

## Project:

Waterproofing of porous & absorptive wooden surfaces

## Industry:

Building, Construction, Garden, Fencing, Furniture, Pressure Treatment

## Product:

SurfaPore W

## Key Benefits:

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

## Applications:

- Protection of Water Absorbing Wood
- Pressure Treatment
- Prevents Cracking
- Prevents Warping
- Fences/Posts
- F e/Roof Shingles
- Garden Furniture/Sheds
- Docks
- Paint or Varnish Primer

## Packaging:

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

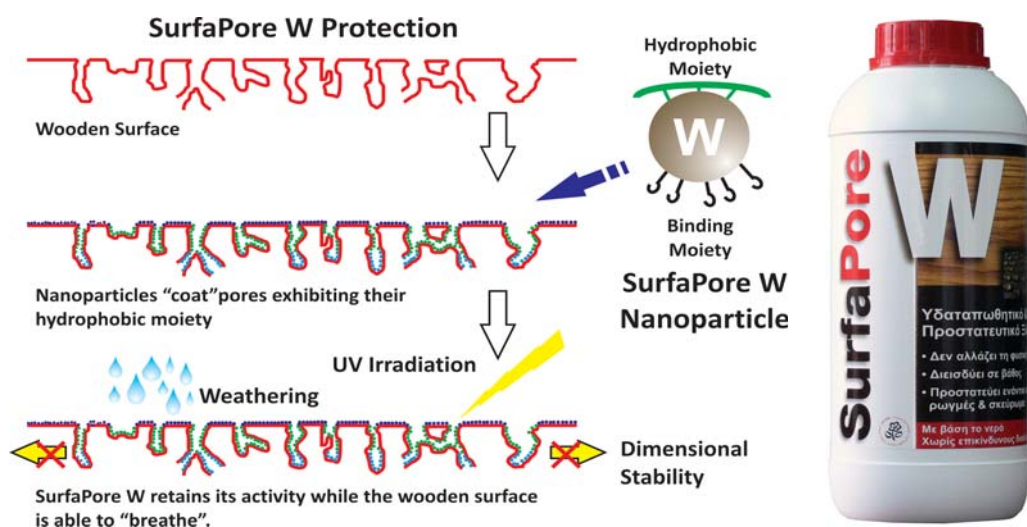
[www.NanoPhos.com](http://www.NanoPhos.com)



## SurfaPore® W

### Nanotechnology for absorptive wooden surfaces

SurfaPore W was designed to fit the unique properties of wooden surfaces. A combination of active ingredients repels water without changing the natural appearance of wood. SurfaPore W provides excellent dimensional stability even in the most humid environments. It actively repels water, blocking the decay of your favorite wooden surfaces. Very versatile and easy to apply. It can be applied as a primer before the application of varnish or any other coating. While it does not contain insecticides or preservatives, it actively repels water away from the wood mass making it resistant to deterioration.



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](mailto:info@NanoPhos.com)

**NanoPhos**  
Pioneering  
Nanotechnology

## SurfaPore W Description

SurfaPore W is a water based formulation, specifically designed to harness the power of nanotechnology in order to preserve absorptive wooden surfaces. Its primary function is to make wood water resistant and as to assure its dimensional stability and protection against decay. SurfaPore W can provide complete protection for decking, fences/posts, facade and roof shingles, garden furniture and sheds, docks or any unpainted wood that needs protection from moisture. It has been successfully used as an additive in pressure-treatment solutions to protect wood. The application of SurfaPore W does not induce any visual change on the surface applied and does not block the pores (no pore sealing like traditional film forming varnishes). Thus, the breathing ability of the natural wood surface is preserved.

The formulation consists of three different nanoparticles sizes, specially designed to deeply penetrate into the mass of the wood. The finest nanoparticles penetrate through the capillaries and bond with the hydroxyl groups of the cellulose content providing long term protection against water ingress. The larger nanoparticles penetrate at the appropriate depth and react with organic wooden resins. Finally, the formulation is completed by a nano-emulsion of paraffin that ensures enduring surface protection.

Although SurfaPore W does not contain pharmaceutical insecticides, the growth of insects is restricted due to moisture absence. Additionally, SurfaPore W nanoparticles block UV radiation preventing wood color changes. In any case, SurfaPore W is an effective solution for untreated timber. Water paints or varnishes can be applied ontop of SurfaPore treated surfaces without any problem, as their glue type content (methyl-cellulose) permits application.

Industrially, SurfaPore W has found important applications both by spraying and by dipping. In the case of chip boards, it has been demonstrated that injecting SurfaPore W just before pressure treatment and the heating chamber, proves more than a satisfying method. All in all, the fact that SurfaPore W is water based and an one-pack formulation assures minimal disturbance in production processes.

## International Standards Testing

SurfaPore W has been tested for dimensional stability according to ASTM standards: 73% water repellency according to D4446 and 96% water exclusion according D5401. It takes more than 2500h for water beading failure in a combined UV-moisture chamber.

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 express 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.

### Application Note

**Surface Application:** The application surface should be dry and clean. Apply SurfaPore W by brush, roller or spraying. No dilution is required. **Dipping:** Dip the wooden surface in SurfaPore W for 30 seconds. Remove any application excess. In any case (surface application or dipping) test results on a small area before full scale application. Maximum water repellency is achieved 24 hours after application. Recommended application temperature is above 5°C. **Consumption:** Estimated consumption rate 6-8 m<sup>2</sup>/L, strongly dependant on the properties of the surface applied.

### Physical Properties

Milky White, Water Emulsion with slight odour and pH = 8,8.  
Boiling & Flash Point: >100°C  
Auto Ignition Point: >100°C  
Density: 0,98 g.cm<sup>-3</sup> Viscosity: 20 mPa.s  
SurfaPore W is not considered an oxidant.

### Safety & Storage

SurfaPore W contains no dangerous ingredients and it is water based. VOC Content: 38g/L (EU limit (2010): 130g/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<sup>-9</sup> m) - it is so small that if earth were one meter in diameter, then one nanometer would have been the size of an apple! Nano-sized 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 macroworld" – 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 1<sup>st</sup> prize for innovation at the prestigious 100% Detail Show in London. 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, Greece, Cyprus, Poland, Saudi Arabia and Australia.

[www.NanoPhos.com](http://www.NanoPhos.com)



NanoPhos SA has been approved by Lloyd's Register Quality Assurance to follow the EN ISO 9001:2000 Quality Management System for the development, production and sales of chemical products for cleaning and protection of surfaces and nanotechnology products.