

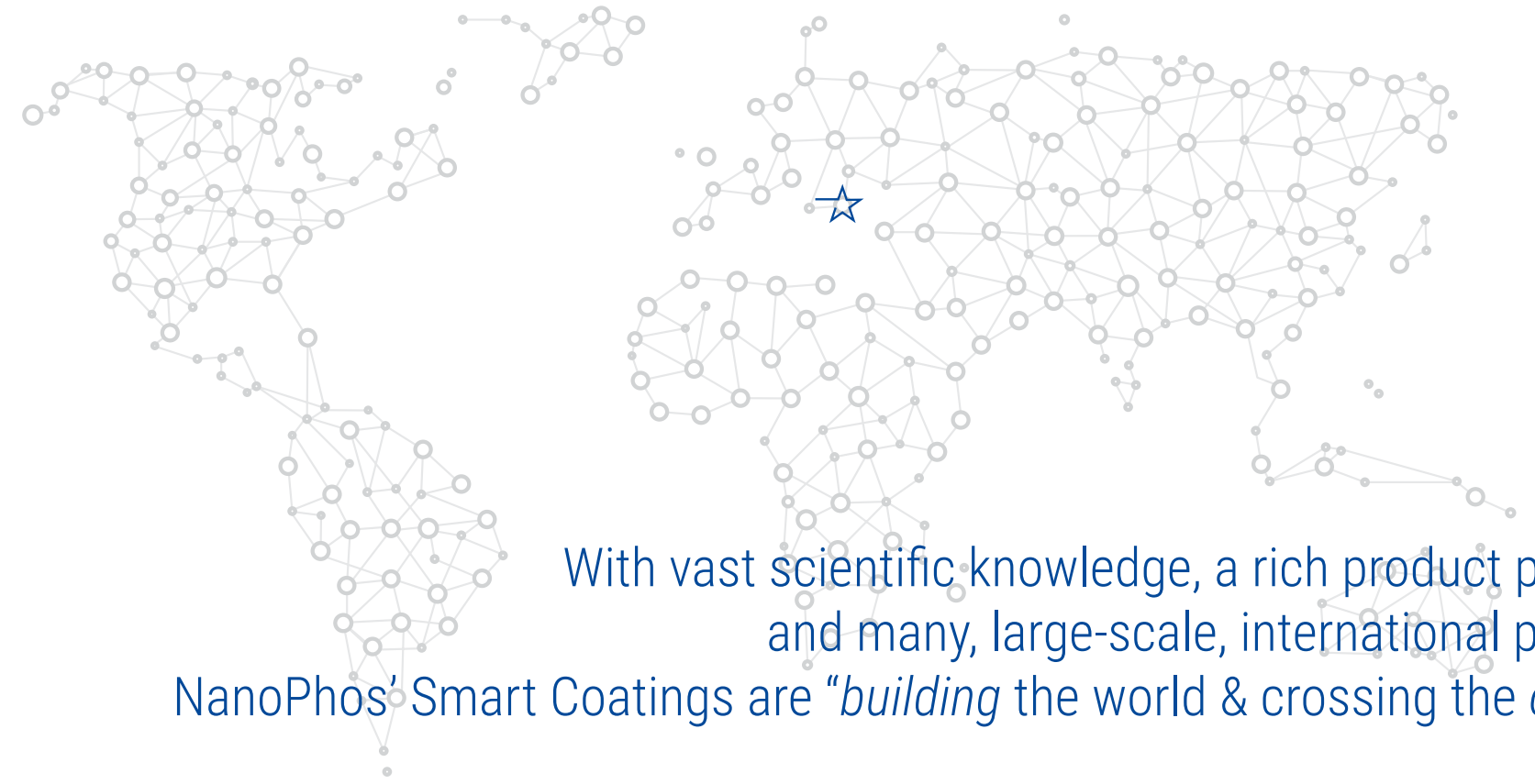
TUNE THE **NANOWORLD**  
TO SERVE THE MACROWORLD

**NanoPhos**  
*Pioneering  
Nanotechnology* 









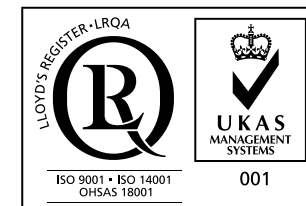
With vast scientific knowledge, a rich product portfolio and many, large-scale, international projects, NanoPhos' Smart Coatings are *"building the world & crossing the oceans"*

Since its establishment in 2005 in Lavrio, Greece, NanoPhos has been researching, developing, producing and trading **"smart" materials** to solve everyday problems with the power of **nanotechnology**. A broad range of patented, high-quality and environmentally friendly coating products adds functionality and unique properties in construction projects, industrial units, marine structures or vessels.

Numerous international **awards** underline the company's *efficiency, ecological* awareness (i.e. 2010 World Expo, the 100% Detail exhibition, the GAIA awards), or *innovative* character (the President's of Microsoft- Bill Gates- distinction in 2008). NanoPhos has also been selected as a National Champion for the 2016/2017 European Business Awards Innovation. NanoPhos received **"Technical Achievement Award"** during the 2017 Lloyd's List Greek Shipping Awards - 2017.

#### NanoPhos products are exported to:

The UK, Denmark, Portugal, Spain, France, Italy, Romania, Cyprus, Saudi Arabia, Bahrain, UAE, Qatar, India, New Zealand, China, Japan, Mexico, Guatemala, Malaysia, Singapore, Pakistan, Norway, Vietnam and Moldova.



NanoPhos has been approved by Lloyd's Register Quality Assurance in accordance with the standards of the Quality Management System EN ISO 9001:2015, the Environmental Management System EN ISO 14001:2015 and the Occupational Health and Safety Management System OHSAS 18001:2007 for the development, production and sales of building, marine, industrial nanotechnology products, paints and chemical products for cleaning and protection of surfaces.





## Tune the NanoWorld to serve the MacroWorld

### What is Nanotechnology?

Nanotechnology refers to the scientific field which deals in the research and creation of “smart” or functional material particles, which are very small in size - usually 100 nanometers or smaller-. For example, one nanometer (nm) is one billionth of a meter ( $10^{-9}$  m). It is so small that if earth was one meter in diameter, then one nanometer would have been the size of an apple. When a common material shrinks at nanoscale level, **it exhibits unconventional and unique properties compared to smaller molecules or larger conventional bulk materials.**

### Why should I prefer NanoPhos nanotechnology products?

In contrast to other common, film-forming products or silicone-based formulations, which create a “plastic film of protection”, **NanoPhos products waterproof and protect the surfaces, penetrating into their pores.** The infinitesimal size of nanoparticles enables them to achieve a deep surface penetration and dress the pores of the materials, thus repelling water or corrosive agents. Consequently, the surfaces are not affected by abrasion, deterioration or mechanical wear.

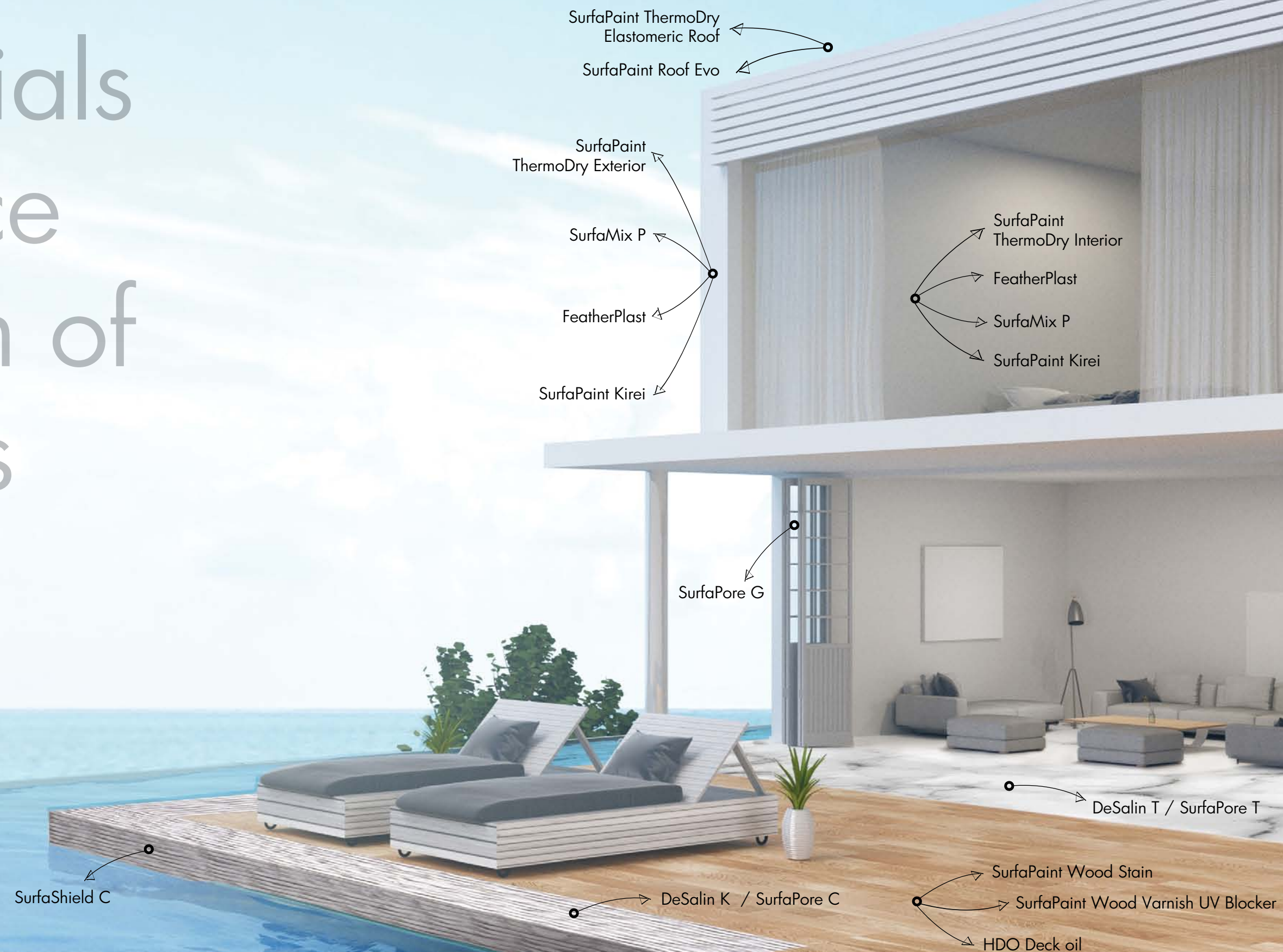
Moreover, NanoPhos products demonstrate long-lasting durability. The protection offered by the products is not affected by factors such as the “hard” part of solar light (UV radiation) while they do not induce the “yellowing” effect, without altering the appearance of treated surfaces. An additional important advantage of NanoPhos products compared to the common film-forming products, is the breathing ability of modified surfaces. In particular, in cases where moisture is trapped behind a SurfaPore waterproofing modified surface, the water will evaporate into the environment without accumulating inside the building’s structure. In other words, water vapors can still travel inside the pores of the material and exit into the open environment, thus preventing swelling, cracking or warping.

### Safety

All SurfaPore, SurfaMix, SurfaGuard, ThermoDry and SurfaShield formulations are manufactured in accordance with the Directives 67/548/EC and 1999/45/EC. The Volatile Organic Compounds (VOC) content is always lower than the limits set by the European Union (Directive 2004/42/EC). SurfaPore, SurfaMix, SurfaGuard and SurfaShield are registered trademarks of NanoPhos SA.



# Building materials for maintenance and renovation of quality projects





## WATER OR STAIN REPELLENTS



### SurfaPore C

Water repellent for **cement, mortar, grout, porous or natural stone**. In contrast to other, conventional products that create a plastic film of protection, SurfaPore C waterproofing deeply penetrates into the surface. It is not affected by abrasion, deterioration or mechanical wear, and exhibits prolonged durability. SurfaPore C bears the CE quality marking scheme.



### SurfaPore R

Water repellent for clay-based surfaces, such as **roof tiles, cotto and pottery**. SurfaPore R preserves the aesthetic appearance of your clay surfaces while protecting them against water and greening of mould growth. After applying SurfaPore R, your clay surfaces repel water and can remain dry even after rain. Protect your roof tops and favourite clay-based surfaces from unpleasant "greening", corrosion and cracking caused by frost.



### SurfaPore T

Sealant for polished, non-absorbent marbles. It effectively seals pores that readily absorb stains while also preventing marble deterioration. It can also be applied on polished ceramic tiles (porcelanato). SurfaPore T is applied on your new or existing marble surfaces, preserving their appearance while it creates an impermeable and invisible shield by blocking even the finest pores of these surfaces.



### SurfaPore M

Active nanotechnology for protecting **porous marbles, porous granite, cement, mortar, grout and porous or natural stone** against both water and oil stains. SurfaPore M not only protects these surfaces from stains, but also makes them oil and water repellent as it coats the pores, without changing their original, natural appearance.



### SurfaPore W

Water & Oil repellent for **absorptive, natural wood** surfaces, without altering their natural appearance. It does not form a film. SurfaPore W is a combination of active ingredients that repel water and oil stains providing excellent dimensional stability even in the most humid environment. Contains no biocides.



## WATER OR STAIN REPELLENTS



### SurfaPore H

Water, oil and stain protection for **textiles**. SurfaPore H protects and waterproofs upholstery fabrics, carpets, curtains, furniture textiles and surfaces covered with textiles, assuring that water and dirt are effectively repelled. Water and oily threats, such as food or grease, cannot penetrate and cannot stain the treated surfaces thereby making it more difficult for the surfaces to pick up dirt.



### SurfaPore G

Stains on glass are resulting from salt deposits that water droplets are carrying. SurfaPore G is a revolutionary, easy-to-apply formulation that transforms glass surfaces into super-hydrophobic. Therefore, water droplets cannot “stick” on **glass surfaces** and deposits are eliminated. It is an easy-cleaning formulation for glass or even inox surfaces. Ideal for bathroom or weathering exposed glass facades.



### SurfaPore F

Water repellent and top coat primer for fibrous materials like **plasterboard, drywalls and carton**. It protects and waterproofs surfaces assuring that water or other corroding factors are effectively repelled by chemical forces. The surfaces are protected by moisture, mould and microorganisms. It can also be used as a primer on plasterboards and drywalls, improving the adhesion of paints.



### SurfaPore AG

**Anti-graffiti formulation** for protecting marble, porcelain surfaces and masonry walls from graffiti staining. SurfaPore AG (Anti-Graffiti) can be easily applied on your existing or new surfaces to preserve their appearance, as it creates an impermeable and invisible barrier protecting from graffiti staining and permanent marker.



### SurfaPore FX WB

Fixing liquid for **stabilizing and repairing loose and worn building surfaces**. Applicable on cement flooring, porous masonry or porous stone (sandstone, psammite). SurfaPore FX WB is an innovative hybrid nanomaterial for enhancing the mechanical properties and stabilizing loose and worn building surfaces. It is applied on sensitive surfaces to enhance abrasion resistance.



### SurfaPore FX SB

Fixing liquid for **stabilizing and repairing loose and worn building surfaces**. Applicable on non-porous surfaces like monuments or non-porous marbles. SurfaPore FX SB is an innovative hybrid nanomaterial for enhancing the mechanical properties and stabilizing loose and worn building surfaces. It is applied on sensitive surfaces to enhance abrasion resistance.





## FUNCTIONAL PAINTS

### SurfaPaint Roof Evo



**Super-long durable, Thermal Reflecting, Stain Resistant Elastomeric Waterproofing Paint for Horizontal or Inclining Exterior Surfaces.** SurfaPaint Roof Evo is designed to beat time. The superb solution for a cool, highly reflecting roof coating, armed with PVDF (polyvinylidene difluoride). Performs the best among known binders in terms of colour retention, gloss and elasticity. Ideal for extreme heating, high humidity or even freezing conditions. Remains unchanged under the most extreme UV conditions. Exceeds all known binders in terms of durability and expected lifetime. Cool properties are maintained for long, due to its extremely low dirt pick up values. It mirrors heat back to the environment and prevents moisture penetration, resulting in significant energy savings during both winter and summer. Ideal for ponding water. Ideal for eliminating Urban Heat Islands (UHIs). SurfaPaint Roof Evo is a cool paint, certified by the European Cool Roofs Council (ECRC).

### SurfaPaint ThermoDry Interior



**Thermal Protective Paint for Interior Walls & Ceilings.** Is a high quality acrylic paint with thermal protective properties, ideal for interior use. It delivers all the benefits of a high-quality paint: Scrub resistance, excellent coverage, anti-fungal action, strong adhesion and coating flexibility. SurfaPaint ThermoDry Interior assures all the benefits of a superior thermally protective paint: Significant reduction in thermal conductivity, reflectance of infrared radiation and decreased water absorption of the final coating. Therefore, the application of SurfaPaint ThermoDry Interior can prevent thermal bridges on walls, a frequent phenomenon of poorly insulated surfaces. It is an ideal solution for preventing mould growth by eliminating humidity condensation on cold wall surfaces, along with its anti-fungal properties. Finally, it reduces internal heat losses increasing the energy efficiency of buildings. It can be used as a tinting base for light shades. SurfaPaint ThermoDry Interior is a cool paint, certified by the European Cool Roofs Council (ECRC).

### SurfaPaint ThermoDry Exterior



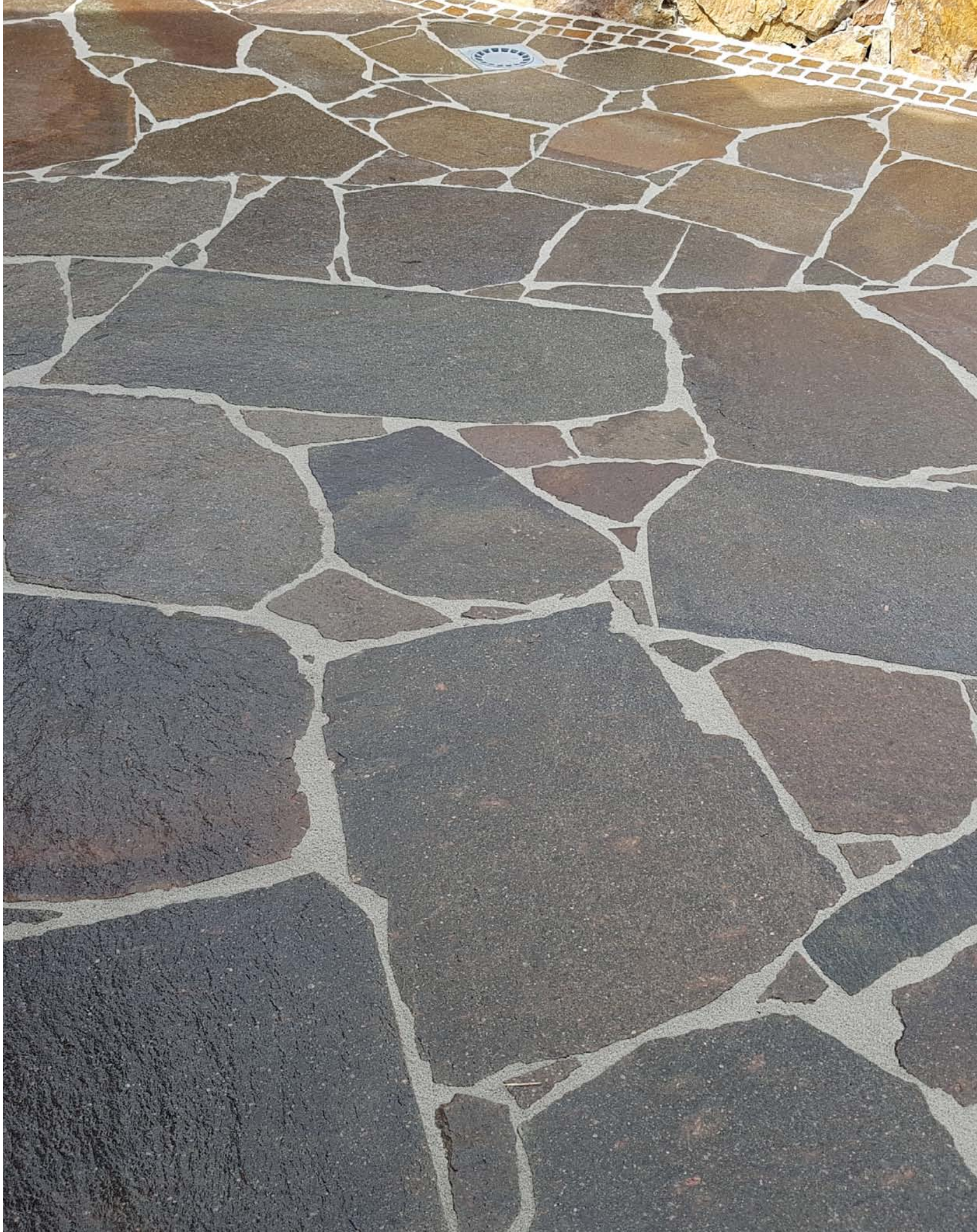
**Thermal Protective Paint for Exterior Masonry and Walls.** Is a water based, 100% Acrylic Thermal Protective Paint for Exterior Masonry Surfaces. It is a high quality acrylic elastomeric emulsion paint with thermal protective properties, ideal for exterior use. It contains special nano and micro sized thermal protective ingredients contributing to energy savings during both winter and summer. The thermal protective particles block heat transfer, reflect thermal radiation, and create a moisture barrier that can result in significant energy savings. Suitable for application on masonry exposed to adverse weather conditions and for the protection of damaged surfaces with micro cracks. It can be used as a tinting base for light shades. SurfaPaint ThermoDry Exterior is a cool paint, certified by the European Cool Roofs Council (ECRC).

### SurfaPaint ThermoDry Elastomeric Roof (Polyurethane Acrylic Hybrid)



**Thermal Protective, Stain Resistant Elastomeric Waterproofing Paint for Horizontal or Inclining Exterior Surfaces.** Is a high-quality thermoprotective elastomeric sealant, based in a unique combination of polyurethane and acrylic binders, ideal for application on external horizontal and inclined surfaces. It is a high quality elastomeric paint that maintains its elasticity over a wide range of temperature changes. It prevents heat transfer due to low thermal conductivity, reflects infrared radiation, it mirrors heat back to the environment and prevents moisture penetration, resulting in significant energy savings during both winter and summer. It has a long life, as it has excellent UV resistance and durability in adverse weather conditions. Ideal even for ponding water. Ideal for eliminating Urban Heat Islands (UHIs) SurfaPaint ThermoDry Elastomeric Roof Paint is a cool paint, certified by the European Cool Roofs Council (ECRC).





## FUNCTIONAL PAINTS

### SurfaPaint Kirei

**Self-cleaning & deodorizing cool paint.** Inspired by the Japanese word “Kirei” that simultaneously means clean and beautiful, SurfaPaint Kirei is a functional, intelligent, photocatalytic paint that has the ability to clean itself, remaining as new. Dirt, bacteria, fungi and mould are decomposed to carbon dioxide and inorganic material just by the energy of light. When applied on exterior surfaces, it decomposes organic stains, pollution, prevents mould growth and reflects more than 94% of the incident InfraRed (IR) radiation. Thus, it saves energy and reduces building heating/cooling costs. Reflectance values are further enhanced by the photocatalytic, self-cleaning effect, as they remain unchanged for a longer period of time when compared to a conventional paint. It is a weather resistant paint with exceptional coverage, opacity and resistance to UV radiation. Therefore, the original, fresh look of a newly-painted surface remains long after application. When it is applied on interior surfaces, artificial, interior light activates it and sterilizes airborne or surface-bound microorganisms, deodorizes and improves indoor air quality. It can be used as a tinting base for light shades (only inorganic tinting systems apply). SurfaPaint Kirei is a cool paint, certified by the European Cool Roofs Council (ECRC).



### SurfaPaint AquaX

**Water repelling, breathable acrylic paint for both interior and exterior applications.** SurfaPaint AquaX is a water based acrylic cool paint that ideal for surfaces with high humidity. Water beads on SurfaPaint AquaX just like water beads on SurfaPore C coated cementitious surfaces. While SurfaPaint AquaX is a water repelling formulation, it's advantage is that protection is combined with breathability. It prevents the external humidity and rainwater from penetrating into the building substrate, reducing cracking and swelling. SurfaPaint AquaX is ideal for applications on buildings of urban areas or seaside. It can be used as a tinting base for light shades (only inorganic tinting systems apply). SurfaPaint AquaX is a cool paint, certified by the European Cool Roofs Council (ECRC).



### SurfaPaint SCP Concrete Acrylic Enamel Paint

SurfaPaint SCP is a single component, solvent based, fast-drying, enamel paint formulation for cementitious surfaces (masonry, concrete, cement boards, precast cement blocks). It provides long lasting protection for building and construction elements that are exposed to adverse weathering conditions. SurfaPaint SCP offers great alkali resistance. Easy to apply, while presenting great spreading rate and hiding power. Light shades do not yellow and offer cool properties (reflectance of incident InfraRed heat radiation). All shades present extreme UV resistance and remain unaltered even in harsh environmental conditions (high UV index and/or condensation).



### SurfaPaint Stone Varnish WB

**Stone & concrete clear varnish** for protection and appearance enhancement ideal for natural and artificial porous surfaces, protecting against water based or oily stains with exceptional chemical resistance and low dirt pick up. SurfaPaint Stone Varnish is a high quality acrylic nano-polymer, filming varnish for the decoration and protection of stone, concrete, brick or other porous substrates. It is a versatile coating, as its shininess is developed gradually, from satin to glossy, depending on the number of applied coats.



### SurfaPaint Floor Paint

**High quality water based floor paint** for interior and exterior concrete surfaces. SurfaPaint Floor Paint is a water based acrylic high-quality paint ideal for interior and exterior domestic concrete surfaces as it has excellent wear, impact and abrasion resistance, in pedestrian or low vehicle traffic conditions. It offers easy application, durability and stain resistance. The final appearance is white satin or grey and sheen level depends on the substrate finish/profile.







## WOOD CARE

### SurfaPaint Wood Stain



**Wood Impregnation Stain Varnish.** Transparent or tinted, water-based wood impregnation varnish with excellent protection from water and staining. SurfaPaint Wood Stain is a high quality, water-based, clear or coloured impregnation stain varnish that protects any interior and exterior wooden surface from weathering and water or oily stains. Recommended both for DIY applications and industrial applications. It is ideal for uses such as doors, windows, frames, claddings, fences, pergolas and any stained or natural wooden surface. SurfaPaint Wood Stain is a wood impregnation formulation that enhances the appearance of natural wood grains. It is recommended for new or untreated wood surfaces. Available as a clear coating or in eight natural shades. SurfaPaint Wood Stain does not contain biocides or wood preservatives.

### SurfaPaint Wood Varnish UV Blocker



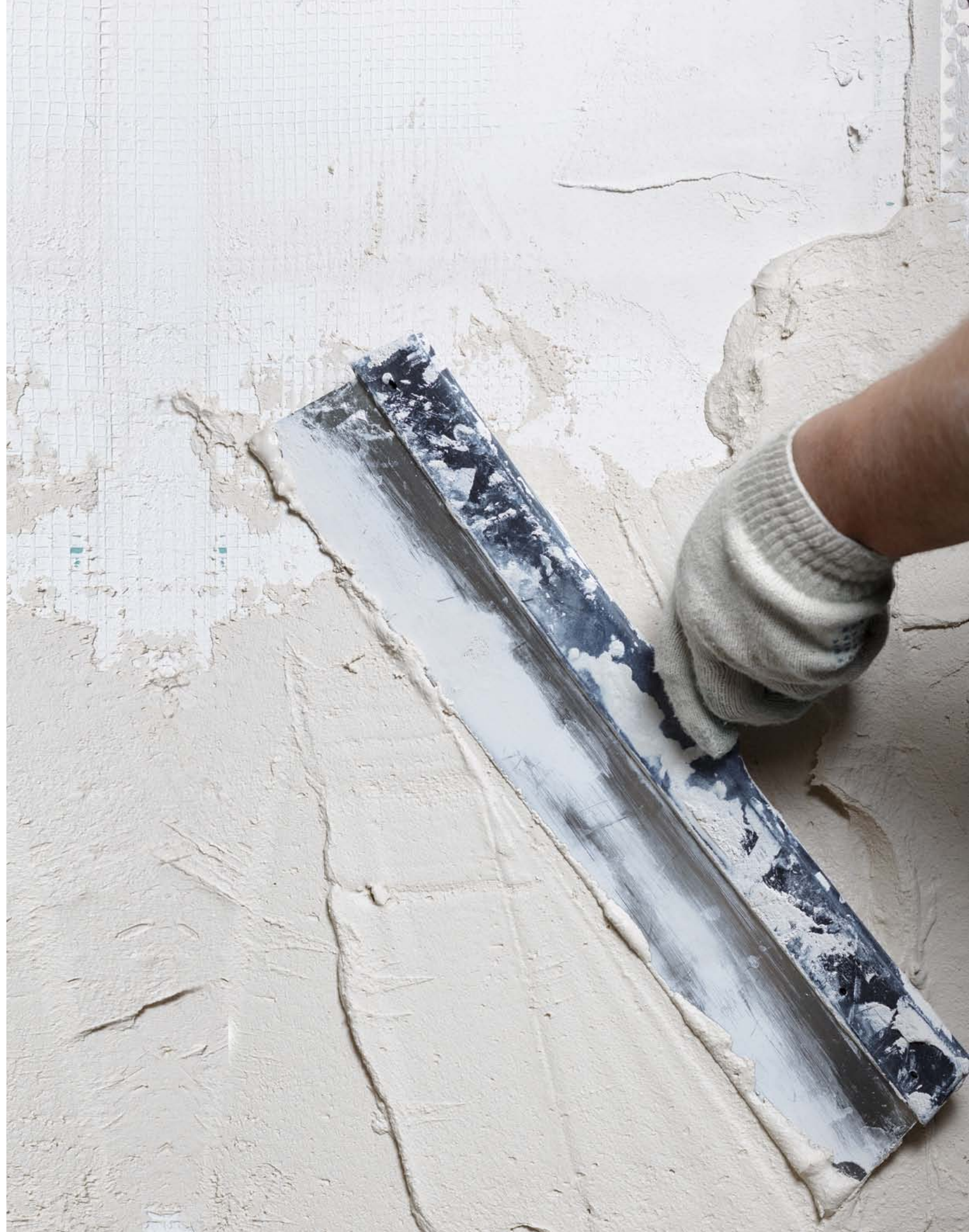
**Satin, Transparent, Wood Varnish for Stain and UV Protection.** It is a high quality, water-based, clear top coating that protects any interior and, especially, exterior wooden surface from weathering, water and oily stains. SurfaPaint Wood Varnish creates a thin transparent protective film with excellent properties, in terms of adherence, durability and scratch resistance. SurfaPaint Wood Varnish gives a satin finish that enhances the appearance of natural wood. Wood grains are slightly intensified. Its core ingredients protect from and absorb the UV radiation. Wooden surfaces are shaded by the harmful effects of high energy light and its discolouration is prevented. Highly recommended as an overcoat to SurfaPaint Wood Stain to provide a great coloured wood finish and UV protection.

### SurfaPaint HDO Deck Oil



**Solvent-based, Deck Oil with binder and UV protection.** Unlike conventional teak oil, HDO is a binder stabilized, deep penetrating protecting formulation, ideal for marine hardwood surfaces, like decks, with excellent UV protection. Its deep penetrating formula feeds wood, restoring the natural oils lost through weathering. It penetrates the wood leaving a wet look finish that lasts longer than other conventional oils. Suitable for wood with large contraction and expansion properties.





## THERMAL INSULATING PLASTERS



### FeatherPlast Cementitious PT400-W

**Lightweight Thermal Insulating, cementitious Rendering and Plastering Mortar.** FeatherPlast PT400 is a wall insulating product. It is an easy-to-apply thermal insulating cementitious dry-mix mortar to be used as an external insulating render or in the internal as an insulating plaster. It uses particles which are composed of many tiny closed air cells that provide a cellular structure resulting in its excellent insulation properties. Thermal insulating properties do not affect mechanical strength, compared to conventional plasters. It improves thermal efficiency and lowers heating/cooling costs.



### FeatherPlast Acrylic Fine PA250F

**Thermal protective, acrylic, lightweight, fine-textured rendering plaster with water repelling and anti-mould properties.** FeatherPlast PA250F is a multifunctional thermo-protective acrylic plaster, easy to apply for exterior and / or interior surfaces. It is used as the final coating of the masonry process offering a smooth finish and a high reflectivity of the thermal radiation of the sunlight (Cool Coating). It is composed of inert materials made up of numerous closed-porosity, air-filled cellular beads, giving it excellent thermal-protection properties. FeatherPlast PA250F helps reduce application costs while improving the thermal performance of the building by reducing heating / cooling costs. FeatherPlast Acrylic PA250F bears the CE quality marking.



### FeatherPlast Acrylic Décor PA1200D

**Thermal protective, acrylic, lightweight, coarse-textured, decorative rendering plaster with water repelling and anti-mould properties.** FeatherPlast PA1200D is a multifunctional thermo-protective acrylic plaster, easy to apply for exterior surfaces. It is used as the final coating of the masonry process offering a coarse finish and a high reflectivity of the thermal radiation of the sunlight (Cool Coating). It is composed of inert materials made up of numerous closed-porosity, air-filled cellular beads, giving it excellent thermal-protection properties. FeatherPlast PA1200D helps reduce application costs while improving the thermal performance of the building by reducing heating / cooling costs. FeatherPlast Acrylic PA1200D bears the CE quality marking.





## PRIMERS AND ADMIXTURES



### SurfaMix C

**Cement and plaster admixture for enhancing adhesion, elasticity, workability and water resistance.** It reduces cracking, shrinkage and the formation of water absorbing capillaries. SurfaMix C improves workability, makes mixing easier and open time is almost double, enabling larger mix volumes and increasing workability during application. It promotes surface adhesion, bonding and reduces surface ingress of dirt and weathering.



### SurfaMix P

**Nanostructured water-based primer for emulsion paints.** It is a water based, micronized primer presenting a particle size distribution of 60 nm. Nanoparticles penetrate deep in the substrate yielding a coherent and solid surface for the application of emulsion paints. It can be applied on both porous substrates and already painted areas, when a paint refreshing is required. It reduces the water absorption coefficient of porous substrates and does not affect the breathability of the substrate. SurfaMix P is cost effective, as it can be diluted in water up to 4 times its original volume (porous, cementitious plasters or masonry) or 5 times its original volume for already painted substrates.



### SurfaMix Universal Primer

**One component, solvent-borne acrylic primer for low porosity substrates.** SurfaMix Universal Primer is based on a specially designed, low viscosity and fast curing resin, which can be bonded to very demanding surfaces, such as galvanized iron, aluminium panels, glass, ceramic tiles and marbles. All SurfaPaint formulations can be applied on a SurfaMix Universal Primer treated substrates. SurfaMix Universal Primer is easily applicable. Ideal for application on bituminous roof coatings before SurfaPaint ThermoDry Elastomeric Roof Paint, for promoting adhesion and preventing stain migration. It is extremely weather and UV-resistant.



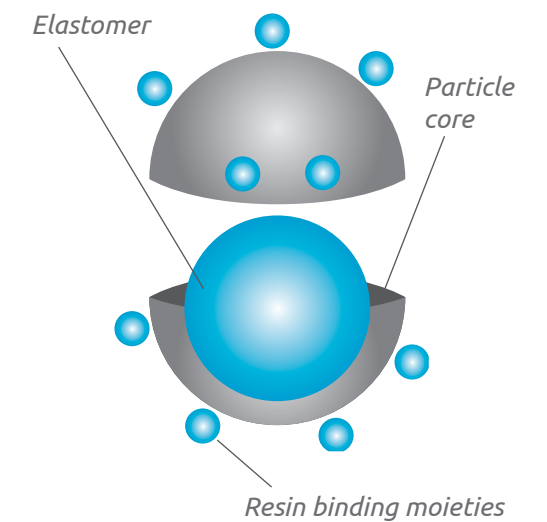


## The Solution to Deck Flooring

### EPFNova Abrasion Resistant Epoxy

EPFNova Abrasion Resistant Epoxy is unique among its kind for incorporating silicon elastomer nanoparticles. Their structure is described by a soft, elastomer core that can adhere on the resin binder. The core competency of the resulting coating is that even though no abrasion resistance, strength or toughness is lost, the particles can reversibly act as energy storage units, absorbing the acute pressure of abrasive loads. The particles are permanently bound to the resin binder polymers, due to the binding moieties. They act like nano-springs in the coating. Their existence does not modify the ability of the epoxy coating to adhere on the substrate. The polymer planes and “threads” remain resistant to impact or abrasion; however, much of the damaging energy is absorbed before the coating cracks, flakes or fails. The original corrosion resistance is not affected as well.

One of the core benefits of EPFNova Abrasion Resistant Epoxy is based on the reduced thermal conductivity of the coating. Condensation from moist cargoes is reduced and subsequently, less corrosive chemicals are formed. Finally, it is important to underline that the performance of the coating remains unaffected by its temperature: Rigidity and energy absorbing properties are evident from -100°C to +250°C.



### Why NanoPhos Deck Flooring?

- Cause it contains the Abrasion Resistant Nova technology
- Cause it has proved itself in much greater challenges than parking lots
- Cause it's the system with the minimum material requirements per sqm
- Cause it delivers durability and hassle free life
- Cause it's the most efficient and cost-effective
- Cause if it works for aircraft carriers, it works also for you!

✓ High Durability

✓ Permanent

✓ Extreme Abrasion Resistance

✓ Extreme Impact Resistance

✓ UV Resistance

✓ Cracking Resistance

✓ Flexibility

✓ Chemicals Resistance





SurfaPaint **EPFr** Solvent-Free, Epoxy Floor Primer

EPR is a two-pack solvent-free, epoxy resin, bonding and priming coating formulation, designed for easy application, with good surface wetting properties. As it is solvent-free (100% solids) and presents excellent self-levelling properties, it is ideal for substrates of poor surface preparation. Conforms low flame spread-ability requirements.



SurfaPaint **EPFNova** Solvent-Free, Epoxy Floor Top Coat

EPFNova is based on 100% pure epoxy two pack amine cured high performance solvent free product, designed to resist aggressive chemicals, water, mineral oils, most of diluted acids and alkalis. It is unique among epoxy floor coatings for incorporating silicon elastomer nanoparticles, i.e. a soft, elastomer core, directly on the epoxy resin binder. In this way, impact/abrasion energy elements are introduced in the epoxy matrix without affecting durability. The energy absorbing particles promote the abrasion resistance and absorb acute abrasive forces protecting the integrity of both the coating and the substrate. EPFNova can be applied directly in two coats or on approved primers depending on the conditions of the concrete substrate.

The Deck Flooring Performance

Fire Resistance	EXT.FF.AA (BS476 Part III)
Slip Resistance	>40 TRRL Pendulum Slip test both in Dry and Wet Conditions
Water Permeability	Impermeable (Nil-Karsten test)
Adhesive Peel Strength	39,4N (ASTM D1000)
Pull off strength to concrete substrate	2.92 N/mm² (BS 1881: Part 207)
Pull off strength after UV exposure	2.61 N/mm² (BS 1881: Part 207)
Pull off strength after weathering/salt spray	2.84 N/mm² (BS 1881: Part 207)
Barcol Hardness	94% hardness retention following chemical exposure (ASTM D2583)
Resistance to negative water pressure	Passed; sample was totally exposed to industry standard of 5 bar water pressure for 28 days
Temperature Resistance	Softens above 80oC, hardens reversibly on cooling
Chemicals Resistance	Non reactive to Petrol, diesel, motor oil, kerosene, 20% brine, concentrated detergent (ionic-nonionic). No discoloration or blistering
Chloride Penetration	Impermeable after 28days (DoT BD47/94: Ap.B B4,2(d)
Compressive strength	62.8MPa (EN 196-1, 28 days @ 23°C)
Tear Strength	29N/mm (ASTM D624, 28 days @ 23°C)
Light Resistance	1500h QUV-B testing (ISO EN 11507:2007)
Impact Resistance	93,75% success rate (14 days curing, STP conditions, ASTM D2794)
Natural weathering	No blistering, no rusting, no cracking, no flaking, pull off test > 4.5MPa (ISO EN 2810:2004)
Resistance rating for wear and friction factor	50 cycles of wear, 500 cuckles of wear >2% mass loss as per NATO STANAG 4698 / AEP 63 (Edition 1/2009)







## PHOTOCATALYTIC, SELF-CLEANING & SELF-STERILIZING COATINGS

### SurfaShield C



Photocatalytic Self-Cleaning Nanotechnology for the Protection of vertical porous surfaces, masonry and paints. SurfaShield C is applied on porous surfaces and decomposes organic stains and pollutants, prevents microbial growth, purifies the air, removes odours. By harnessing the surrounding light, treated surfaces become Self Cleaning and Self Sterilizing. SurfaShield C is based on nanostructured titanium dioxide emulsion, that provides effective self-cleaning and self-sterilizing properties on a wide range of porous building surfaces. By harnessing nanotechnology achievements continuous cleaning action and minimal change to the original natural appearance of the application surface are assured. SurfaShield C acts by absorbing surrounding light and transforming it in chemical power. Bacteria, viruses, mould, gaseous pollutants, odours, stains they all decompose and break down to harmless inorganic compounds. Thus, the application surfaces remain actively clean. The treated surfaces become super-hydrophilic and as a result, pollutants are washed away. SurfaShield C also acts as an air purifier as it decomposes harmful organic substances such as volatile organic compounds (VOC), car exhaust fumes and nitrogen oxides (NOx). Preserves reflectivity of paints.

### SurfaShield Cx



Photocatalytic Self-Cleaning Nanotechnology for the Protection of horizontal, high traffic porous surfaces, like concrete paving slabs. Enhanced by binder molecules to withstand pedestrian traffic. It decomposes organic stains and pollutants, prevents microbial growth, purifies the air, removes odours. By harnessing the surrounding light, treated surfaces become Self Cleaning and Self Sterilizing. SurfaShield Cx is based on nanostructured titanium dioxide emulsion, that provides effective self-cleaning and self-sterilizing properties on a wide range of porous building surfaces. By harnessing nanotechnology achievements continuous cleaning action and minimal change to the original natural appearance of the application surface are assured. SurfaShield Cx acts by absorbing surrounding light and transforming it in chemical power. Bacteria, viruses, mould, gaseous pollutants, odours, stains they all decompose and break down to harmless inorganic compounds. Thus, the application surfaces remain actively clean. The treated surfaces become super-hydrophilic and as a result, pollutants are washed away. SurfaShield Cx also acts as an air purifier as it decomposes harmful organic substances such as volatile organic compounds (VOC), car exhaust fumes and nitrogen oxides (NOx).

### SurfaShield G



**Coating applicable on glass for the increase of power output of photovoltaic (solar) panels.** SurfaShield G is an invisible coating based on nanostructured titanium dioxide, which after application on the glass surface exhibits a remarkable property: it absorbs surrounding light (ultraviolet) and transforms it to chemical energy decomposing any pollutant that touches the glass surface. Thus, glass surfaces become self-cleaning without negatively affecting substrate's transparency, meaning that the transparency is increased as nanoparticles reduce the local roughness of glass that would reflect light. Additionally, SurfaShield G acts as an antistatic preventing sand and dust accumulation. The action of the coating is enhanced by anti-fogging properties: Water cannot form droplets that scatter light and the fogging effect is prevented in high humidity/low temperature conditions. All in all, solar panels increase their energy power output by a factor of 5-8%.



## CORROSION CONTROL COATINGS



### SurfaGuard **Metals**

Corrosion inhibitor/shop primer for ferrous surfaces such as carbon steel, cast iron, galvanized (zinc plated) steel, stainless steel. SurfaGuard Metals is applied on metal surfaces to inhibit corrosion during transportation and storage until the installation. The corrosion rate is decreased up to 10 times and the metallic gloss remains unchanged, even when exposed to a corrosive environment. It is a water-based formulation which reacts with the metal surface (ferrous or non-ferrous) and inhibits the corrosion (zinc phosphating passivation). The combination of nanoparticles and corrosion inhibitors results in the creation of an impermeable layer against humidity and oxygen. SurfaGuard Metals modifies chemically the metal surface to hinder corrosive agents come in contact with the metal surface.



### SurfaGuard **RCS** - Rust Converter & Stabilizer

**Passivation primer coating for application on rusted substrates.** A single component, water-based primer applicable on rusted surfaces to convert ferric oxides into passivated and stabilized compounds. It is a vinyl/acrylic primer coating formulation that can be applied directly to an iron or iron alloy surface to convert iron oxides (rust) into a protective chemical barrier. SurfaGuard RCS interacts with iron oxides, especially iron(III) oxide, converting them into an adherent black layer that is more resistant to moisture and protects the surface from further corrosion. After SurfaGuard RCS application and curing, any acrylic, epoxy or polyurethane top-coating formulation can be applied.





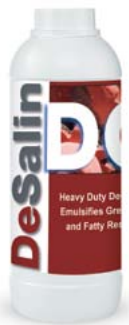
# CLEANERS

## DeSalin AM



**Sterilizing formulation against mould, algae and microorganisms for internal and external masonry surfaces.** Most interior or exterior painted surfaces face humidity problems, due to water vapour condensation or leakage. Paints tend to absorb the water, becoming an ideal growth environment for mould, algae or other microorganisms. DeSalin AM is a powerful water-based fungicide - preservative against mould, algae and microorganisms for internal and external masonry surfaces. It is not only used to clean infected walls but also to maintain the clean applied surface from the black and green spots caused by microorganisms. It can be used as a preventive treatment for the maintenance of internal surfaces with high humidity such as kitchens, bathrooms and basements, by preventing the growth of microorganisms. It also effectively protects exterior surfaces such as stone, tiles and swimming pools. Contains no bleach (no sodium hypochlorite).

## DeSalin DG



**Heavy Duty Degreaser.** DeSalin DG is a biodegradable, water-based, heavy-duty degreaser that easily cuts through, emulsifies and removes oil, grease, fuel and grime. Cleans and dissolves heavy soils. Ideal for sensitive surfaces, as it doesn't generate acid or acidic by-products. Recommended for professional use; can be used in Do-It-Yourself (DIY) applications, as well. Due to the non-applicable Flash point, DeSalin DG significantly reduces the risk of fire caused by incidental contact with live equipment. Evaporates fast: Minimizes downtime associated with "clean-in-place" cleaning methods. It contains no Class I or II Ozone Depleting Chemicals.

## DeSalin Gel Rust Remover



**Heavy Duty Rust Remover in a gel form.** Removing rust is often difficult: Steel bars revealed underneath a horizontal tie-beam, vertical steel surfaces or even old screws are rarely accessible by a dripping, conventional rust remover. DeSalin Gel Rust Remover can stick without dripping or sagging even on an overhead concrete slab and remove rust effectively. Apart from its action as a heavy-duty rust remover, its active ingredients catalyse the transformation of rust to a phosphating coating that creates an early corrosion resistant layer. Therefore, apart from being a remover, it also prevents early development of rust. DeSalin Gel Rust Remover is also ideal to prepare rust surfaces for application of paints. Eliminates the rust stains on concrete, tile or porcelain.



## CLEANERS



### DeSalin C

**Residue & efflorescence deposits cleaner.** DeSalin C is a special cleaner, based on a concentrated, natural acid. It is an effective formulation for removing residues from cement surfaces, mortar, grout, stucco, natural or artificial stones. It is ideal for the removal of salt deposits, created due to efflorescence. Mould and mildew can also be successfully removed. Suitable for food production, as residues do not remain on the surface (thorough rinsing with water is required). Readily biodegradable formulation, without organic surfactants.



### DeSalin K

**Residue remover & cleaner.** DeSalin K is a specially formulated cleaner for fast and effective action. It is ideal for removing stains created by paints, resins, rust, cement residues, glues, adhesives or other organic matter from chemically resistant surfaces. Can be used to remove stucco, mortar and other cement-based residues from tiles.



### DeSalin T

**Absorbed stain cleaner for sensitive surfaces.** DeSalin T is an active, acid-free cleaner, specially formulated for polished, sensitive surfaces like marble, granite or stones. Based on an effective formulation, your sensitive surfaces will not lose their shine, colour or texture. Ideal for persistent, deeply absorbed stains like coffee, wine, oil, tomato or other organic materials.





**SurfaPore C** protection at the Astrup Fearnley Modern Art Museum in Oslo, **Norway**.

**SurfaPore W** was selected to protect this wooden monument at the Hakone Open-air Museum in **Japan**.



**SurfaPore W** protects the Austrian spruce of the Festival's Termitte Pavilion at **London Zoo**.



**SurfaPore C** was used to protect the strips of unpolished white marble outside of Onassis Cultural Center in Athens, **Greece**.



Solar panels of Hiroaki City Hall in Aomori, **Japan** produce more power by using **SurfaShield G**.





**DeSalin C** was used to remove algal greening and restore the surfaces of chapel in **Dora, Cyprus**. The porous walls were subsequently protected with **SurfaPore C**.



Romanian University students build ECO-house using **SurfaPore F** for the interior gypsum boards and excel at **Solar Decathlon Europe**.



**SurfaPaint ThermoDry Exterior** for heat protection, **Dubai** Airport Freezone Area Warehouse.



Keeping areas around ponds clean with **SurfaShield C** at Mall and Park in Cha Am in **Thailand**.



**SurfaPore C** was used to protect the precious cement based surfaces that dominate the Koncerthuset, DR Concert Hall in Copenhagen, **Denmark**



The granite floor surfaces in the Stavanger Concert Hall, **Norway** were protected from staining by using **SurfaPore T**.



**SurfaGuard Metals** protects stainless steel railing on **Reef Island, Bahrain**.





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