

Project:

Waterproofing of porous surfaces such as cement, stones, walls and grout

Industry:

Building & Construction

Product:

SurfaPore C

Key Benefits:

- Most Effective & Nano Based
- High Breathability
- Not Film Forming, Invisible
- Long Lasting & UV Resistant
- Easy Application on Surface or mixed in mortar
- Water based
- Environmentally friendly
- Cost Effective

Applications:

- Walls & Basements
- Rooftop Water-proofing
- Render & Stucco Protection
- Mould Growth Prevention
- Efflorescence Prevention
- Tile Grout Sealing
- Negative Pressure Relief
- Rising Damp Protection
- Cracking prevention
- Paint primer

Packaging:

1L, 4L, 30L Containers, 1000L IBCs

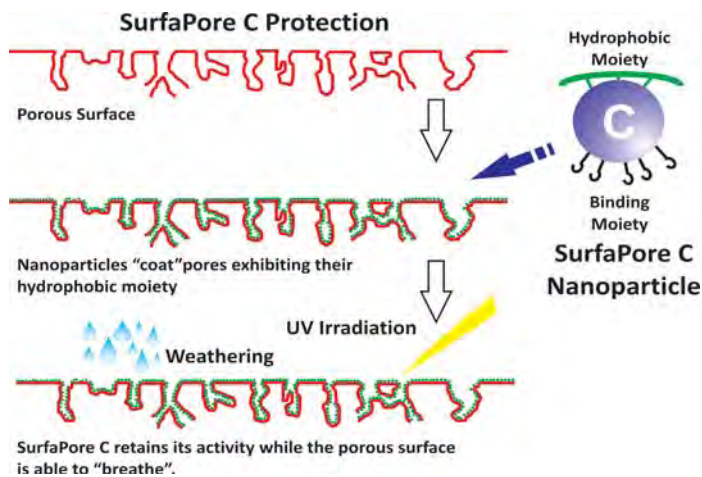
www.NanoPhos.com



SurfaPore® C

Nanotechnology for cement surfaces, mortar, grout, stucco and natural or artificial stones.

SurfaPore formulations act very differently, when compared to any two-component (2K) or silicone based formulations, as they do not create a “plastic film” on the surface applied. For example, SurfaPore C protects and waterproofs surfaces by deeply penetrating the pores of its substrates: Instead of sealing pores, nanoparticles “coat them”, assuring that water or other corroding factors are effectively repelled by chemical forces. In this manner, the substrate is deeply protected and therefore not affected by abrasion or mechanical wear. As nanoparticles do not form polymer chains, SurfaPore modified surfaces can last longer; even after eight years they exhibit 95% of their original activity and functionality. SurfaPore modified surfaces are more resistant to the “hard” part of solar light (UV radiation) which does not induce the “yellowing” effect.



SurfaPore® is a registered trademark of
NanoPhos SA,
PO Box 519,
Science & Technology Park of Lavrio
Lavrio 19500, Greece
T: +302292069312 F: +302292069303
E: info@NanoPhos.com

NanoPhos
Pioneering
Nanotechnology

SurfaPore C Description

SurfaPore C is a water based, liquid formulation, developed and produced by NanoPhos SA, that provides effective waterproofing and protection of a wide range of building surfaces. As its viscosity is similar to that of water, it deeply penetrates into capillaries that no elastomer or polymer can reach. It is applied by roller, brush or spraying. The nanotechnology based composition assures effectiveness, prolonged lifetime and minimal (practically zero) change to the original natural appearance, but at the same time it is really cost effective.

Why is “breathability” so important?

Whilst SurfaPore C creates a water barrier on the material itself, one of the most important advantages of SurfaPore C is the “breathability” of the modified surface. In case moisture is trapped or a water leakage takes place behind a SurfaPore C modified surface, water can evaporate through the open pores to the environment relieving negative capillary pressure. In this manner swelling, cracking, and warping of material are prevented. All in all, SurfaPore modified surfaces remain dry and unchanged in both appearance and mechanical properties.

International Standards Testing

ASTM E514 – Pressure Driven Water Resistance: Five SurfaPore C modified masonry samples were examined under constant 500Pa pressure (water tank method) for 120h: Reduction of Water Penetration: 89,2% ±2%, Reduction of Water Leakage: 99,4% ±2%. **Stability under Ultra Violet (UV) Irradiation:** SurfaPore C exhibits at least 3 times more resistance to continuous UV irradiation than standard solvent based silanes/siloxanes. **RILEM Test 11.4 - Measurement of Water Absorption on Cement Based Materials:** The test procedure RILEM 11.4 determines the water absorption rate of a vertical cement based surface, using a 10 cm glass tube filled with water. The glass tube water loss (in cm) is measured across time (24h max) and is reciprocal to the water repellency and protection of the cement based surface. For water resistant surfaces, loss of water is under 4 cm, whilst for waterproof surfaces the loss of water must be below 1cm. SurfaPore C is below 0,5 cm. **ISO EN 1015-18 Capillary Coefficient Determination:** Capillary Coefficient C (g/(dm².min^{1/2})) determination values are reciprocal to the water absorption ability. 100g of cement powder was used for preparing necessary samples. Each sample requires at least 17g of water to achieve a settable and workable cement paste. C values below 0.11 are considered extremely effective water protection. Values below 0,6 have been achieved in both mixing and surface application. **Water Vapour Permeability Loss:** Water Vapor Permeability was determined as the rate of water vapors “travelling” through a 2cm thick cement sample. Vapor Permeability Loss: 3,82% (surface application) and 20,12% (mixing).

Application Note

Surface Application: The application surface should be dry and clean. Apply SurfaPore C by using a brush, roller or spraying. No dilution is required. On very absorbent surfaces re-apply within 3 hours. **Mixing:** Replace 1/3 of water used in your mix with SurfaPore C. Mix well. In any case (surface application or mixing) test results on a small area before full scale application. Maximum water repellency is achieved 24 hours post application. **Consumption:** Estimated consumption rate 8-10 m²/l, strongly dependant on the properties of the surface applied.

Physical Properties

Milky White, Water Emulsion with slight odour and pH = 7,1.
Boiling & Flash Point: >100°C
Auto Ignition Point: >100°C
Density: 1,01 g.cm⁻³ Viscosity: 20 mPa.s
SurfaPore C is not considered an oxidant.

Safety & Storage

SurfaPore C contains no hazardous ingredients and is water based. VOC Content: 24g/L (EU limit (2010): 40g/L). Not hazardous according to Council Directive 1999/45/EC and its subsequent amendments. Request, read and comprehend the MSDS. Avoid freezing. Expiration Date: Two years after the production date.



What is Nanotechnology?

Nanotechnology refers to the scientific field, which deals with very small structures, usually sized below 100 nm. One nanometer (nm) is one billionth of a meter (10⁻⁹ m) - it is so small that if earth were one meter in diameter, then one nanometer would have been the size of an apple! Nanosized materials reveal unique properties when compared to ordinary, bulk materials or even molecules.

NanoPhos at a Glance...

At NanoPhos, we take advantage of the unique properties of nanotechnology and invent clever materials that solve every day problems. By harnessing nanotechnology, we seek to create a more comfortable, safe and trouble-free living environment. We transfer innovations out of our lab into the hands of consumers. Our vision is clear: “Tune the nanoworld to serve the macro-world” – in simple terms we make nanoparticles solve common problems. NanoPhos was recognized in January of 2008 by Bill Gates as one of the most innovative companies and also received the 1st prize for innovation at the prestigious 100% Detail Show in London. SurfaShield technology, received the prestigious GAIA award at the 2010 International Building and Construction Show BIG5 in Dubai for its environmentally friendly and innovative profile. NanoPhos is a rapidly growing company that is actively expanding its distribution network. Currently, the company is present in the UK, Ireland, Norway, Sweden, Finland, Denmark, Portugal, Italy, Greece, Cyprus, Japan, K. of Saudi Arabia, K. of Bahrain, China, New Zealand, Australia and Mexico.

www.NanoPhos.com



LIMITED WARRANTY INFORMATION – PLEASE READ CAREFULLY. The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that NanoPhos' products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent. NanoPhos specifically disclaims any other expressed or implied warranty of fitness for a particular purpose or merchantability. NanoPhos disclaims liability for any incidental or consequential damages. This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

NanoPhos SA has been approved by Lloyd's Register Quality Assurance to follow the EN ISO 9001:2008 Quality Management System and EN ISO 14001:2004 Environmental Management System for the production and sales of chemical products for cleaning and protection of surfaces and nanotechnology products.