Neoproof® Polyurea AR

Cold-applied elastomeric polyurea waterproofing coating with resistance to root penetration

Description

Two-component, brushable elastomeric polyaspartic polyurea waterproofing coating, with resistance to root penetration.

It forms a blister-free and impermeable to moisture film, with high resistance to mechanical stress.

Thanks to its special composition, it offers long-term protection against root penetration from the planting, through the extremely high mechanical properties of the waterproofing system it creates, as well as by preventing the roots from approaching the waterproofing membrane in the first place. Tested successfully and evaluated for its resistance to root penetration acc. to CEN/TS 14416:2014.

Packing

Sets (A+B) of 19kg

Colour

RAL 9003

Fields of application

- Roof gardens
- Green rooftops
- Planter boxes

Properties - Advantages

- Reliable protection against root penetration
- Very high mechanical properties
- Exceptional water uptake resistance
- Excellent adhesion on various substrates
- Remains elastic in a broad range of temperatures from -35°C to +80°C
- Blister-free final surface
- Resistant to early rain in 2 hours after its application
- Excellent crack-bridging properties
- Applicable by roller or airless spray
- Long pot life
- Ultra-long service life secured

Certificates – Test reports

- CE Certification acc. to EN 1504-2
- Test report by the external independent quality control laboratory Geoterra (No. 2023/333_39)
- Tested successfully and evaluated for its resistance against root penetration acc. to CEN/TS 14416:2014
  Test Report 23/32304595 by the external independent laboratory LGAI Technological Center S.A. (Applus)
- Complies with the V.O.C. content requirements acc. to the E.U. Directive 2004/42/CE

Technical characteristics	
Mixing ratio A:B (by weight)	13:6
Density (EN ISO 2811-1)	1,45kg/L (±0,1)
Elongation at break (ASTM D412)	420% (±20)
Tensile strength at break (ASTM D412)	8,5MPa (±0,3)
Tensile strength at break (reinforced with Neotextile® NP, ASTM D412)	>10MPa
Adhesion strength (EN 1542)	>3N/mm²
Hardness Shore A (ASTM D2240)	75
Hardness Shore D (ASTM D2240)	25
Liquid water permeability (EN 1062-3)	<0,01kg/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)
Service temperature	-35°C min. / +80°C max.
Consumption: 2,7-3kg/m² for a reinforced system (with Neotextile® NP)	

Application conditions	
Substrate moisture content	<4%
Relative air humidity (RH)	<85%
Application temperature (ambient - substrate)	+5°C min. / +35°C max.

Curing details	
Pot life (+23°C, RH 50%)**	80 minutes
Drying time (+23°C, RH 50%)	4 hours
Dry to recoat (+23°C, RH 50%)	18 hours

Early rain resistance	2 hours
Total hardening	~7 days
** Low temperatures and low humidity during application and/or curing prolong the above times, while high temperatures and high humidity reduce them* *** Due to the high viscosity of the mixture over time, for easier application it is recommended to take into account half the time of the one mentioned at the table*	

Appropriate primers on usual substrates

Substrate	Primer	Description - Details
Concrete, cement screed	**Acqua Primer NP**	Water-based epoxy primer (Application temperature: +12°C min. / +35°C max.)
	Epoxol® Primer	Solvent-based epoxy primer (Application temperature: +5°C min. / +35°C max.)
	Neodur® Fast Track PR	Fast-drying hybrid (polyurea-polyurethane) primer. Enables the application of the 1st layer of the **Neoproof® Polyurea** system on the same day
	Neopox® Primer WS	Solvent-free epoxy primer for damp surfaces. Ideal for substrates with high moisture content (without ponding water or rising moisture)

Instructions for use

Substrate preparation

The surface must be stable, clean, dry, protected from rising moisture and free of dust, oil, 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, to smooth the irregularities, open the pores and create the optimum conditions for adhesion. The surfaces should have the appropriate slopes and they should be sufficiently flat, smooth, and continuous (i.e., without holes, cracks, bays, etc.). In the opposite case, they should be treated accordingly (e.g. by proper puttying).

Priming

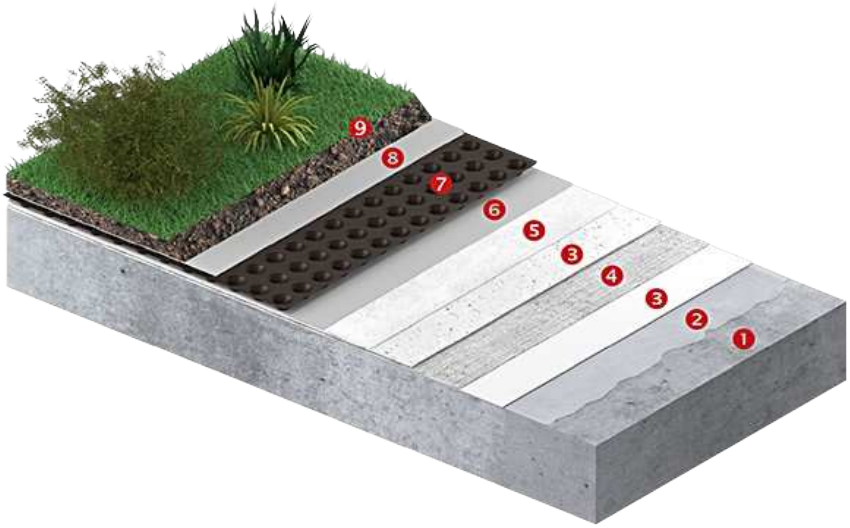
Prior to the application of **Neoproof® Polyurea AR**, the proper **NEOTEX®** primer should be applied, depending on the substrate (see table). In the case of cementitious substrates, it is proposed to apply the water-based epoxy primer **Acqua Primer NP**. In that case, the application temperature must be higher than +12°C.

Application

Following the priming of the surface, **Neoproof® Polyurea AR** is applied, undiluted, reinforced with the specially designed non-woven polyester fabric **Neotextile® NP** of 100gr/m^2 weight or the glass fiber mat reinforcement **Fiberglass Mat 225 P.B.** of 225gr/m^2 weight in the whole application surface (“wet-on-wet” application of two layers with the fabric positioned in between, taking care so that no wrinkles or bubbles are created). The rolls of the reinforcement are placed next to each other, so that they overlap by 10cm. Once the surface is dry to recoat, it is recommended to apply one or more additional sealing layers of **Neoproof® Polyurea AR**, by roller or airless spray.

Before mixing the two components, component A should be mechanically stirred thoroughly for app. 1 minute. Components A & B are then mixed at the predetermined ratio (13A:6B w/w) and stirred for app. 3 minutes with a low-speed electric stirrer until the mixture is homogeneous.

Indicative system build-up



REINFORCED WATERPROOFING SYSTEM FOR GREEN ROOFS

1. Cementitious substrate
2. *Primer:* **Acqua Primer NP**
3. *Waterproofing base coats:*
   Neoproof® Polyurea AR
   "Wet-on-wet" application of two layers with the fabric positioned in between
4. *Polyester reinforcement:* **Neotextile® NP**
5. *Waterproofing topcoat:*
   Neoproof® Polyurea AR
6. Protection geotextile
7. Drainage membrane
8. Filtration geotextile
9. Planting - Vegetation

*Total consumption of **Neoproof® Polyurea AR**: 2,7-3,0kg/m²*

Special notes

- **Neoproof® Polyurea AR** 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
- Substrate temperature during application and curing must be at least 3°C above dew point to avoid condensation issues
- The application is continued sufficiently in the vertical surfaces of the roof (min. 30cm), in order to form a uniform waterproofing membrane. It is recommended in any case to cover the upstands entirely and to continue the waterproofing application in their horizontal sections.
- The durability of the waterproofing system is enhanced by the increase of the total dry film thickness, which may be achieved through the application of an additional layer or layers
- The consumption of each unreinforced layer of **Neoproof® Polyurea AR** should be lower than 1kg/m^2, in order to mitigate the risk of any solvent entrapments in the mass of the waterproofing membrane
- In cases of application under tiles, it is recommended to broadcast quartz sand during the application of the final layer of the product, while it is still fresh, in order to enhance the adhesion of the subsequent layer of the tile adhesive. After the hardening of **Neoproof® Polyurea AR**, any loose grains should be removed with a high suction vacuum cleaner. It is advisable to use an elastic tile adhesive (indicative proposed type C2TE S1).
- For the release of any trapped water vapour of the substrate, it is recommended to apply air vents in the whole roof's surface per 20-25m^2
- In case of new cement screed and soon after its laying, it is recommended to create suitable joints (per 15-20m^2 of surface area and at a depth approximately equal to ¾ of the thickness of the cement screed), which shall then be properly sealed (eg with closed-cell PE foam cord and **Neotex® PU Joint** after proper priming of their sides). It is also necessary to create expansion joints around the perimeter, as above, and with a minimum width of 1cm. Any existing joints of the concrete slab should be transferred to the new substrate.

Appearance	Viscous liquid
Colours	White RAL 9003
Packing	Sets (A+B) of 19kg in metallic cans
Cleaning of tools – Stains removal	By **Neotex® 1021** or **Neotex® PU 0413** 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: 500g/l (Limit 1.1.2010) - V.O.C. content of the ready-to-use product <500g/l
UFI code	*Component A:* RQN0-70M2-Q00E-8C6N *Component B:* VSN0-R09G-000W-WPSQ
Versions	**Neoproof® Polyurea,** pure aliphatic polyurea waterproofing system, with ultra-long service life **Neoproof® Polyurea R,** with high mechanical strength and remarkable resistance to early rain (only 1 hour after application) **Neoproof® Polyurea H**, hybrid polyurea – polyurethane system **Neoproof® Polyurea C1**, high-build, applicable in a single coat when the substrate is flat and smooth **Neoproof® Polyurea F,** with certification for its reaction to fire
Storage stability	*Component A:* 2 years, stored in its original sealed packing, protected from frost, humidity, and exposure to sunlight *Component B:* 1 year, stored in its original sealed packing, protected from frost, humidity, and exposure to sunlight

CE

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DoP No.: 4950-92

EN 1504-2

Neoproof® Polyurea AR

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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