Neoproof® Polyurea H

Cold-applied elastomeric hybrid polyurea - polyurethane waterproofing system

CE

Description

Two-component, brushable elastomeric, hybrid polyurea-polyurethane waterproofing coating for the protection of various surfaces.
It forms a blister-free and impermeable to moisture film, with remarkable water uptake resistance, high mechanical properties and excellent resistance to chalking.

Packing

Sets (A+B) of 20kg

Colours

RAL 1015

Fields of application

- Roofs made of concrete, cement tiles, cementitious screeds
- Rooftops where high resistance to ponding water is required
- Metallic surfaces, e.g. pipes
- Directly over new or old liquid waterproofing membranes
- On top of bitumen membranes
- On top of single-ply PVC and TPO membranes
- Non-exposed surfaces (e.g. under tiles)
- Underground exterior walls (before backfilling)
- Protection of PU foam insulation

*The above surfaces require appropriate preparation and priming prior to the application of **Neoproof® Polyurea H**.*

Properties - Advantages

- High mechanical properties – ideal solution for walkable roofs
- High resistance to ponding water
- Remarkable resistance to UV radiation, without chalking
- Exceptional adhesion on various substrates
- Remains elastic in a broad range of temperatures from -35°C to +80°C
- No signs of blisters or craters on the surface, during the curing phase
- Resistant to early rain in 3 hours after its application
- Excellent crack-bridging properties
- Applicable by roller or airless spray
- Long pot life
- Compatible with other **Neoproof® Polyurea** coatings
- Ultra-long service life secured

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. 2020-106)
- 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)	13,5:6,5
Density (EN ISO 2811-1)	1,45kg/L (±0,1)
Elongation at break (ASTM D412)	430% (±20)
Tensile strength at break (ASTM D412)	4,4MPa (±0,2)
Tensile strength at break (reinforced with Neotextile® NP, ASTM D412)	>6MPa
Adhesion strength (EN 1542)	>3N/mm²
Hardness Shore A (ASTM D2240)	60
Liquid water permeability (EN 1062-3)	<0,01kg/m²h^{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)	1,3m (Class I – permeable)
Accelerated UV ageing in the presence of moisture (UVB-313, 4h UV @60°C + 4h condensation @50°C, ASTM G154)	Pass (>1000 hours)
Service temperature	-35°C min. / +80°C max.
Consumption: 1-1,2kg/m² for two layers (cementitious surface)	

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%)	8 hours
Dry to recoat (+23°C, RH 50%)	24 hours
Early rain resistance	3 hours
Fulll 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*

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)
Bitumen membranes	**Neopox® Primer BM**	Epoxy primer for applications on bitumen membranes with or without slates
Metal (iron, steel)	**Neopox® Special Primer 1225**	Anti-corrosive epoxy primers. Excellent adhesion on metal surfaces and anti-corrosive protection.
	Neopox® Primer 815	
Inox, galvanized steel, aluminium	**Neotex® Inox Primer**	One-component water-based primer, with high adhesion strength on glossy non-porous substrates
PVC membranes	**-**	Direct application after treating the surface with solvent **Neotex® 1021**
New PU foam insulation	**-**	Direct application without primer

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 H**, 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 surface temperature must be higher than +12°C.

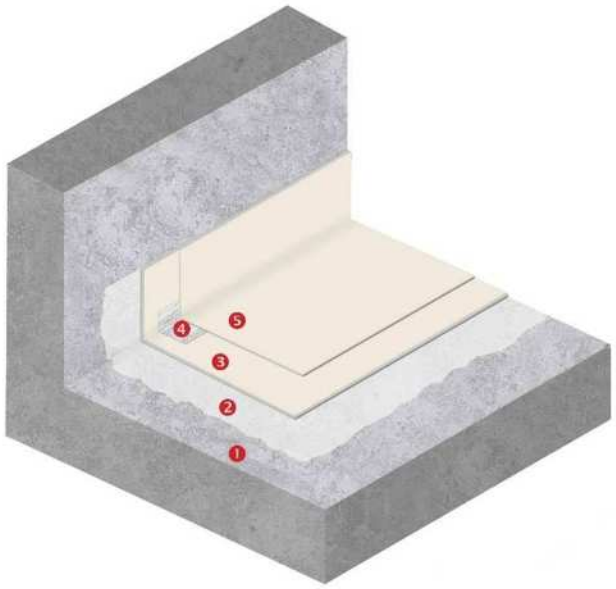
Application

Following the priming of the surface, **Neoproof® Polyurea H** is applied undiluted, in at least two layers by roller, brush or airless spray. Every layer should be applied in a vertical or different direction than the previous one.

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 (13,5A:6,5B w/w) and stirred for app. 3 minutes with a low-speed electric stirrer until the mixture is homogeneous.

Along the upstands-floor intersections (as well as in all other corners), in construction details (such as around and inside roof drains), along the joints, as well as when covering cracks, it is advisable that **Neoproof® Polyurea H** is locally applied in advance, reinforced with the specially designed non-woven polyester fabric **Neotextile® NP** of 100gr/m^2 weight ("wet-on-wet" application of two layers with the fabric positioned in between).

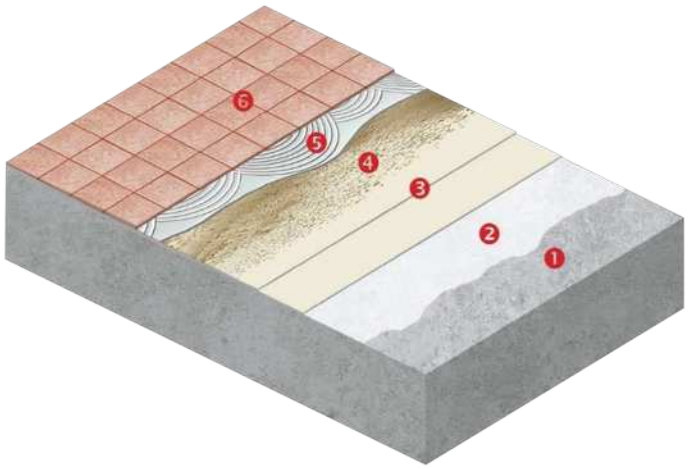
Indicative systems build-up



EXPOSED ROOF WATERPROOFING ON CEMENTITIOUS SUBSTRATE

1. Cementitious substrate
2. *Primer:* **Acqua Primer NP**
3. *Waterproofing base coat:* **Neoproof® Polyurea H**
4. *Corner reinforcement:* **Neotextile® NP tape**
5. *Waterproofing topcoat:* **Neoproof® Polyurea H**

*Consumption of **Neoproof® Polyurea H**: 1-1,2kg/m^2 (for two layers)*



ROOF / TERRACE / BALCONY
WATERPROOFING UNDER TILES

1. Cementitious substrate
2. *Primer:* **Acqua Primer NP**
3. *Waterproofing layers:*
   Neoproof® Polyurea H (min. 2 layers)
4. Quartz sand (broadcast)
5. Elastic tile adhesive
6. Tiles

*Consumption **Neoproof® Polyurea H**: 1-1,2kg/m^2 (for two layers)*

Special notes

- **Neoproof® Polyurea H** 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 H** 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 H**, 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).
- In cases of projects with higher demand in terms of mechanical resistance and crack bridging, it is recommended that **Neoproof® Polyurea H** is thoroughly reinforced with the non-woven polyester fabric **Neotextile® NP** or the fiber glass reinforcement **Fiberglass Mat 225 P.B.** in the whole application surface
- 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.

Maintenance instructions

- The total hardening of the film occurs app. 7 days after the application of the final layer, depending also on the atmospheric conditions. During this period, it is advisable that the access to the application area is prohibited or limited only to specialized personnel.
- It is recommended to annually inspect the coating for any damage caused by accidental impact or misuse
- In case of need for local repairs, **Neoproof® Polyurea H** is re-applied in its original dry film thickness at the minimum, after cleaning and priming (if necessary) the affected area. Where appropriate, it is recommended that the non-woven polyester fabric **Neotextile® NP** is used as a reinforcement.
- Periodic cleaning by water-jetting is advisable (combined with a neutral washing agent, if needed), especially in case of heavy accumulation of dirt, dust and pollutants on the surface

Appearance	Viscous liquid
Colours	Light beige RAL 1015 Available in other shades upon request
Packing	Sets (A+B) of 20kg 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 AjWB: 500g/l (Limit 1.1.2010) - V.O.C. content of the ready-to-use product <500g/l
UFI code	*Component A:* UX80-W01P-R00M-MKCT *Component B:* 1190-D0R3-2003-9WXV
Versions	**Neoproof® Polyurea,** pure aliphatic brushable polyurea 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 C1**, high-build, applicable in a single coat when the substrate is flat and smooth **Neoproof® Polyurea F,** with certification for 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 1922
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1922-CPR-0386 DoP No.: 4950-58 **EN 1504-2** **Neoproof® Polyurea H** Surface protection products Coating

Water vapour permeability	Class I
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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