NEOTEX®

ESTABLISHED IN 1959

CONSTRUCTION CHEMICALS

Energy Saving Applications

THE ISSUE

The planet temperature is constantly increasing, because of urbanization and industrialization, which contribute to the Greenhouse effect and climate change, due to the senseless use of energy resources and the CO_2 emissions that are produced. Buildings (e.g. houses, offices, hospitals, hotels) are responsible for global energy consumption at a percentage over 40%.

In most big cities, the cooling load (energy expenditure for cooling) has been doubled and in fact, peak air-conditioning load has been tripled during summer. All studies and researches have shown that greater death rate, because of severe hot climate conditions, appears at low income population which is accommodated at unsuitable buildings without proper thermal protection and ventilation.

However, global energy matter concerns not only big cities but also the countryside. According to official researches about the European building status, the majority have been constructed 2-3 decades ago.

Additionally, the European environmental legislation obliges countries to conform to energy consumption savings up to 20% until 2020. This fact coincides with national economies interest not to depend on natural resources imports, like diesel and natural gas. Furthermore, companies and households need to boost their viability, through rational management of the daily energy expenses, like heating and cooling costs.

Concluding, building insulation is essential presenting additional economic and environmental benefits.

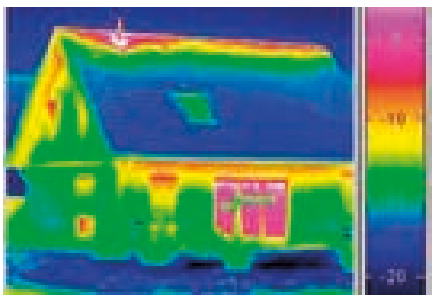
THE SOLUTION

(Insulation): Thermal insulation refers not only to building protection against cold but also against extremely hot conditions

A building is protected with suitable thermal insulating materials, which are applied to outer walls, ceilings, roofing, flooring next to basements or pilotis, inner walls next to warehouses, columns, beams, etc. All the above areas are called thermal bridges, the non-insulated outer shell sides where mould can easily be generated and developed at inner surface, creating thermal losses.

Additionally, we also owe to ensure two other necessary conditions, in order to guarantee thermal comfort inside the building (pleasant feeling instead of discomfort) and efficient thermal insulating operation:

- Waterproofing of the building, since moisture practically diminishes the thermal insulating capacity of the building element, even in case a thermal insulating material has been applied
- Permanent building ventilation, through selection of materials with great transpiration, property which is easily achieved via low thickness materials



ENERGY SAVING WITH NEOTEX SYSTEMS

NEOTEX® having monitored the worldwide energy saving trends and customers' needs, combined them with its well-established expertise and know-how in the fields of waterproofing, special coatings and repairing, in order to emphasize at construction areas with the greatest thermal losses, like roofs and walls. Our R&D Department has developed a new range of hybrid (thermal insulating and waterproofing) systems. They are reliable, eco-friendly and inexpensive solutions regarding the energy-consuming old buildings and are adapted to each territorial climatic conditions.

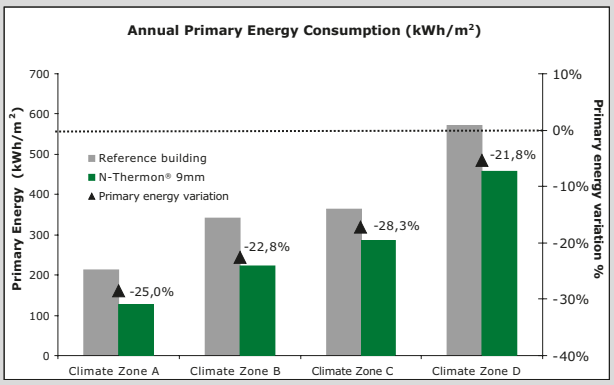
Our company's suggestions about thermal insulation and energy saving have been certified by CRES (Center of Renewable Energy Sources) together with the Physics Department of the University of Athens and are summarized to the table below.

With the first two interventions, we may easily achieve high energy savings in existing constructions, during the warmer seasons of the year and especially during summer. The third intervention added, rises up the total thermal insulation result significantly at winter months.

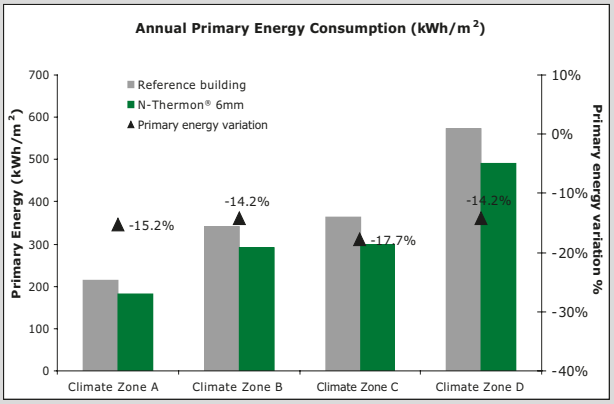
Neotherm®, **Neoroof®** and **Silatex® Reflect** are classified as cool roof coatings, specified for cool roofs, as they are certified by accredited laboratories.

Furthermore, NEOTEX® waterproofing and thermal insulation systems are compatible with regions having developed special architecture styles, a fact that is really remarkable. In order to preserve landscape uniqueness and rich culture tradition of many cities, interventions at existing buildings have to comply with strict urban restrictions.

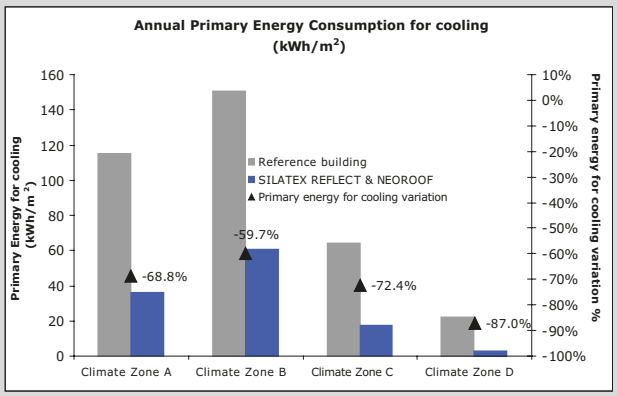
Application Surface	**Application procedure of energy saving NEOTEX® intervention**	
	Primer	**Final System**
Roof (Terrace)	Priming with water diluted emulsion **Revinex®** in ratio 1:3	2 layers of thermal insulating coating **Neotherm®** + 2 layers of hybrid waterproofing **Neoroof®** (or 2-3 Neoroof layers as economic solution)
Facades	Priming with water diluted emulsion **Revinex®** in ratio 1:3	2 layers of thermal insulating coating **Neotherm®** + 2 layers of elastomeric reflective waterproofing coating **Silatex® Reflect** (or 2 **Silatex® Reflect** layers as economic solution)
Interior of building	**N-Thermon®**, thin thermal insulation system. (**Neotherm® AC** can be optionally applied over **N-Thermon®** for even greater thermal performance).	



1st Chart: Annual primary energy consumption concerning detached house before and after **Silatex® Reflect** & **Neoroof®** & **N-Thermon® 6mm** application.



2nd Chart: Annual primary energy consumption concerning detached house before and after **N-Thermon® 6mm** application



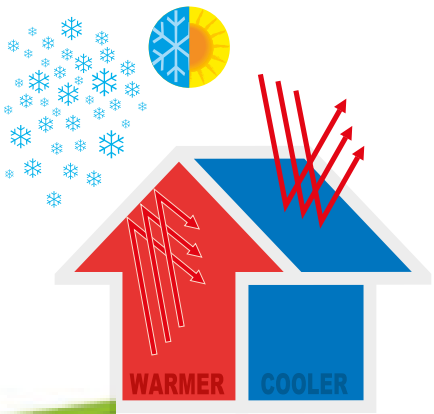
3rd Chart: Annual primary energy consumption for cooling concerning detached house before and after **Silatex® Reflect** & **Neoroof®** application

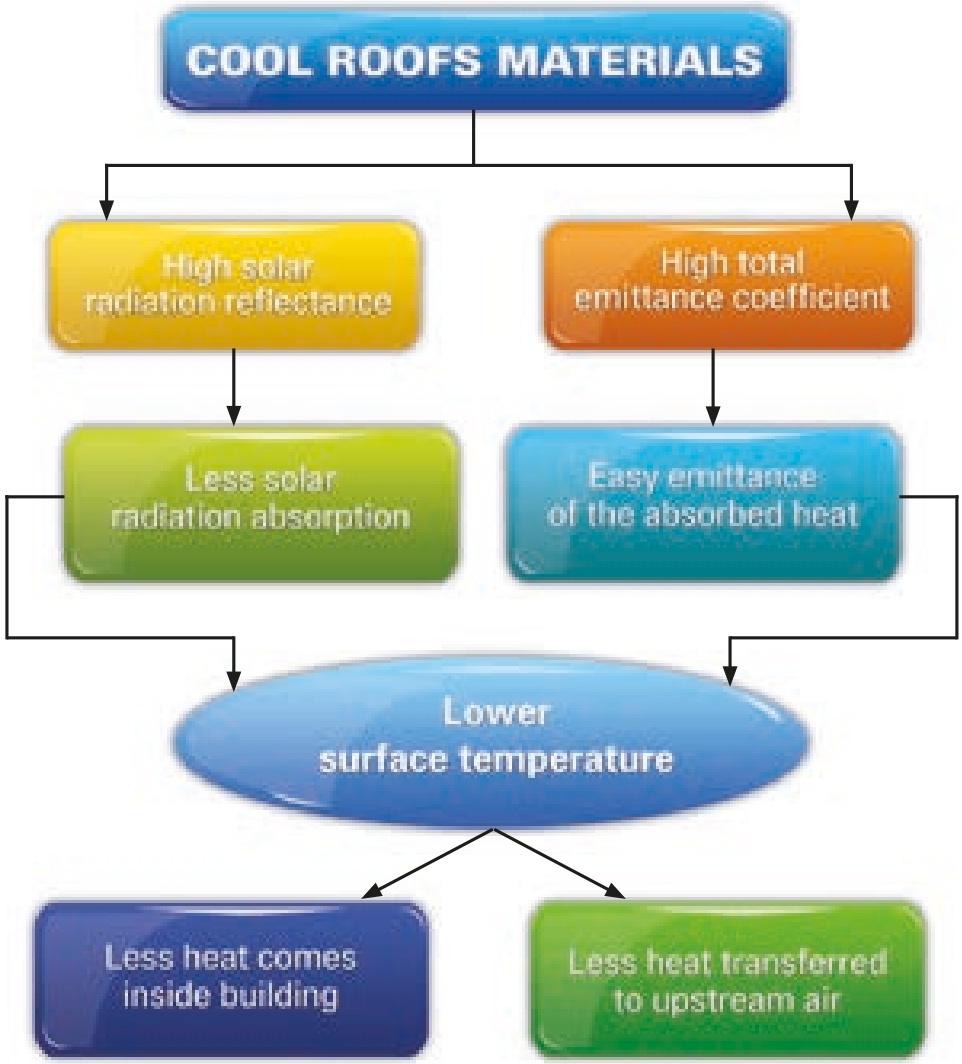
THERMAL COMFORT

The objective thermal comfort feeling, is influenced by factors like temperature, humidity, air speed, clothing and human activity. Basic prerequisite for thermal comfort and pleasant feeling is that temperature difference between inner wall and internal room temperature has to be 3-4°C maximum. With the application of **NEOTEX® waterproofing and thermal insulation systems,** the temperature of the building elements is reduced by 10-12°C and inner room temperature is improved by 2-3°C (at outer climate conditions over 28°C).

ECONOMIC BENEFITS

- **Energy consumption reduction** and rational use of heating and cooling systems (see Charts and Tables 1, 2, 3). The conservation of air temperature level for a long period of time after shutting down the heating and cooling installation has an additional effect on this reduction.
- **Easy and quick application**
- **Low total investment cost (material and application) and rapid payback period**
- **Increase of real estate commercial value**, thanks to temporal reduction of its operating cost, fact that is ensured by the long lasting properties of emission and reflectance that NEOTEX® cool roofs materials display throughout the years
- **Increase of building resistance** towards climate stress and damages. The application surface acquires longer lifetime and economic benefit is created by reducing the repairing demand. It is also protected by destructive ultraviolet sun radiation and it is subjected to reduced thermal stress. Moreover the same occurs to other existing building materials, like the mineral bitumen membranes on roofs, which can be protected by the final **Neoroof®** coating and also the plaster or the old wall painting which is respectively protected by the final **Silatex® Reflect** coating.





ENVIRONMENTAL BENEFITS

- Since buildings constitute one of the main air pollutants producer, with NEOTEX® cool roofs systems, atmosphere pollution and CO_2 emissions are reduced. Calculations have shown that a surface of 100m^2 applied with cool roofs materials, that have replaced the previous dark surface, is equal to 10 tons of CO_2 saved.
- Reducing urban heat island effect

> **Even though after thermal insulation interventions the economic benefit is remarkable, the quality of life improvement is even more important**

MAIN COOL ROOFS MATERIALS APPLICATION FIELDS

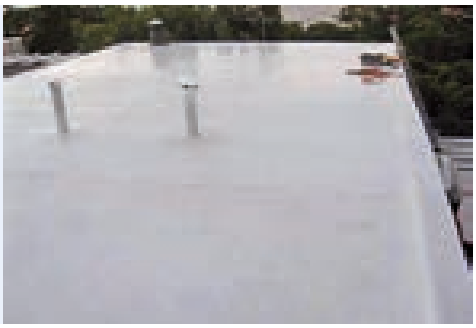
- High sunshine regions
- Densely crowded cities facing intensely the issues of urban heat island effect and high energy load due to air-conditioning use
- Lower income districts with majority of non-insulated buildings
- Bioclimatic architecture applications, like urban regenerations
- Detached houses
- Cottages, especially at seaside areas
- Hotels
- Listed and neoclassic buildings, due to inability of decommission
- Offices and public buildings
- Army camps and summer camps
- Metal constructions at industrial and rural areas
- Rented real estate

ENERGY SAVING NEOTEX SUGGESTIONS AND SOLUTIONS

PLACE OF INTERVENTION
ROOF / TERRACE –
HORIZONTAL SURFACE

SUGGESTED MATERIAL
Neoroof®

CE



Neoroof® application
on a flat roof with stagnant water

PROPERTIES-ADVANTAGES

- Hybrid material (UV-curable) of high reflectance and emittance, with thermal insulating properties
- Forms an elastic waterproofing membrane, resistant to roofs even with stagnant water
- Polymerized with solar radiation. It is not tacky (two days after its initial exposure to ultraviolet radiation) even at very high temperatures, while remaining elastic at a range between -35°C and +80°C
- Covers capillary cracks and protects completely from moisture
- Certified with CE according to EN 1504-2
- Prevents dust and dirt deposits maintaining its whiteness, its thermal reflecting properties and its smooth surface
- Economical and easy to apply, with high coverage and spreading
- Water based, of one component, user and eco-friendly
- Contributes to the transpiration of the building element, resulting in de-humidification of residence and improvement of thermal comfort feeling
- Reduces the surface temperature of the mineral bitumen membranes, decelerating their ageing process. Combined with emulsion **Revinex®**, it stabilizes the mineral chips preventing the bitumen migration

TECHNICAL CHARACTERISTICS

Appearance: Viscous liquid, white shade
Density (ISO 8962): 1,30 gr/cm^3
pH (ISO 1148): 8-9
Consumption (2 layers): 500-700gr/m^2 on cement substrate
1-1,25kg/m^2 on mineral bitumen membrane
400gr/m^2 on metallic surfaces
Touch dry: 2-3 h at 25°C
Dry to recoat: 24 h at 25°C
Application Conditions:
surface humidity content <6%
relative atmospheric humidity < 80%
atmospheric temperature +12°C - +35°C
Solar Reflectance (SR%): 91,8% (400-750 nm)*
Total Solar Reflectance (SR%): 88% (300-2400nm) *
Solar Reflectance Index SRI: 111 (ASTM E1980-01)
Infrared Emmitance coefficient (ε): 0,86 (ASTM E408-71)
Packing: 13kg - 4kg - 1kg in plastic containers

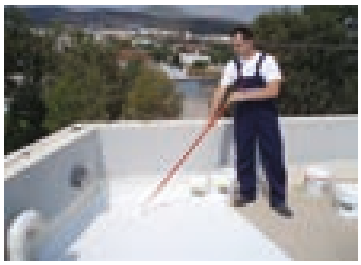
* (ASTM E 903-96), (ASTM G159-98)

APPLICATION INSTRUCTIONS

Surface preparation
The substrate should be clean, dry and free from dust, oil, grease, or any poorly adhering material.

Surface priming
In order to stabilize the surface, seal the pores, improve the adhesion and the coverage of the material, apply one layer of **Revinex®** diluted with water (1:3).

Neoroof® application
Stir the product thoroughly in its container. After priming, apply at least two layers of Neoroof® using a brush or a roller, each time working the material in a vertical or different direction to that of the previous coat. Dilute with 10% water for the first coat. Apply the second coat after 24 hours, without thinning. The same applies for the third coating. For greater demands Neoroof® can be reinforced with non-woving polyester **Neotextile®**. In that case at least 3 coatings are required. If **Neotherm®** is previously applied, then apply Neoroof® after 24 hours, without prior priming.



NEOROOF® USAGES

- Roofs made of concrete, cement boards, mosaic, cement slurries
- Rooftops with resistance at stagnant water
- Mineral bitumen membranes
- Metallic surfaces (e.g. passenger waiting shelters, construction sites shelters)
- Beside and under photovoltaic panels, enhancing their efficiency
- Air-conditioning tubes

PLACE OF INTERVENTION
FACADES

SUGGESTED MATERIAL
Silatex® Reflect

Silatex® Reflect application
on exterior walls

PROPERTIES-ADVANTAGES

- Reflective, elastomeric, waterproofing coating with thermal insulating properties
- Reduces the temperature of the outer wall which is exposed to sunlight, offering coolness at summer
- Water vapor-permeable, allowing walls to breath. It retains its elasticity offering waterproofing for many years
- Reacts with ultraviolet radiation and yields a tack-free surface, even at high temperatures, maintaining its thermal reflecting properties for a long period of time
- Covers capillary cracks and protects completely from moisture
- Resistant down to -40°C
- Offers high coverage and spreading

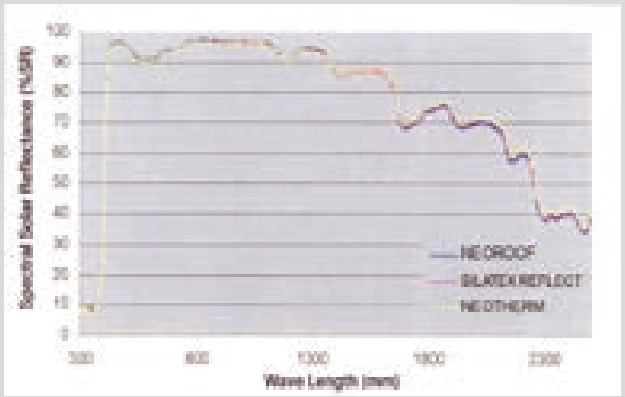
TECHNICAL CHARACTERISTICS

Appearance: Viscous liquid, white and lightly colored shades
Density (ISO 8962): 1,36 g/cm^3
Consumption (2 layers): 0,18-0,20 L/m^2
Touch dry: 3 h at 25°C
Dry to recoat: 24 h at 25°C
Solar Reflectance (SR%): 91% (400-750 nm)*
Total Solar Reflectance (SR%): 88% (300-2400nm) *
Solar Reflectance Index SRI: 111 (ASTM E1980-01)
Infrared Emmitance coefficient (ε): 0,86 (ASTM E408-71)
Packing: 10lt, 3lt in plastic containers

* (ASTM E 903-96), (ASTM G159-98)

APPLICATION INSTRUCTIONS

Surface preparation
The substrate should be clean, dry and free from dust, oil, grease, or any poorly adhering material.
Surface priming
In order to stabilize the surface, seal the pores, improve the adhesion and the coverage of the material, apply one layer of **Revinex®** diluted with water (1:3).
Silatex® Reflect application
Stir the product thoroughly in its container. Apply at least two layers of Silatex® Reflect using a brush or a roller, each time working the material in a vertical or different direction to that of the previous coat. Dilute with 5% water for the first coat. Apply the second coat after 24 hours, without thinning. The same applies for a possible third coating.



Spectral Solar Reflectance (%SR) representation of **Neoroof®**, **Silatex® Reflect**, **Neotherm®** at total (300-2400nm) spectrum.

Silatex® Reflect and **Neoroof®**, due to their high solar reflectance and the total emittance, contribute to the decrease of the surface temperature of the building elements, resulting in heat reduction that is ultimately transferred inside the buildings. This act leads to reduced energy needs for cooling. The application of **N-Thermon® 6mm** is enhancing the thermal insulating capacity, improving even more the energy savings during summer and winter period (according to a relevant study of University of Athens).

PLACE OF INTERVENTION
FACADES AND ROOF,
UNDER WATERPROOFING COATINGS
Neoroof® and Silatex® Reflect

SUGGESTED MATERIAL
Neotherm®

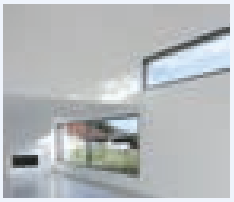
Use of Neotherm® at listed neoclassic building, without decommission

PROPERTIES – ADVANTAGES

- Thermal insulating material exhibiting low thermal conductivity and high reflectance
- It presents 5 times less thermal conductivity coefficient (λ) compared to concrete and 4 times lower compared to common paints, blocking heat transfer inside the building. The combination of **Neotherm®** low thermal conductivity and the waterproofing of **Neoroof®**, **Silatex® Reflect,** reduces the feeling of cold during winter and contributes to the covering of any possible thermal bridges, created during building construction.
- Contains high percentage of micro-bubbles. Even if applied under a common paint, it has the ability to emit the heat of the surface towards atmosphere.
- Absorbs the heat that ultimately is generated on the outer surface and emits it during night time, when temperature drops, achieving the maximum result of thermal insulation at summer.
- Covers capillary cracks and protects construction materials (e.g. plaster over polystyrene) from temperature fluctuations, prolonging their service life
- Further enhances the thermal insulating properties of **Neoroof®** and **Silatex® Reflect**
- Certified material for its low thermal conductivity and high solar reflectance by the **Center for Renewable Energy Sources (CRES) of Athens**
- Adding Neotherm® (10-15%) in elastomeric roof coatings and acrylic paints, the coefficient of thermal conductivity (λ) is reduced and the reflectance percentage of the final coating is significantly improved

AUXILIARY MATERIAL

NEW



Neotherm® AC

Anti-condesation paint with thermal insulating properties, suitable for interior use. Works as an anti-condensation paint in cases of insufficient insulation and prevents permanently the growth of mold and bacteria on the walls, ceilings.

Packing: Containers of 10 L, 3 L, 1 L

TECHNICAL CHARACTERISTICS

Appearance: Viscous liquid, light blue shade
pH (ISO 1148): 8-9
Consumption (2 layers): 0,5-0,7 L/m²
Touch dry: 2- 3 h at 25°C
Dry to recoat: 24 h at 25°C
Dilution: up to 5% with water
Thermal conductivity coefficient (λ): 0,136 W/mk (EN 12664:2004)
Solar Reflectance (SR%): 90% (400-750 nm)*
Total Solar Reflectance (SR%): 88% (300-2400nm) *
Solar Reflectance Index SRI: 111 (ASTM E1980-01)
Infrared Emmitance coefficient (ε): 0,86 (ASTM E408-71)
Packing: 10lt – 3lt in plastic containers

* (ASTM E 903-96), (ASTM G159-98)

APPLICATION INSTRUCTIONS

Surface preparation
The substrate should be clean, dry and free from dust, oil, grease, or any poorly adhering material.

Surface priming
On a surface without existing waterproofing coating, apply one layer of **Revinex®** diluted with water (1:3).

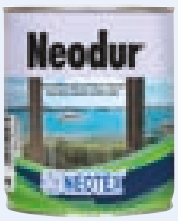
Neotherm® application
Apply two or three layers of **Neotherm®** using a brush or a roller, diluting with water (5%). In order to obtain proper thermal insulation, follow the above mentioned coverage per m². After Neotherm®, apply 2 coatings of **Neoroof®** (roofs) or **Silatex® Reflect** (walls).

PLACE OF INTERVENTION

FACADES AND ROOF,
INTERIOR AND EXTERIOR METALLIC SURFACES
Neodur®

SUGGESTED MATERIAL

Neodur®



Neodur® on exterior metallic surfaces

Two component polyurethane top coat paint suitable for metallic and wood surfaces. It is ideal for polyester boats.
Neodur is a finish coat which exhibits high strength, abrasion resistance and durability against petroleum products, sea water and UV radiation. It has strong adhesion, excellent hardness and long lasting durability against weathering.

APPLICATION FIELDS - USES

- Certified as cool roof material on metallic surfaces
- Suitable for painting metallic surfaces in urban, industrial and marine environments, such as:
  - Metallic fences
  - Metallic doors and supports
  - Pipes
  - Metallic elements of building facades
  - Metallic masts and silos
- Especially suitable for paint and renovation of metallic roofs and roof tiles. As a certified cool roof material, it offers thermal isolation in areas such as:
  - Traditional residences with metallic roof tiles
  - Auxiliary spaces with metallic roofs
  - Livestock accommodation spaces: stables, pigsties, poultry farms
- Ideal for freeboard boat surfaces built from metal or polyester

Packing: 1 kg, 5 kg

Colours

RAL 9003	RAL 9005	RAL 9010	RAL 7040
RAL 3009	RAL 5013	RAL 5015	RAL 6009

RAL shades are available upon request.

The shades are only indicative; any differences between their appearance on the catalog and on the painted surface are due to the printing technique.

TECHNICAL CHARACTERISTICS

Polyurathane paint
Density: 1,28 g/cm^3
Mixing ratios (weight prop.): 87A: 13B
Consumption: 150 gr/m^2 per layer
Drying time: 2-3 hours at 25°C (low temperatures and high humidity during application prolong drying time)
Dry to recoat: after 12 hours at 25°C
Solids % by weight: 55% – 67 % depends on the shade
Total Reflectance (SR%): 88%(300-2500 nm)* (White)
Total Emittance: 0,86 (ASTM E408-71) (White)
Solar Reflectance Index (SRI): 111 (ASTM E1980-01) (White)

*(ASTM E903-96), (ASTM G159-98)

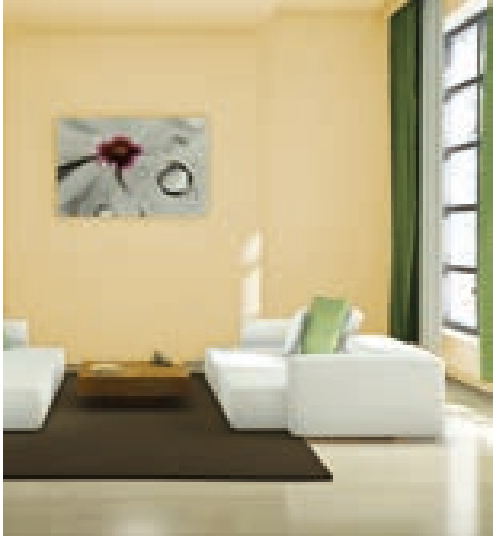
APPLICATION INSTRUCTIONS

Construction surfaces: The surface should be rough (not smooth) leveled, clean and dry, free from dust, dirt, greasy and oil substances. Apply firstly one coat **Epoxol® Primer** diluted 10-15 % with solvent Neotex® 1021. After 18-24 hours, apply **Neodur®** diluted 10 % with solvent **Neotex® 1021**.
Metallic surfaces: Clean the surface from rust by sandblasting or with the use of a wire brush. Afterwards apply one coat of **Neopox® Special Primer No 1225** diluted 5-10 % with solvent **Neotex® 1021** to protect against rust. Then apply two coats of **Neodur®** diluted 10% with solvent **Neotex® 1021**, allowing to dry for 12 hours between coats

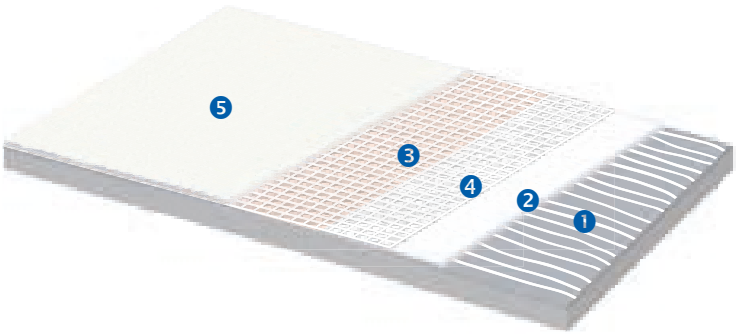
PLACE OF INTERVENTION
INTERIOR OF THE BUILDING

CE

SUGGESTED MATERIAL
N-Thermon® System



Interior N-Thermon® application



The system consists of the following layers:

1. **N-Thermon® Glue:** Specially developed mold repellent (consumption: 0,4-0,5 Kg/m²)
2. **N-Thermon®**: Extruded polystyrene boards of 6mm and 9mm thickness
3. **N-Thermon® Primer:** Strong adhesive primer with quartz-sand (consumption: 0,33 Kg/m²)
4. **N-Thermon® Mesh 90gr:** White alkali-resistant fiberglass-mesh
5. **Deplast®:** Off-white, elastic, polymer reinforced plaster (consumption: 3 Kg/m²).

PROPERTIES – ADVANTAGES

- Minimizes the thermal losses and the expenses for heating and cooling
- Total energy saving up to 28,3%
- Combined with the cool roof coatings Silatex® Reflect & Neoroof® the energy saving may rise up to 37,4%
- Provides quicker heating of rooms
- Due to its thickness, it contributes to the saving of valuable space, which is essential, especially in refurbishment projects of existing constructions
- Ideal system for repairs and renovations in existing buildings, such as detached houses, apartments, cottages, neo-classic buildings, hotels, public buildings, etc.
- Blocks the formation of moisture and the growth of fungi
- Easy and quick installation without loss of space, demolitions or bureaucratic procedures
- Fire resistance for N-Thermon® System with Class B,s1,do
- High impact resistance, due to the specially developed resinous fire-resistant plaster Deplast®
- Certified according to CE (EN 998-1).
- Ecological, reduces the emissions of CO_2
- With zero gas emissions (no VOCs)
- Prevents the formation of shadings in thermal bridges
- Resistance to chemical compounds that exist in construction materials (cement, lime, gypsum, etc.) as well as to alkalis and salts
- Exhibits low water absorption (only 0,1% vol.), due to its density and its closed-cell structure. Thus, it maintains its insulation properties for an extensive period of time.
- The boards do not rot or decompose

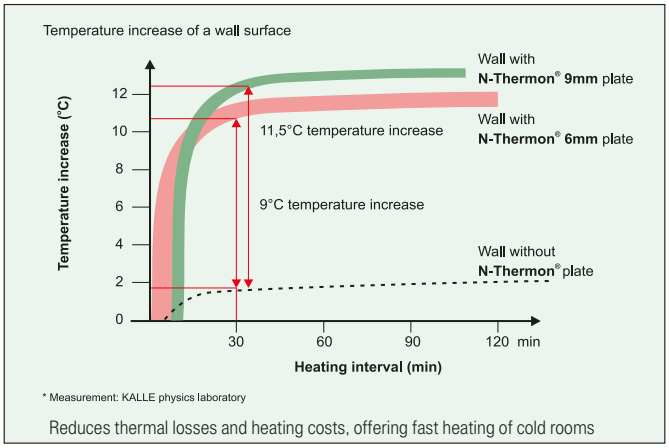
TECHNICAL CHARACTERISTICS	N-Thermon®	
	6mm	9mm
Foam Density (s) (EN ISO 845)	33 kg/m³	35 kg/m³
Thermal Conductivity Value (λ) (DIN 52612)	0,0306 W/mK	0,0307 W/mK
Thermal Resistance Value (R or 1/Λ)	0,1961 m²k/W	0,293 m²k/W
Heat Penetration Value (b)	2,4 KJ/ m²h$^{1/2}$K	2,4 KJ/ m²h$^{1/2}$K
Water Absorption (DIN 53434)	<0,1% vol.	<0,1% vol.
Water vapour permeability resistance factor (μ) (DIN 52615)	450	300
Water vapour diffusions - equivalents of air-layer thickness (s_d = μ*s/1000) (DIN 52615)	2,7 m	2,7 m
Impact noise improvement measure (in combination with parquet) Δ/W (DIN 52210)	+16dB	
Energy saving *	17,7%	28,3%
Board dimensions	1,25x0,80 m	

* According to tests conducted by a German Laboratory, the energy savings of **N-Thermon® 6mm & 9mm** are 30% & 38%, respectively

Packing: Boards of 1,25 x 0,80 m

Annual consumption of primary energy, as well as its % reduction after the application of N-Thermon® 6mm and 9mm (according to a study by the University of Athens)

	A' Climate Zone		B' Climate Zone		C' Climate Zone		D' Climate Zone	
	Primary Energy KWh/m²	% change in primary energy	Primary Energy KWh/m²	% change in primary energy	Primary Energy KWh/m²	% change in primary energy	Primary Energy KWh/m²	% change in primary energy
Κτίριο Αναφοράς	213,6		340,4		362,5		572,3	
N-Thermon® 6mm	181,2	-15,2%	292,1	-14,2%	298,2	-17,7%	491,0	-14,2%
N-Thermon® 9mm	160,2	-25,0%	262,9	-22,8%	260,0	-28,3%	447,4	-21,8%



Reduces thermal losses and heating costs, offering fast heating of cold rooms

INSTALLATION INSTRUCTIONS

Application of N-Thermon® Glue
After cleaning any possible black spots on the wall, caused by mold and repairing its probable unevenness, N-Thermon® Glue is spread equally over the surface with a roller, a brush or a notched trowel. Waiting time 5 minutes

Installation of N-Thermon® Board
The board is installed on the fresh glue by pressing it against the wall with a cylinder or even with the hands. The air comes out while pressing the sides of the board. It is important to start from the middle of the board and work towards the edges, to avoid air entrapment. The boards must be cut according to the height of the wall so that they can fit precisely.

Successive bondings
The boards are adjusted on the wall with two ways: the one next to the other without leaving any space between them by joining their sides, or the one overlapping the other by cutting their sides and removing the cut strips.

Ideal bonding
The cylinder must be pressed to the cut sides. The joints are smoothed with fine sandpaper or if it is necessary they are covered by using again N-Thermon® Glue.

Drying time
The glue obtains its final properties 24 hours after the application. Before any additional applications, it is considered necessary to check the bonding of the Depron board on the substrate.
Priming the surface of the N-Thermon® board with N-Thermon® Primer will create a surface of high adhesion.

After 24 hours
Application of the 1st layer of the resinous plaster Deplast
Impregnation of the fiberglass mesh N-Thermon® Mesh 90gr in the first layer of the fresh plaster (to act as reinforcement).
After 12 hours
Application of the 2nd layer of the resinous plaster Deplast®
After 2 hours
Smooth over the surface (using a flat-bladed trowel)
After 24 hours
The surface is ready to be painted.

AUXILIARY MATERIAL

Gavatex®

Woven fiberglass fabric with a special network structure. It covers the imperfections of the substrate and it can be painted. As an alternative to **Deplast®**, it offers fire-resistance, decoration and impact resistance to **N-Thermon®**.

Table 2. Annual primary energy consumption and its percentage variation after N-Thermon® 9mm application

	Climate Zone A		Climate Zone B		Climate Zone C		Climate Zone D	
	Primary Energy KWh/m²	% variation of primary energy	Primary Energy KWh/m²	% variation of primary energy	Primary Energy KWh/m²	% variation of primary energy	Primary Energy KWh/m²	% variation of primary energy
Reference building	**213,6**		**340,4**		**362,5**		**572,3**	
N-Thermon® 9mm	**160,2**	**-25,0%**	**262,9**	**-22,8%**	**260,0**	**-28,3%**	**447,4**	**-21,8%**
In combination with cool paints **Silatex® Reflect** & **Neoroof®** the annual energy total consumption is reduced up to **37.4%**								

Table 3. Annual primary energy consumption and its percentage variation after N-Thermon® 6mm application

	Climate Zone A		Climate Zone B		Climate Zone C		Climate Zone D	
	Primary Energy KWh/m²	% variation of primary energy	Primary Energy KWh/m²	% variation of primary energy	Primary Energy KWh/m²	% variation of primary energy	Primary Energy KWh/m²	% variation of primary energy
Reference building	**213,6**		**340,4**		**362,5**		**572,3**	
N-Thermon® 6mm	**181,2**	**-15,2%**	**292,1**	**-14,2%**	**298,2**	**-17,7%**	**491,0**	**-14,2%**

Table 4. Annual primary energy consumption for cooling and its percentage variation after Silatex® Reflect & Neoroof® application

	Climate Zone A		Climate Zone B		Climate Zone C		Climate Zone D	
	Primary Energy (cooling) KWh/m²	% variation of primary energy for cooling	Primary Energy (cooling) KWh/m²	% variation of primary energy for cooling	Primary Energy (cooling) KWh/m²	% variation of primary energy for cooling	Primary Energy (cooling) KWh/m²	% variation of primary energy for cooling
Reference building	**115,1**		**150,7**		**64,3**		**22,3**	
Silatex® Reflect & Neoroof®	**35,9**	**-68,8%**	**60,7**	**-59,7%**	**17,7**	**-72,4%**	**2,9**	**-87,0%**

It is worth mentioning that **just by applying cool roofs materials Silatex® Reflect and Neoroof®**, the total (for heating and cooling) annual primary energy saving is up to 19,6% at the warmer climatic zones (A and B).

Values and properties were evaluated by the University of Athens and through calculation with the TRNSYS system, that confirmed and certified the above energy saving levels.

The study was based on a typical case, having considered that it was constructed the past years (before 1980). The effect on it, having applied simultaneously our materials, was calculated. Concluding, the annual energy total (for heating and cooling) consumption is reduced up to **37.4%.**

University of Athens Certificates analyzing the energy saving measurements

Indicative Applications of energy saving systems of NEOTEX

Headquarters of Bank of Georgia, Tbilisi

Cavo Paradiso music club, Mykonos

Oenoforos winery, Lesvos

Greek Cancer Society, Paiania, Attica

Your confidence...
is not a coincidence!

NEOTEX® S.A.

ATHENS: V. Moira str., P.O. Box 2315, 19600 Industrial Area Mandra Attikis, Greece, Tel. +30 210 5557579, Fax: +30 210 5558482
THESSALONIKI: 10th km N.R Thessaloniki-Poligiros, 57001, Thermi, Thessaloniki, Greece, Tel.:+30 2310 467275, Fax: +30 2310 463442
www.neotex.eu • e-mail: export@neotex.gr

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