NanoQuinn Antimicrobial Waterproofing

Technical Data Sheet

1 Description

NanoQuinn Antimicrobial Waterproofing is a high-performance, nanotechnology enabled penetrating sealer for the protection of porous mineral surfaces of natural stone (limestone, sand stone travertine etc.), brick, concrete and cementitious materials. **NanoQuinn Antimicrobial Waterproofing** is 100% all natural, nontoxic and eco-friendly. It is totally invisible and will not alter the appearance or the coated surface.

Once applied the nano particles self-organise to form an invisible long-lasting protective layer and penetrate deep into the surface providing a long lasting barrier against dirt and grime. The surface becomes super hydrophobic which effectively repels liquids and particles of contamination that would otherwise adhere to the surface and additionally makes the surface anti-viral, anti-bacterial, anti-fungal, anti-algae, anti-mould, etc....

Effective on both indoor and outdoor surfaces. Liquids pearl off the protected surface shielding against stains from pollution, accidental spills, dirt and water. With liquids unable to permeate into the surface, most contaminants are simply picked up by water /damp cloth (rain or manual spraying) and roll off the surface. Surfaces will stay cleaner and stain free for longer with any dirt easily removed without the need for abrasive cleaning solvents or cleaning devices.

When used outdoors, **NanoQuinn Antimicrobial Waterproofing** inhibits algae, moss and scale formation as the ability of foreign particles to adhere to the surface is greatly reduced. The coating is, unaffected by expansion and contraction caused by weather extremes and is UV resistant.

The base coat is made from quat-silesquioxane and the top coat is made from SiO_2 (Silicon Dioxide) nanoparticles and is fully water based. It creates long life protection of minimum 7 years outdoor and minimum 10 years indoor depending on environmental factors.

2 Features and Benefits

- Strong hydrophobicity (water pearls off).
- Anti-viral, Anti-bacterial, Anti-fungal, Anti-algae effect for maximum wall & human hygiene.
- Breathability of protected surface remains.
- Simple **TWO COATS; (Base Coat & Top Coat)** of the wall hygiene nanocoating / wall protector nanocoating, application via brush, roller or spray
- Suitable for use with all brick and concrete surfaces
- Suitable for both internal as well as external use.
- Strong non-stick properties (prevents the usual build-up off contaminants).
- Excellent easy-clean effect (self-cleaning on external surfaces).
- Invisible to the human eye (total coating thickness: 210 - 360 nm).
- Permanent (UV-stable, very resistant to abrasion).
- Environmentally friendly, Non-toxic, VOC free.
- Will not harm people, plants or pets.
- Cannot not fade or peel.
- Prevents stains and water damage.
- Highly weather resistant.

3 Application

NanoQuinn Antimicrobial Waterproofing is suitable to be used on brick concrete and stone surfaces including: to make them water and stain repellent including:

- Brick and Stone Walls.
- Landscaping.
- Farming Pens.
- Driveways.
- Bench Tops.
- Swimming Pool Surrounds
- Paving Stones.
- Monuments and Sculptures.
- Outdoor Stone Furniture.
- Building and House Facades.
- Stone Bench Tops.
- Outdoor Patios & Entertaining Areas.

4 Surface Preparation

To ensure maximum performance, it is important that the surface is completely clean, dry and free from dirt dust and grease prior to application. We recommend the use of the Bio-Intensive Organic Cleaner to remove any kind of stains and for effective cleaning.

All surfaces should be cleaned before sealing for best penetration and performance. Remove all old coatings, dust, debris and loose material. Remove oil, grease, algae, grime, mill glaze and mould and mildew stains with appropriate cleaners. We recommend that all surfaces be brushed down and if necessary wiped or mopped down with a damp cloth. It is important that the surface is completely dry before applying **NanoQuinn Antimicrobial Waterproofing**.

To determine if the surface has previously sealed or coated, sprinkle water onto the surface. If the water is absorbed and the surface becomes darker it has not been sealed. If the water beads up, there is a coating or sealer that must be removed to allow adhesion of **NanoQuinn Antimicrobial Waterproofing** to the substrate. It is crucial to ensure adhesion of the coating. Remove all surface contamination and rinse with fresh clean water and dry.

If the water does not readily penetrate the surface it would indicate the presence of an existing sealer, and its removal will be necessary prior to applying **NanoQuinn Antimicrobial Waterproofing**. (Note, some concrete and manufactured stone often has curing compounds applied which will need to be removed from the surface prior to applying **NanoQuinn Antimicrobial Waterproofing**.)

5 Directions for Use

NanoQuinn Antimicrobial Waterproofing can be applied by:

Base coat:
- Double action, gravity feed cup: Brass nozzle (I.D.: 0.3mm)

Top coat:
- Brush:

- Roller; or
- Sprayer (pump-up garden sprayer; air-assisted; and/or airless sprayer. Use 15-17 tip and medium to coarse spray pattern).
- HVLP (Nozzle size: 0.7-1.1 mm, pressure of 50-60 psi) (Usually provides best coverage for larger areas/items).
- Apply liberally ensuring that the whole surface is covered, and the surface has a wet look after application.
- As a guide, use 50 - 80ml per M^2, however this will depend on the absorbency of the particular surface.
- Allow to dry for 24 hours at room temperature (more time is required in high humidity).
- Do not use the surface or allow it to get wet during this time.

Specific application instructions:

- Ensure the surface is dry and free of dirt, dust and any contaminants. Remove all pre-existing coatings and marks prior to application.
- Shake bottle prior to application.
- For raw unpolished surfaces spray on enough to wet and cover the surface.
- For polished surfaces spray the area but do not let the coating pool on the surface. Wipe surface with a sponge to remove excess coating and polish surface with a cloth after 15 minutes.
- Allow to cure for 24 hours. Don't use the surface or allow it to get wet during this time.
- Amount to be applied depends on the absorbency of the substrate. (Avg. 60 to 80ml M^2). Apply one coat only.
- Do not scrub or allow spills to remain on the coated surface. Remove spills by dabbing with a damp cloth.

Cautions

- Do not use if air or surface temperature is below 45°F/7.22°C or above 95°F/35°C.
- Do not apply in rain or when rain is expected within 12-24 hours.
- DO NOT THIN. Mix well. Stir contents or shake thoroughly prior to use.
- Test a small area to ensure acceptable appearance and penetration.
- For best results, apply in the shade and out of direct sunlight.
- When applying in direct sunlight and surface is hot, spray with a mist of water and apply coating immediately on dampened surface.
- Do not use with other waterproofing products.
- The base coat should be allowed to dry for 6 hours minimum prior to application of the top coat.
- After application of the top coat, although the surface will be water resistant almost immediately, it should be kept dry and allowed to cure for approximately 8 hours (longer if in high humidity). It will continue to set and reach optimal performance over the next 4 or 5 days.
- Apply in a dust-free environment to avoid surface contamination.
- Test in a small inconspicuous area before full application.
- On polished surfaces, it is important "not" to allow **NanoQuinn Antimicrobial Waterproofing** to pool and cure on the surface.
- Do not use an abrasive cloth on polished stone surfaces, as this may result in damage to the surface.

Working Conditions:

- The wearing of protective gloves/protective clothing/eye protection/face protection is recommended when using this product. Final choice of personal protective equipment will depend upon individual circumstances and/or according to risk assessments undertaken.
- Consult SDS for proper handling, clean-up, disposal, and use of personal protective equipment.
- Please ensure the area being treated is well ventilated.
- Avoid breathing in spray.
- Store in a sealed container and keep away from children.
- Clean equipment immediately after using.
- Close container immediately after use to avoid moisture contamination. Do not leave cap open for extended periods.
- Protection of adjacent nonporous areas from overspray and runoff, including glass and metal is not necessary but it is recommended that any overspray be wiped off with a dry cloth as soon as possible to avoid crystallization.

6 Coverage

As a guide, 1 litre top coat covers an approx. area of 100 sq. ft. However, this will depend on the absorbency of the surface being coated while 1 liter of base coat covers an approx. area of 10000 sq. ft. This nanocoating does not remain only as a coating on the surface, but fine nanoparticles penetrate deep inside porous stones (e.g. sandstone) through its fine pores and over a period of time (1 year) it covers a large part of the stone, and continues to penetrate into the surface.

7 Cure Time

Base coat:

- Drying time: 6 hours
- Avoid foot traffic and water from touching the surface for a minimum of 6 hours after application.
- Uniform coating thickness: 150-300 nm

Top coat:

- Drying time – Allow 2-3 hours for surface to dry depending upon temperature and humidity. (more time is required in high humidity).
- Avoid foot traffic and water from touching the surface for a minimum of 6 hours after application.
- The liquid coating evaporates over the curing period leaving only the nanoparticles that form a uniform thin layer of 50 – 60 nm over the surface.
- The surface should be kept dry for 24 hours after application although it is water resistant almost immediately. It will reach its optimal performance after approximately 5 days. During this time, the microscopic nanoparticles will not only bond with the surface but will also penetrate deep into the surface.

8 Physical Characteristics

	Top coat	Base coat
Colour:	Colourless to light yellow	Colourless
Flash Point:	None	No information

pH:	6-7	No information
Solvent:	Water	Methanol
Specific gravity:	1.002-1.006	No information
Odour:	Odourless	Characteristic
VOC Content:	Not detected	Not detected
Coats:	Two coat application	
Boiling Point:	>97°C	No information

9 Shelf Life and Storage

- Store in a sealed container and keep away from children
- Unopened original containers can be stored for up to 24 months while opened containers shelf life is 12 months
- Recommended storage and transport temperature: Top coat: +5 to +25°C; Base coat: +3 to +40°C
- Store out of direct sunlight and in a dry environment.

10 Safety Instructions

The instructions on the **NanoQuinn Antimicrobial Waterproofing** Safety Data Sheet must always be followed.

- Please ensure the area being treated is well ventilated.
- Avoid breathing dust/fume/gas/mist/ vapours/spray.
- Store in a sealed container and keep away from children.
- In the event of eye contact, wash out immediately with water.
- Do not swallow. Seek medical advice if necessary.

11 Surface Maintenance / Cleaning

With **NanoQuinn Antimicrobial Waterproofing** applied, there is no need to use expensive and environmentally unfriendly cleaners and detergents. In fact, these will only adversely affect the Nano coating. To clean the treated surface, we recommend simply wash with fresh water and/or wipe down using a soft wet towel. On outdoor surfaces more resilient stains, can be removed using a medium-pressure hose. Due to the penetrative effect of the nanoparticles the coating, and depending upon environmental factors, foot traffic etc., the coating can be effective for up to 7 – 10 years.

12 Disclaimer

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. Users should satisfy themselves that it is suitable for their needs. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. As we cannot control or anticipate the conditions under which this product may be used, each user should review the information in the specific context of the planned use. To the maximum extent permitted by law, **Quinn Innovations** will not be responsible for damages of any nature resulting from the

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