

THE **MARBLE** **ATLAS**

STAIN PROTECTION SOLUTIONS
FOR MARBLES & NATURAL STONES

NanoPhos 
Intelligent Coatings



STAIN PROTECTION SOLUTIONS



1

PRODUCT
PORTFOLIO

2

EXPERIMENTAL
ASSESSMENT

3

STAIN PROTECTION
SOLUTION TABLES

4

RESULTS

PRODUCT PORTFOLIO

SurfaPore™ T



SurfaPore™ T is a liquid water-based composition modified with smaller than the pore-sized nanoparticles, penetrating, filling them, and preventing them from accumulating pollutants. They are attached to the pores, and the coating is done permanently and effectively. After application, the pollutants particles cannot penetrate its pores surface (marble, granite, or polished tiles).

SurfaPore™ T SB



SurfaPore™ T SB is an innovative solvent-borne composition, which results in one of the most effective against water–or oil–stains. Applicable on porcelain tiles, marbles, or granites. SurfaPore™ T SB is also ideal for protection against graffiti. Its application results intensification of natural colors and a more vivid appearance (wet-look effect).

SurfaPore™ R



SurfaPore™ R is an aqueous nano-emulsion, which waterproofs clay-based surfaces. Subsequently, substrate is protected from ice corrosion and moisture induced mold growth. Penetrates deeply in the porous clay mass without creating a film. Breathability remains practically unaffected.

SurfaPore™ M



SurfaPore™ M has been formulated to protect absorbent marbles and absorbent granites against water and oil-based stains. SurfaPore™ M is a waterborne nanotechnology-based emulsion that creates an invisible barrier to stains. It penetrates deep into a porous substrate, such as unpolished, flamed marble or granite. Even cement or soft limestones can turn into water/oil repellent surfaces.

SurfaPaint™ Stone Varnish *Matte/Satin*



SurfaPaint™ Stone Varnish WB is an acrylic water-based varnish for application on stone surfaces. suitable for decorating and protecting stones, concrete, tiles or other porous substrates. Based on a nanoacrylic resin, it provides excellent adhesion, excellent penetration, hardness and abrasion and abrasion resistance, creating a satin or even glossy appearance and does not exfoliate or turn yellow. Its application creates a transparent durable protective coating with very good resistance to water and oil stains, as well as the growth of microorganisms.

SurfaPaint™ PU Varnish *Matte/Gloss*



Based on aliphatic polyurethane, SurfaPaint™ PU Varnish is a solvent-borne, transparent, hybrid acrylic-PU varnish with a matte or glossy finish. Its specially designed formulation containing UV filters protects the application surfaces from long-term exposure to sunlight, yellowing, adverse weather conditions, and harsh chemicals attacks. After applying SurfaPaint™ PU Varnish, a hard but elastic coating is created, increasing the durability of the substrate's surface.



EXPERIMENTAL ASSESSMENT



An experimental assessment on **23 different surfaces** of marble, stone, and ceramic tiles was performed to determine the degree of applicability and substrate’s stain protection performance rating:

1. Preparation:

- All substrates under testing were cleaned by water and isopropanol. Subsequently, they were wiped off and allowed to dry overnight.
- Each substrate under testing was exposed to a variety of stains for 1 hour. In case of staining the substrate proved impossible, staining was prolonged for another 23 hours (1 day in total).
- SurfaPore™ T, SurfaPore™ R, SurfaPore™ M, and SurfaPore™ T SB present deep substrate penetration, especially on porous substrates. Therefore, a second coat of SurfaPore™ T, SurfaPore™ R, SurfaPore™ M, and SurfaPore™ T SB was applied on all substrates.
- Gloss was determined on all modified or unmodified sample substrates. It is one of the critical parameters used to describe the visual appearance of the surface. It is expressed in terms of arbitrary GU (Gloss Units), as per the International Standard ISO 2813.

2. Application of a Protective Coating:

- For all samples, coatings were applied by using a brush or a short, non-absorbing roller. After application, excess coating formulation was carefully removed. A second coat was applied for SurfaPore™ T, SurfaPore™ R, SurfaPore™ M, and SurfaPore™ T SB one hour after application. Please note the following:
- Each natural stone or marble is unique in porosity, gloss, absorption, sensitivity, etc. Apply on a minor surface to test compatibility with substrate and consistency with desired results.
 - Brush application may induce undesirable streaks. Pay special attention during application.

3. Staining Experimental Results:

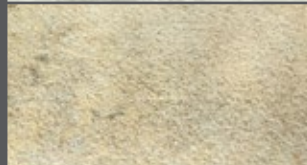
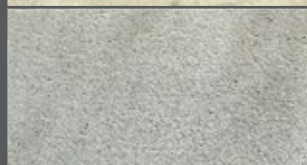
Stains were carefully applied on each of the substrates and then allowed to dry for 60 minutes. If the results were acceptable, the test was repeated for 24 hours to observe how protective coating formulations react over time. The stained substrates were cleaned with water and then wiped with a cloth. An evaluation system was set up to evaluate the results. Rating from 1 to 5 is explained as follows:

- 1. The stain is completely removed**
- 2. The stain is removed, leaving a light stain shade**
- 3. The stain is partially removed, leaving a clear stain shade**
- 4. The stain is not removed completely - a significant part of it remains on the application surface**
- 5. The stain is not removed at all**

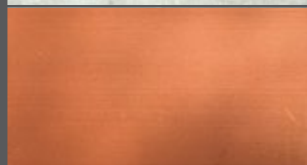
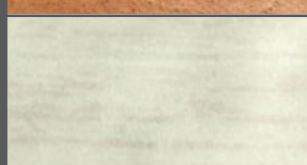
The results in the following table are only for stains that were removed entirely or leaving a very light stain shade (Rating 1 & 2).

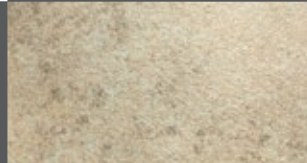
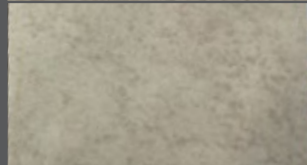
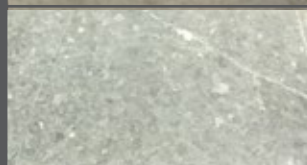
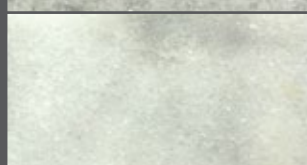
ASSESSMENT TABLE 1

STAIN
PROTECTION

SUBSTRATE	SUBSTRATE TYPE	SUBSTRATE IMAGE	SURFACE PROCESS	MARKER	COFFEE	WINE	OLIVE OIL	RUST	KETCHUP	MUSTARD	VINEGAR/ LEMON	CAUSTIC (ALKALINE) SOLUTION	
Afyon Violet	Marble		Natural – Not Processed	SurfaPaint™ PU Varnish Matte & Gloss									
Bianco Royale	Marble		Natural – Not Processed	SurfaPore™ M SurfaPore™ T SB SurfaPaint™ Stone Varnish Satin	SurfaPore™ T SB SurfaPaint™ Stone Varnish Satin			SurfaPore™ M SurfaPore™ T SB	SurfaPore™ M	SurfaPore™ T SB SurfaPaint™ Stone Varnish Satin		No protection	
California	Marble		Natural – Not Processed	No protection	SurfaPaint™ Stone Varnish Matte SurfaPaint™ PU Varnish Matte & Gloss								
Grey Gohare (Sinai Pearl)	Marble		Natural – Not Processed	No protection	SurfaPaint™ Stone Varnish Satin	SurfaPore™ T SB SurfaPaint™ Stone Varnish Satin			SurfaPaint™ Stone Varnish Satin		SurfaPore™ T SB SurfaPaint™ Stone Varnish Satin	SurfaPaint™ Stone Varnish Satin	SurfaPore™ T SB SurfaPaint™ Stone Varnish Satin
Pietra Serena	Marble		Natural – Not Processed	No protection		SurfaPaint™ Stone Varnish Satin & Matte		SurfaPore™ T SB	No protection	SurfaPaint™ Stone Varnish Satin & Matte			

SUBSTRATE	SUBSTRATE TYPE	SUBSTRATE IMAGE	SURFACE PROCESS	MARKER	COFFEE	WINE	OLIVE OIL	RUST	KETCHUP	MUSTARD	VINEGAR/ LEMON	CAUSTIC (ALKALINE) SOLUTION
Sunny	Marble		Natural – Not Processed	No protection	SurfaPore™ T SB SurfaPaint™ Stone Varnish Satin SurfaPaint™ PU Varnish Matte & Gloss	SurfaPaint™ Stone Varnish Satin SurfaPaint™ PU Varnish Matte & Gloss	SurfaPore™ T SB SurfaPaint™ Stone Varnish Satin SurfaPaint™ PU Varnish Matte & Gloss	SurfaPaint™ Stone Varnish Satin SurfaPaint™ PU Varnish Matte & Gloss				
Travertine	Marble		Natural – Not Processed	SurfaPaint™ Stone Varnish Matte SurfaPaint™ PU Varnish Matte & Gloss		SurfaPore™ M SurfaPaint™ Stone Varnish Matte SurfaPaint™ PU Varnish Matte & Gloss	SurfaPaint™ Stone Varnish Matte SurfaPaint™ PU Varnish Matte & Gloss	SurfaPore™ M SurfaPaint™ Stone Varnish Matte SurfaPaint™ PU Varnish Matte & Gloss	SurfaPaint™ Stone Varnish Matte SurfaPaint™ PU Varnish Matte & Gloss	SurfaPore™ M SurfaPaint™ Stone Varnish Matte SurfaPaint™ PU Varnish Matte & Gloss	SurfaPore™ M SurfaPaint™ Stone Varnish Matte SurfaPaint™ PU Varnish Matte & Gloss	
Verde Rajasthan	Marble		Natural – Not Processed	SurfaPaint™ PU Varnish Matte & Gloss				SurfaPaint™ PU Varnish Gloss	SurfaPaint™ PU Varnish Matte & Gloss			
Vratsa	Marble		Natural – Not Processed	No protection	SurfaPaint™ Stone Varnish Satin & Matte			No protection	SurfaPaint™ Stone Varnish Satin & Matte			
Aliveri	Marble		Natural – Not Processed	SurfaPaint™ PU Varnish Gloss	SurfaPaint™ Stone Varnish Satin & Matte SurfaPaint™ PU Varnish Matte & Gloss			SurfaPaint™ Stone Varnish Satin SurfaPaint™ PU Varnish Matte & Gloss	SurfaPaint™ Stone Varnish Satin & Matte SurfaPaint™ PU Varnish Matte & Gloss			
Penteli Dionysos	Marble		Natural – Not Processed	SurfaPaint™ PU Varnish Gloss	SurfaPaint™ PU Varnish Matte & Gloss							

SUBSTRATE	SUBSTRATE TYPE	SUBSTRATE IMAGE	SURFACE PROCESS	MARKER	COFFEE	WINE	OLIVE OIL	RUST	KETCHUP	MUSTARD	VINEGAR/ LEMON	CAUSTIC (ALKALINE) SOLUTION
Kavala Semi-White	Marble		Natural – Not Processed	SurfaPaint™ PU Varnish Gloss								
Kavala Semi-White (Grey tone)	Marble		Natural – Not Processed	SurfaPaint™ PU Varnish Matte & Gloss		SurfaPore™ M SurfaPaint™ PU Varnish Matte & Gloss					SurfaPaint™ PU Varnish Matte & Gloss	SurfaPore™ M SurfaPaint™ PU Varnish Matte & Gloss
Ceramic Smooth	Ceramic		Matte	SurfaPaint™ PU Varnish Gloss	SurfaPore™ T SB SurfaPaint™ PU Varnish Gloss				SurfaPore™ T SB SurfaPaint™ PU Varnish Gloss			
Ceramic Rough	Ceramic		Rough	SurfaPaint™ PU Varnish Gloss	SurfaPore™ M SurfaPore™ R SurfaPore™ T SB SurfaPaint™ PU Varnish Matte & Gloss	SurfaPore™ M SurfaPore™ T SB SurfaPaint™ PU Varnish Matte & Gloss	SurfaPore™ M SurfaPaint™ PU Varnish Matte & Gloss	SurfaPore™ M SurfaPore™ R SurfaPaint™ PU Varnish Matte & Gloss	SurfaPore™ M SurfaPore™ R SurfaPore™ T SB SurfaPaint™ PU Varnish Matte & Gloss		SurfaPore™ M SurfaPore™ T SB SurfaPaint™ PU Varnish Matte & Gloss	SurfaPore™ M SurfaPore™ R SurfaPore™ T SB SurfaPaint™ PU Varnish Matte & Gloss
Ceramic Tile (Unglazed) No 1	Ceramic Tile		Extra Rough	SurfaPore™ R SurfaPore™ T SB SurfaPaint™ PU Varnish Matte & Gloss								
Ceramic Tile (Unglazed) No 2	Ceramic Tile		Rough	SurfaPore™ M SurfaPore™ T SB SurfaPaint™ PU Varnish Matte & Gloss								

SUBSTRATE	SUBSTRATE TYPE	SUBSTRATE IMAGE	SURFACE PROCESS	MARKER	COFFEE	WINE	OLIVE OIL	RUST	KETCHUP	MUSTARD	VINEGAR/ LEMON	CAUSTIC (ALKALINE) SOLUTION
Ceramic Tile (Unglazed) No 3	Ceramic Tile		Matte Antiqué	SurfaPore™ M SurfaPore™ R SurfaPore™ T SurfaPore™ T SB SurfaPaint™ PU Varnish Matte & Gloss				SurfaPore™ M SurfaPore™ T SB SurfaPaint™ PU Varnish Matte & Gloss	SurfaPore™ M SurfaPore™ R SurfaPore™ T SurfaPore™ T SB SurfaPaint™ PU Varnish Matte & Gloss			
Ceramic Tile (Unglazed) No 4	Ceramic Tile		Matte	SurfaPore™ M SurfaPore™ R SurfaPore™ T SurfaPore™ T SB	SurfaPore™ M SurfaPore™ R SurfaPore™ T SurfaPore™ T SB SurfaPaint™ PU Varnish Matte			SurfaPore™ M SurfaPore™ R SurfaPore™ T SurfaPore™ T SB	SurfaPore™ M SurfaPore™ R SurfaPore™ T SurfaPore™ T SB SurfaPaint™ PU Varnish Matte			
Naxos Grey	Marble		Polished	SurfaPaint™ PU Varnish Gloss	SurfaPaint™ PU Varnish Matte & Gloss			SurfaPaint™ PU Varnish Matte & Gloss		No protection		SurfaPaint™ PU Varnish Matte & Gloss
Naxos Grey	Marble		Matte	SurfaPaint™ Stone Varnish Matte SurfaPaint™ PU Varnish Matte & Gloss	SurfaPore™ T SB SurfaPaint™ Stone Varnish Matte SurfaPaint™ PU Varnish Matte & Gloss			SurfaPaint™ Stone Varnish Matte SurfaPaint™ PU Varnish Matte & Gloss	SurfaPore™ T SB SurfaPaint™ Stone Varnish Satin & Matte SurfaPaint™ PU Varnish Matte & Gloss		SurfaPaint™ Stone Varnish Satin & Matte SurfaPaint™ PU Varnish Matte & Gloss	SurfaPore™ T SB SurfaPaint™ Stone Varnish Satin & Matte SurfaPaint™ PU Varnish Matte & Gloss
Naxos White	Marble		Polished	SurfaPore™ M SurfaPore™ R SurfaPore™ T SB	SurfaPore™ M SurfaPore™ R SurfaPore™ T SB SurfaPaint™ Stone Varnish Matte	SurfaPore™ M SurfaPaint™ Stone Varnish Matte		SurfaPore™ M SurfaPore™ R SurfaPaint™ Stone Varnish Matte	SurfaPore™ M SurfaPaint™ Stone Varnish Matte	SurfaPore™ M SurfaPore™ R SurfaPore™ T SB SurfaPaint™ Stone Varnish Matte	SurfaPaint™ Stone Varnish Matte	SurfaPore™ M SurfaPaint™ Stone Varnish Matte
Karystos Natural Slab	Natural Stone Slab		Natural – Not Processed	SurfaPore™ T SB SurfaPaint™ Stone Varnish Satin & Matte SurfaPaint™ PU Varnish Matte & Gloss	SurfaPore™ M SurfaPore™ T SB SurfaPaint™ Stone Varnish Satin & Matte SurfaPaint™ PU Varnish Matte & Gloss							

ASSESSMENT TABLE 2

GLOSS & APPEARANCE

This table presents the gloss and appearance assessment results on treated and untreated substrates

COATINGS SAMPLES	Χωρίς επεξεργασία	SurfaPore™ M	SurfaPore™ R	SurfaPore™ T	SurfaPore™ T SB	SurfaPaint™ Stone Varnish Satin*	SurfaPaint™ Stone Varnish Matte	SurfaPaint™ PU Varnish Matte	SurfaPaint™ PU Varnish Gloss*
Afyon Violet									
Bianco Royale							N/A	N/A	N/A
California									
Grey Gohare (Sinai Pearl)							N/A	N/A	N/A
Pietra Serena									
Sunny									
Travertine									
Verde Rajastan									
Vratsa							N/A	N/A	N/A
Aliveri							N/A	N/A	N/A
Penteli Dionysos									
Kavala Semi-White									

COATINGS SAMPLES	Χωρίς επεξεργασία	SurfaPore™ M	SurfaPore™ R	SurfaPore™ T	SurfaPore™ T SB	SurfaPaint™ Stone Varnish Satin*	SurfaPaint™ Stone Varnish Matte	SurfaPaint™ PU Varnish Matte	SurfaPaint™ PU Varnish Gloss*
Kavala Semi- White (Grey tone)									
Ceramic Smooth									
Ceramic Rough									
Ceramic Tile (Unglazed) No 1									
Ceramic Tile (Unglazed) No 2									
Ceramic Tile (Unglazed) No 3									
Ceramic Tile (Unglazed) No 4									
Naxos Grey (gloss)									
Naxos Grey (matte)									
Naxos White (gloss)									
Karystos Natural Slab	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

N/A = Not Available

*SurfaPaint™ Stone Varnish Satin/Matte: Appearance Change
SurfaPaint™ PU Varnish Matte/Gloss: Intensifies natural colors to a more vivid appearance

HIGH GLOSS SEMI GLOSS LOW/MATTE

RESULTS

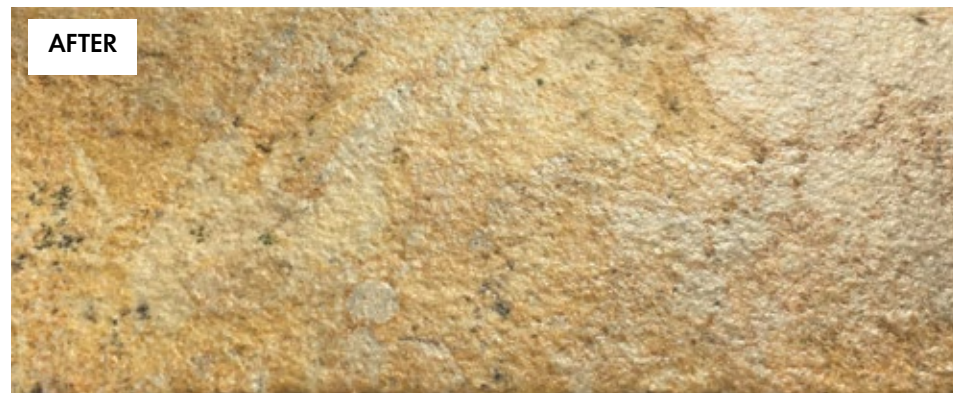
1. Afyon Violet

SurfaPaint™ Stone Varnish Matte



2. California

SurfaPaint™ PU Varnish Matte



3. Travertine

SurfaPore™ M



4. Verde Rasastan

SurfaPaint™ PU Varnish Matte

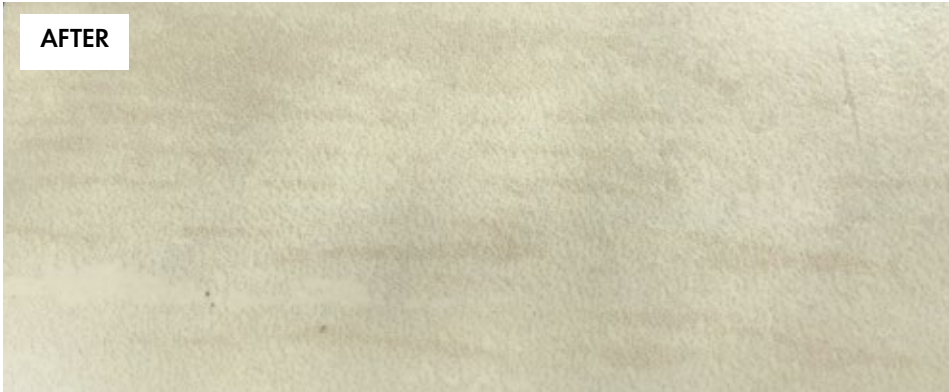
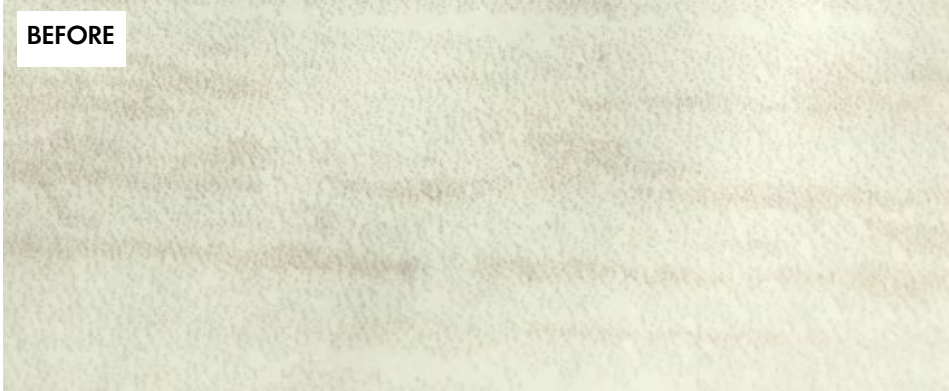


RESULTS

5. Ceramic Rough
SurfaPaint™ PU Varnish Gloss



6. Ceramic Tile (Unglazed) No.2
SurfaPore™ R



7. Naxos White
SurfaPore™ T SB



8. Vratsa
SurfaPaint™ PU Varnish Matte



RESULTS

9. Pietra Serena

SurfaPaint™ Stone Varnish Satin



10. Sunny

SurfaPore™ T SB



11. Aliveri

SurfaPaint™ PU Varnish Gloss



12. Bianco Royale

SurfaPore™ T SB



ACCREDITATIONS

NanoPhos SA has been approved by
Lloyd's Register Quality Assurance to follow:

1. The EN ISO 9001:2015 Quality Management System
2. The EN ISO 14001:2015 Environmental Management System and
3. the EN ISO 45001:2018 Occupational Health and Safety Management System for the development, production and sales of building, marine, industrial nanotechnology products, paints and chemical products for cleaning and protection of surfaces



SAFETY

SurfaPore™ & SurfaPaint™ formulations are manufactured in accordance to Directives 67/548/EC and 1999/45/EC.
Volatile Organic Compounds (VOCs) are always lower than the limits set by the European Union (Directive 2004/42/EC).

SurfaPore™ & SurfaPaint™ are registered trademarks of NanoPhos SA.

APPLICATION TIPS

Test any of the protective formulations on a minor surface area to prevent any undesirable color or appearance changes.

Do not apply when ambient temperature is below 5°C (40°F) or above 30°C (85°F).

Do not apply when relative humidity is above 85% or in case of raining is imminent.

Prevent overapplication.

