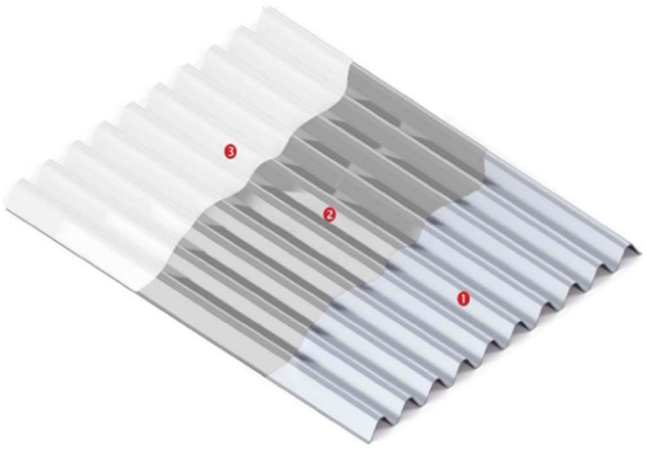
Neoroof®-2L System

Water-based hybrid (PU-acrylic) waterproofing system with high resistance to UV radiation and ageing, for the long-term protection of metal roofs

- ✓ Certified cool properties (*for the white shade*): Both initially & after *15-year* UV ageing
- ✓ Very high dirt pick-up resistance
- ✓ Resistant to UV radiation and adverse weather conditions
- ✓ Increased resistance to ponding water
- ✓ Strong adhesion on a wide variety of metal substrates
- ✓ Anti-corrosive protection of steel roofs

Layer	Product	Consumption**
***Substrate:* Stainless steel – Galvanized steel – Aluminium – Powder-coated panels**		
Primer	**Neotex® Inox Primer**	60-75ml/m² in one layer
Waterproofing layers	**Neoroof®**	≥700gr/m² in two layers
***Substrate:* Plain carbon steel – Corroded metal**		
Primer*	**Neotex® Metal Primer**	80-100ml/m² in one layer
Waterproofing layers	**Neoroof®**	≥700gr/m² in two layers

**See table of primers for alternative compatible primers suitable for powder-coated substrates*
*** The stated consumptions are related to the actual surface to be coated. The real consumption per m² of the roof plan depends on the type and geometry of the steel roof (e.g. specific roof profile of corrugated metal roof)*



System Characteristics
Elongation at break *(ASTM D412)*
300% (±20)
Tensile strength at break *(ASTM D412)*
2MPa (±0,3)
Adhesion strength *(EN 1542)*
≥1,5N/mm²
Total Reflectance SR% *(ASTM E903-12)*
• 88% (white) • 75,4% (white, after 4.000h of accelerated UV ageing* acc. to ISO 16474-3)
Solar Reflectance Index SRI *(ASTM E1980)*
• 111 (white) • 94 (white, after 4.000h of accelerated UV ageing* acc. to ISO 16474-3) **UVA-340, 4h UV @60°C + 4h condensation @50°C*
Liquid water permeability *(EN 1062-3)*
<0,1kg/m²h^{0,5}
CO_2 permeability – Diffusion-equivalent air-layer thickness Sd *(EN 1062-6)*
>50m
Service temperature
-35°C min. / +80°C max.

❶ Corrugated metal sheet

❷ *Primer*:
- **Neotex® Inox Primer** on stainless steel – galvanized steel – aluminium – powder-coated panels
- **Neotex® Metal Primer** on plain carbon steel – corroded metal

(or alternative proper **NEOTEX®** primer)

❸ *Waterproofing base coat:* **Neoroof®**

❹ *Waterproofing topcoat:* **Neoroof®**

System Description

Water-based hybrid (PU-acrylic) waterproofing system for the long-term protection of metal roofs. Forms an impermeable to moisture film, with high resistance to UV radiation and ageing. Presents strong adhesion on a wide variety of metal substrates, as well as certified cool properties (for the white colour shade), both for the initial membrane, as well as the aged membrane. Provides reliable anti-corrosive protection of steel roofs.

Indicative Fields of Application

Waterproofing & protection of metal roofs. Applicable on various metal substrates, such as:

- Corrugated metal sheets
- Galvanized steel and aluminium surfaces
- Powder-coated panels

Main System Products

Neoroof®: Water-based, one-component, cold-applied hybrid (PU-acrylic) elastomeric waterproofing coating of high solar reflectance and thermal emittance properties (for its white shade). It forms an impermeable to moisture film, with resistance to UV and mechanical stress which guarantees the long-lasting protection of the substrate.

Neotex® Metal Primer: Water-based, one-component anti-corrosive primer for old or new iron-steel surfaces, which are to be covered by water-based waterproofing coatings, such as **Neoroof®**. Offers protection against corrosion and exhibits very strong adhesion on the metal substrate. Resilient to adverse weather conditions and industrial or seaside atmosphere.

Neotex® Inox Primer: Water-based, one-component primer, ideal for substrates of stainless or galvanized steel, aluminium, tinplate, glass, etc. prior to the application of cold-applied waterproofing or protective coatings**.** May be overcoated with water-based, solvent-based or solvent-free products, without the need for any special surface treatment prior to overcoating.

System Properties & Advantages

- Certified cool properties (for the white colour shade) - both initially & after *15-year* UV ageing. Retains the whiteness of the membrane over time and its high energy saving properties
- Very high dirt pick-up resistance, prevents the deposit of dust and pollutants on the cured membrane
- Long-lasting resistance to UV radiation & adverse weather conditions
- High elongation and mechanical strength
- Strong adhesion on a wide variety of metal substrates
- Anti-corrosive protection of steel roofs
- Increased resistance to ponding water
- 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
- User-friendly - Easy to apply
- Long service life secured

Certificates – Test Reports

Neoroof®

- CE Certification acc. to EN 1504-2
  Certificate of Conformity No. 1922-CPR-0386
- Certified cool roofing material by the University of Athens
  Evaluation of the optical properties conducted by the National and Kapodistrian University of Athens – Physics Dept.
- Certified cool roofing material by the Center for Renewable Energy Sources
  Reflectance test report by the Center for Renewable Energy Sources (CRES) - Energy Measurement Laboratory
- Certified cool roofing properties of the membrane after 4.000h of accelerated UV ageing acc. to ISO 16474-3 by the National Center for Scientific Research "Demokritos"
  Reflectance and emissivity report by the Advanced Ceramics & Composites laboratory of the research center NCSR "Demokritos"
- Energy studies conducted by the National and Kapodistrian University of Athens - Physics Dept.
  - *Calculation of the energy saving achieved in residencies with the combined use of **Neoroof®** and **Silatex® Reflect** of **NEOTEX®***
  - *Calculation of the energy saving achieved in residencies with the combined use of **Neoroof®**, **Silatex® Reflect** and **N-Thermon® 9mm** of **NEOTEX®***
- Test reports by the external independent quality control laboratory Geoterra (No. 2015-397, No. 2020-190_1)
- Fulfils the requirement LEED v4.1: SS Credit – Heat Island Reduction - Option 1 – High Reflectance Roof, Initial SRI ≥ 82
- Complies with the V.O.C. content requirements acc. to the E.U. Directive 2004/42/CE

Certified by: UNIVERSITY OF ATHENS

ΚΑΠΕ CRES

Certified by: NCSR DEMOKRITOS

Technical Characteristics of Main System Products			
	Neoroof®	**Neotex® Inox Primer**	**Neotex® Metal Primer**
Density (EN ISO 2811-1)	1,35kg/L (±0,05)	1,04kg/L (±0,05)	1,29kg/L (±0,05)
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 I)	-	-

System Application Conditions	
Substrate moisture content	Free of moisture and condensation
Relative air humidity (RH)	<65%
Application temperature (ambient - substrate)	+10°C min. / +35°C max.

Technical Characteristics of Main System Products			
	Neoroof®	**Neotex® Inox Primer**	**Neotex® Inox Primer**
Dry to recoat - overcoat (+25°C, RH 50%)	24 hours	8-10 hours	4-6 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 various metal substrates		
Substrate	**Primer**	**Description - Details**
Plain carbon steel – Corroded metal surfaces	**Neotex® Metal Primer**	Water-based, one-component anti-corrosive primer
Stainless steel	**Neotex® Inox Primer**	Water-based, one-component primer with excellent adhesion on glossy non-porous surfaces
Aluminium		
Galvanized steel		
Powder-coated metal panels	**Neotex® Inox Primer**	Water-based primer ideal for glossy non-porous surfaces
	Silatex® Primer	Acrylic solvent-based primer
	Vinyfix® Primer	Solvent-based primer based on vinyl resins

System Method Application

Stainless steel – Galvanized steel – Aluminium – Powder-coated panels

Substrate preparation

- The surface must be clean, dry and free of dust, oil, grease, older coatings and loose materials. The surfaces shall be degreased with solvent **Neotex® 1021**.
- Depending on the substrate, sanding of the surface may be required. Any residues resulting from surface treatment must be cleaned off. Especially in case it is not possible to thoroughly clean the surface from loose materials or existing poorly adhering coatings, it is recommended to sand and then clean the surface with solvent **Neotex® 1021**.
- Across panel joints and, also for sealing corners, surface irregularities, as well as points where there are screws or other related components, the polyurethane elastomeric sealant **Neotex® PU Joint** shall be applied and allowed to dry 2-3 days, depending on application thickness and atmospheric conditions.

Priming

For creating the optimum conditions for strong adhesion of the subsequent waterproofing system, **Neotex® Inox Primer** is applied, undiluted, by suitable enamel paint roller, paint brush or airless spray, in one thin layer.

*Consumption of **Neotex® Inox Primer***: 60-75ml/m^2 in one layer

*For powder-coated panels, **Silatex® Primer** or **Vinyfix® Primer** may be applied alternatively. For further application details, please consult the respective technical data sheets of the products.

Plain carbon steel substrate – Corroded metal surface (locally)

Substrate preparation

- The surface must be properly prepared by sandblasting or sanding with a wire brush and should be dry, free of dust, dirt, greasy and oily substances, older coatings and loose materials. Any residues of rust or other residues resulting from surface treatment must be cleaned off.
- In rusty areas, it is recommended to locally apply the chemical rust converter **Neodur® Metalforce**, which may be overcoated after 24 hours (+25°C, RH 50%)
- Across panel joints and, also for sealing corners, surface irregularities, as well as points where there are screws or other related components, the polyurethane elastomeric sealant **Neotex® PU Joint** shall be applied and allowed to dry 2-3 days, depending on application thickness and atmospheric conditions.

Priming

After thorough stirring, **Neotex® Metal Primer** is applied, diluted with clean water up to 5%, in one layer by roller or brush.

*Consumption of **Neotex® Metal Primer***: 80-100ml/m^2 in one layer

Application of waterproofing layers

Once the primer is dry to overcoat, the water-based hybrid waterproofing coating **Neoroof®** is applied, diluted 5% with clean water. The application is firstly done locally by roller in the intersections-corners, construction & metal sheet joints (after sealing them with **Neotex® PU Joint**), construction details such as around and inside gutters, as well as in areas with cracks, where **Neoroof®** is applied reinforced with the specially designed non-woven polyester fabric **Neotextile®** of 50gr/m^2 weight ("wet-on-wet" application of 2 layers with the fabric positioned in between). Then, **Neoroof®** is applied in one layer all over the application surface, diluted 5% with clean water, by roller or airless spray.

Once the first layer is dry to recoat – specifically after 24h (+25°C, RH 50%) - **Neoroof®** is once again applied all over the application surface in a second layer, undiluted, by roller or airless spray. The application of the second layer should be done in a vertical or different direction than the previous one.

*Consumption of **Neoroof®***: • ≥700gr/m^2 in two layers (without reinforcement)
• 1,5-1,8kg/m^2 locally in areas applied reinforced with **Neotextile®**

Special Notes

- The system 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 products
- Substrate temperature during application and curing must be at least 3°C above dew point to avoid condensation issues

- In case of non-white finish, it is recommended that the material used for the waterproofing topcoat comes from the same production batch, in order to ensure that a completely uniform colour shade is achieved over the entire application surface
- For enhanced anti-corrosive protection, additional layer or layers of **Neotex® Metal Primer** may be applied, if deemed necessary based on the project conditions
- The application is continued sufficiently in the vertical surfaces of the roof (min. 30cm - with proper primer depending on substrate), 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
- In areas with an increased likelihood of stagnant water remaining for an extended period of time, **Neoroof®** is recommended to be reinforced with the polyester fabric **Neotextile®**.
- The stated consumptions are related to the actual surface to be coated. The real consumption per m^2 of the roof plan depends on the type and geometry of the steel roof (e.g. specific roof profile of corrugated metal roof)

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. *No flood test should be done before such time period has elapsed.*
- It is recommended to annually inspect the coating for any damage caused by accidental impact or misuse
- In case of need for local repairs, **Neoroof®** 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®** 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

The information referred on the use and the application, are offered as a service to designers and manufacturers in the sense of facilitating the finding of possible solutions and is based on the experience and knowledge of NEOTEX® S.A.. Due to the development of knowledge and methods, it is at the discretion of each interested party to be informed by the NEOTEX® technical department as to whether this brochure has been replaced by a more recent one. The measurable technical data stated in the current technical data sheet are based on laboratory tests and may differ from the results of other individual measurements due to conditions beyond the control of NEOTEX®. The durability of the system is directly related to the condition of the substrate and the type of load (mechanical, chemical) to which the substrate is subjected. It is important that the application is done in accordance with the applicable official technical data sheets (TDS) of the materials and that the use of the surface is within the specifications of the materials. As a producer and supplier, NEOTEX® S.A. does not control the application, the substrate conditions or the actual use of the products and therefore cannot be held responsible for the final result or any failures caused by poor application or omissions, inadequate substrate conditions or due to the end use of the products.

HEADQUARTERS - PLANT
V. Moira str., Xiropigado
LOGISTICS SALES & CENTER
Loutsas str., Voro

P.O. Box 2315, GR 19600
Industrial Area Mandra
Athens, Greece
T. +30 210 5557579

NORTHERN GREECE BRANCH
Ionias str., GR 57009
Kalochori, Thessaloniki, Greece
T. +30 2310 467275

www.neotex.gr ● export@neotex.gr