparation and priming prior to the application of ***Neopox® CR***

Packing

Set (A+B) of 10kg

Colour

GREY

Properties - Advantages

- Very high chemical resistance in direct contact with several chemical solutions
- Excellent adhesion on various substrates
- Exceptional resistance to abrasion
- Remarkable hardness and durability

Certificates – Test reports

- CE Certification acc. to EN 1504-2
- Test report by the external independent quality control laboratory Geoterra (No. 2019-300)
- Complies with the V.O.C. content requirements acc. to the E.U. Directive 2004/42/CE

EN 1504-2

Technical Characteristics

Mixing ratio A:B (by weight)	75:25
Density (EN ISO 2811-1)	1,26kg/L (±0,1)
Solids content by weight	~100%
Solids content by volume	~100%
Gloss (60°)	80
Abrasion resistance (Taber Test, CS 10/1000/1000, ASTM D4060)	45mg
Adhesion strength (EN 1542)	≥2,5N/mm²
Hardness Shore D (ASTM D2240)	73
Scratch hardness (Sclerometer Test - Elcometer 3092)	9N
Liquid water permeability (EN 1062-3)	<0,1kg/m^{2}h^{0,5}
Permeability to CO_2 – 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)
Resistance to temperatures (dry loading)	-30°C min. / +100°C max.
Consumption: 330-400gr/m² per layer (depending on the substrate)	

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	60 minutes
	+25°C	40 minutes
Dry to recoat (RH 50%)	+12°C	36 hours
	+25°C	24 hours
Full hardening		~ 7 days

** Low temperatures and high humidity during application and/or curing prolong the above times, while high temperatures reduce them*

Appropriate primers on cementitious substrate		
	Primer	**Description - Details**
Solvent-free	**Epoxol® Primer SF**	Two-component, solvent-free epoxy primer
	Epoxol® Primer SF-P	Two-component, solvent-free epoxy primer, ideal in cases of substrates with increased porosity
	Neopox® Primer WS	Two-component, solvent-free epoxy primer for wet surfaces (without ponding water or rising moisture)
	Neopox® Primer AY	Two-component, solvent-free anti-osmotic epoxy primer, for floors with rising moisture
Water-based	**Acqua Primer**	Two-component, water-based epoxy primer
Solvent-based	**Epoxol® Primer**	Two-component, solvent-based epoxy primer
Appropriate primers on metallic substrate (iron - steel)		
Solvent-based	**Neopox® Primer 815**	Two-component, anticorrosive solvent-based epoxy primers suitable for metallic surfaces
	Neopox® Special Primer 1225	

Instructions for use

Substrate preparation

Concrete

The concrete must be min. Grade C20/25, with a tensile strength of ≥1,5MPa, and allowed to cure for at least 28 days, taking all the necessary maintenance measures during its curing period. The cementitious substrate must be properly prepared mechanically (e.g. grinding, shot blasting, milling etc.) 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 pourable epoxy-cement mortar **Epoxol® CM** and the epoxy putty **Epoxol® Putty**, or/and a mixture of **Epoxol® Primer SF-P** and Quartz Sand M-32 (indicative mixing ratio 1:1-2 w/w), 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® Metalforce**. New metallic surfaces should be degreased with solvent **Neotex® 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 epoxy coating, it is recommended to apply the solvent-based epoxy **Acqua Primer** or an alternative appropriate **NEOTEX®** primer (see table), depending on the substrate. In cases of substrates with increased porosity, an additional priming layer may be required.

Application

Once the primer is dry to overcoat, **Neopox® CR** is applied by roller, brush or airless spray in two or more layers. The second (and every subsequent) layer is applied ~24 hours after the application of the previous (depending on the atmospheric conditions).

Prior to mixing, mechanical stirring of component A is recommended. The two components A & B are mixed in the predetermined ratio (7,5A : 2,5B w/w) and they are mechanically stirred for app. 3-5 minutes with a low speed 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 app. 1-2 minutes and then applied onto the substrate.

Special notes

- **Neopox® CR** should not be applied under wet conditions, or if wet conditions are expected to prevail during the application or the curing period of the product. Increased humidity may have a negative impact on the adhesion, the film properties and/or the final result (e.g. blurry surface, stickiness)
- 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
- Due to the nature of the material, the direct and constant exposure of the final coating to UV radiation may cause the phenomenon of chalking over time. For this reason, it is not recommended for exposed applications outdoors.
- 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

Chemical resistance table

Chemical substances % content	Contact time with chemicals (+20°C)			
	1 hour	5 hours	24 hours	Permanent
Phosphoric acid (10%)	C	C	C	C
Phosphoric acid (20%)	C	C	C	-
Sulphuric acid (10%)	C	C	C	D
Sulphuric acid (20%)	C	C	C	-
Hydrochloric acid (10%)	B	B	C	C
Hydrochloric acid (20%)	C	C	C	-
Lactic acid (10%)	B	C	C	C
Lactic acid (20%)	B	C	C	-
Nitric acid (10%)	A	B	C	C
Nitric acid (20%)	B	C	C	-
Caustic soda (10%)	A	A	A	A
Formaldehyde (10%)	A	B	B	B
Ammonia (10%)	A	A	B	B
Chlorine (5%)	A	A	A	B
Chlorine (13%)	A	A	A	-
Hydrogen peroxide (50%)	B	B	C	-
Diesel	A	A	A	-
Gasoline unleaded	A	A	A	-
Xylene	A	A	A	B
M.E.K	A	A	B	-
Alcohol 95^0	A	A	A	-
Saltwater 15%	A	A	A	A
Engine oil	A	A	A	-
Wine (red)	A	A	A	A

Evaluation of the resistance
A: Excellent resistance
B: Good resistance (light discoloration)
C: Limited resistance (intense discoloration)
D: Not recommended

Appearance	Grey
Packing	Set (A+B) of 10kg in metal cans
Cleaning of tools – Stains removal	By **Neotex® 1021** immediately after application. 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	*Component A:* H960-60ND-8009-409T *Component B:* WC60-Q0AS-J00S-SAVV
Storage stability	2 years, stored in its original sealed packing, protected from frost, humidity and exposure to sunlight

CE

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DoP No.: 4950-53

EN 1504-2

Neopox® CR

Surface protection products

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	Complies with 5.3

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