Anti Graffiti - Porous

Technical Data Sheet

Nanoman
THE SCIENCE of PROTECTION

1 Description

Nanoman Anti Graffiti coating is an advanced, high performance, long lasting one coat, non sacrificial, anti-graffiti coating specially formulated to protect porous surfaces from the permanent defacing of undesirable graffiti.

With Nanoman Anti Graffiti it's now easy to protect buildings, walls, monuments and infrastructure from graffiti vandals. The anti-graffiti coating makes graffiti removal simple and quick without damaging the surface, painted or otherwise. It eliminates the need for costly repainting, repairs and labour-intensive cleaning.

Nanoman Anti-Graffiti provides a thin barrier between the graffiti and the surface it's applied to, creating a new, easy to clean surface that prevents the graffiti from ever touching the protected surface underneath. This long lasting barrier between the substrate and graffiti allows the continued removal of graffiti without damage to underlying paint, or the substrate itself.

The invisible finish is abrasion resistant and will not yellow with age. Nanoman Anti Graffiti is highly resistant to most types of aerosol spray paint and permanent markers, as well as dirt, chewing gum, oil, soot and pollution. Surfaces protected with Nanoman Anti Graffiti prevent the adhesion of graffiti and makes removal of paints and permanent markers so much easier.

Unlike other anti-graffiti coatings that erode away after a few cleanings, Nanoman Anti Graffiti allows graffiti to be removed numerous times without reapplication. Spray, brush or roll it directly to bare brick and concrete, or previously painted surfaces. It applies and dries quickly, with excellent adhesion properties.

Nanoman Anti Graffiti is eco-friendly as it eliminates the need for harsh environmentally damaging chemical graffiti removers. In addition, coated surfaces become hydrophobic and easy clean / self-cleaning to normal environmental contaminants increasing the life of the coated item.

Nanoman Anti Graffiti provides an easy solution for contractors, councils, building managers and property owners in controlling and eliminating graffiti.

2 Features and Benefits

- Reduction in time and cost to remove graffiti.
- Graffiti can be removed easily, leaving no residue.
- Non sacrificial - sustains multiple graffiti removals.
- Single coat application.
- Long lasting and durable.
- Reduction in the use of consumables and removers.
- No ongoing recoat and unsightly colour patches.
- Does not alter the visual appearance of the substrate.
- Excellent Hydrophobic properties providing an easy/self cleaning surface.
- High temperature-resistance – UV-stable.
- No moss or fungus formation.
- Enduring protection for the surface structure.

- Extremely weather-resistant.

3 Application

Nanoman Anti Graffiti is ideal protection for all **porous** surfaces including concrete, masonry, brickwork, terracotta, wood, painted surfaces and furniture.

- Private Property (eg. fences and walls)
- Commercial property
- Schools, Halls, Sports Pavilions, Libraries, Aquatic Centres and other Public Buildings
- Public Transport Stations.
- Overpasses, Bridge Abutments, Roadways and Freeways
- Timber facades

4 Surface Preparation

Mask surrounding areas as appropriate, including glass and metal surfaces, to protect from overspray.

It is important to ensure that the surface is free from previously applied graffiti and is clean and free from debris. Surface must be clean, absolutely dry, and in sound condition. Remove all oil, dust, grease, dirt, loose mortar and foreign material from the surface. Surface must be free of laitance, concrete dust, dirt, formwork release agents, moisture curing membranes, loose cement and hardeners.

Dry brush the surface to be coated. Where the surface is especially dirty it may be necessary to pressure wash in order to perform an suitable clean down. The surface must then be allowed to dry before application..

Concrete and mortar must be fully cured before application.

On contact with a damp substrate surface, Nanoman Anti Graffiti will not form a permanent seal.

5 Directions for Use

Nanoman Anti Graffiti comes in a ready to use form. Stir slowly, not to create air bubbles, but thoroughly prior to applying onto the substrate surface. When the ambient temperature is below 20º the Anti Graffiti solution viscosity may be too thick to allow effective spraying. If this is the case, we recommend storing the AG inside at room temperature the day before use. It can also be thinned with up to 30% with white spirit or mineral turpentine to assist with spraying, which does not impact on the coatings performance.

Do not apply to wet or damp surfaces.

Due to the wide variety substrates and the various methods of application and environments, always test Nanoman Anti Graffiti coating in an inconspicuous location to ensure adhesion and performance. There may be a slight enhancement or change in appearance from the natural surface.

Make certain the surface will remain completely dry for at least 5 hours after the anticipated completion time. The temperature needs to be between 5°C and 33°C with RH 90% or less. If there is high wind, this

will affect the quality of the finish, wind can disrupt the spray pattern from your HVLP and it can contribute to contamination of the finish from blowing dust. Take necessary precautions against natural elements and other trades working at the same time.

Completely cover the surface by applying Nanoman Anti Graffiti with a paint brush, roller, HVLP sprayer or airless sprayer.

When treating rough or textured surfaces spray application is recommended. Apply one coat evenly in either a sideways or up and down pattern with slight overlap to thoroughly coat the surface being treated.

Clean equipment immediately after using acetone. Never clean spray equipment with water or alcohol.

The spray gun and nozzle can be cleaned with n-butyl acetate.

5.1 Spraying Instructions

Stir the Nanoman Anti Graffiti coating contents thoroughly. Make certain to stir every 15-20 minutes to ensure the nanoparticles are re-suspended to ensure proper performance of the Nanoman Anti Graffiti coating.

Begin application using an electric sprayer or HVLP sprayer at 60 psi. or less with a nozzle of 0.08” – 0.13”. Spray the surface in a cross-pattern; “left to right”, then “up and down” at a medium pace approximately 30 centimetres from the surface to ensure an even coverage. This will provide sufficient coverage and will help prevent voids in the surface.

If using spray application method in an enclosed space, make certain to tent off the area being sprayed with plastic tarps to avoid spray dust from travelling and contaminating other surfaces with overspray. Apply Nanoman Anti Graffiti using:

- HVLP, Conventional or Airless spray equipment.
- A "wipe-on" technique using Brush, Roller or Deck Painter Pad". (Streaking or high spots may occur using a "wipe-on" technique. Avoid high spots by smoothing surface while wet)

Guide	Spray Nozzle	Spray Pressure
Electric Sprayer 	0.8 – 1.5mm	Fixed
Airless Spray 	Pump Pressure Tip 15-18	1000 – 1600 PSI

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Suction Feed 	HVLP 0.8 – 1.5mm	50 - 60 PSI
Gravity Feed 	HVLP 0.8 – 1.5mm	50 - 60 PSI

Ensure appropriate ventilation for all enclosed areas and wear approved respiratory protection.

5.2 Rolling Application Instructions

Always check for smearing of painted surfaces when applying Nanoman Anti Graffiti by rolling onto painted surfaces. Stir the contents thoroughly. Make certain to stir every 15-20 minutes while using to re-suspend these nanoparticles to ensure proper performance of the coating.

Pour Nanoman Anti Graffiti coating into a roller pan and completely saturate the roller with the coating. The coating needs to be applied thinly, but you also need to ensure that you have fully covered the surface. For smooth surfaces, use a high density, ultra smooth, white foam roller. For rough surfaces, use a 3/8" nap roller and apply a coat in a cross-pattern; "left to right", then "up and down" as quickly as possible, making sure there is always plenty of material on the roller so no spots are missed. Do not over work the coating, just move the wet edge over the entire surface as quickly as possible due to how quickly the coating dries. Do not apply more than one coat.

5.3 Brushing Application Instructions

Always check for smearing of painted surfaces when applying Nanoman Anti Graffiti onto painted surfaces. Stir the contents thoroughly. Make certain to re-stir and re-suspend these nanoparticles every 15-20 minutes during use to ensure proper performance of the coating. Nanoman Anti Graffiti needs to be applied thinly, but you also need to ensure that you have fully covered the surface. Use a high quality bristle brush for best finish results. Apply the coat in a cross-pattern; "left to right", then "up and down" as quickly as possible, making sure there is always plenty of material on the brush so no spots are missed. Do not over work the coating, move the wet edge over the entire surface as quickly as possible due to how quickly the coating dries. Do not apply more than one coat.

5.4 General Instructions

Nanoman Anti Graffiti must be applied at an ambient temperature of at least + 5 °C and a relative humidity of 30 %-80%. Apply the coating in dry conditions and never in rain. Any mistakes can be rectified within approximately 10 minutes of application. After this the coating will become tacky making it impractical to apply another coat.

During application, only small quantities should be decanted from the original container into the application container. Residues of unused Nanoman Anti Graffiti should not be returned from the application container to the original container. Keep the lid on the container at all times to avoid air thickening the coating. If the coating becomes thick it can be thinned with white spirit.

Traces of water in the applicator should also be avoided. Applicators dampened with water **MUST NOT** be used. If dirt appears on the applicators during coating, they should be replaced with clean applicators to avoid dirt entering the coating.

The applicators cannot be reused once the coating has been applied.
If the solution in the application container solidifies or a deposit forms, it can no longer be used. Solutions that are no longer useable must be disposed of properly. Nanoman Anti Graffiti is dry-to-touch after about one hour (depending upon ambient temperature and conditions.)

6 Coverage

The average coverage rate using the recommended HVLP spray gun is 80-100ml per square metre. If applying by means other than a spray gun, (ie paint/roller brush), usage rates may be higher. The absorbance of substrates varies considerably so usage will be higher on very absorbent surfaces.

Nanoman Anti Graffiti is a single coat application. Avoid applying excessive amounts of the coating and do not apply multiple coats.

If there is an excess of coating on the surface material, spread it out evenly using a clean brush whilst it is still wet. Nanoman Anti Graffiti will be touch dry after about one hour.

Nanoman Anti-Graffiti has a durable life of up to 10 years on vertical surfaces depending on the material, use and maintenance of the surface. To maintain the effectiveness of the coating, never scrub or pressure wash to remove graffiti. Graffiti removal should be done in accordance with removal instructions. (refer 12.)

7 Cure Time

Touch dry: 1 hour.
Completely dry: 4-5 hours.
Ensure that the surface remains dry during this time frame.
Fully Cured: 7 Days.

8 Physical Properties

Article Number:	9500
Appearance:	colourless to pale yellow liquid
Density:	ca. 0.92 g/cm3
Binder base:	Organic polysilazane

9 Packaging

- 1 Litre
- 4 Litre
- 20 Litre

10 Shelf Life and Storage

Nanoman Anti Graffiti is sensitive to moisture and air contamination. It is very important to quickly close the container immediately after opening. Do not leave the container cap open for extended periods, which will allow solvents to evaporate and crosslinking to begin.

Moisture contamination, storage at high temps or allowing air into the container will cause gelation within the container.

Shelf Life:

- 24 months from delivery date, at 25 °C.
- Storage temperatures must be dry and between 40°F (4°C) and 85°F (30°C). Higher temps will decrease shelf-life.
- Shelf life opened: 4 weeks.
- Container must be closed immediately after use to avoid moisture contamination.
- Do not leave container open for extended periods to avoid excess exposure to air and moisture contamination. Discard contents if it gels.

11 Safety Instructions

The instructions on the Safety Data Sheet must always be followed.

- Consult SDS for proper handling, cleanup, disposal, and use of personal protective equipment. Circulate sufficient air to maintain working environment below the PEL and LEL. Apply according to local, state, and federal (OSHA) regulations.
- It is important to spray Nanoman Anti Graffiti in a dust-free environment to avoid surface contamination. Appropriate ventilation, approved respirator, protective clothing and rubber gloves are recommended when applying the coating and for handling application equipment.
- Avoid breathing dust/fume/gas/mist/ vapours/spray.
- Provide adequate ventilation. If using indoors keep windows and doors open during use.
- Where ventilation is not adequate, respiratory protection may be required. Select and use respirators in accordance with AS 1716 – Respiratory Protective Devices and be selected in accordance with AS 1715 – Selection, Use and Maintenance of Respiratory Protective Devices.
- 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.

12 Surface Maintenance / Cleaning

Surfaces coated with Nanoman Anti Graffiti do not need any special cleaning regime. After coating, the surface should be self cleaning with rain or mechanical water spray.

If cleaning is necessary, we recommend using a low pH soap and water for clean-up

Regular physical inspections are recommended to look for any coating damage and graffiti requiring removal (the sooner graffiti is noticed and action taken the easier it will be to remove).

12.1 Graffiti Removal Procedure

There are many forms of graffiti ranging from chalk and water based paints through to permanent markers, lipstick and oil based aerosol paints. The length of time graffiti has been on a surface usually impacts how easily it can be removed - the longer, the more difficult.

Depending on the substance to be removed, each type of graffiti is best removed via a combination of Nanoman Graffiti Remover, "gentle" agitation and **low/medium** pressure water spray.
We recommend the following graffiti removal method, as we know it works on all graffiti:

1. Always wear protective clothing, gloves and goggles when dealing with graffiti removal.
2. Work on a small area at a time as this will prevent the spread of paint as it is being removed. We suggest no more than a few centimeters at a time.
3. Liberally apply by spray bottle Nanoman Graffiti Remover to the graffiti and allow it to react with the paint for 60 seconds. On vertical surfaces, place a cloth under the area sprayed to prevent run-off.
4. Spray again to moisten the area and then, using a clean rag or cloth, GENTLY wipe the paint in the direction of the existing graffiti. (Start at the outer edges of the graffiti and move in.) This will avoid spreading the paint as it is removed.
5. Repeat step 4 until the paint is removed. If some paint remains, apply a bit more pressure to the area or gently agitate using a soft bristle brush. Do not aggressively scrub, as this will potentially damage the coating and/or substrate itself.
6. When the paint is gone, rinse the area thoroughly with a low to medium pressure water sprayer. Most Graffiti can be removed with water pressure generated from a standard garden hose or spray bottle. For large areas a water blaster may be used to assist with graffiti removal with pressure not to exceed 800 psi.
7. This process may need to be repeated more than once to completely remove stubborn graffiti.
8. Once the graffiti is completely removed rinse the area with water to remove any residues from the wall and ground.
9. Dispose of rags and waste thoughtfully.

Graffiti Removal Hints

1. Always remove Graffiti as quickly as possible, as it is usually easier to remove and deters repeat offences.
2. Always try to identify the graffiti medium to be removed as given the nature of Nanoman Anti Graffiti Coating some graffiti can be removed with just water or water and a mild detergent.
3. Do not attempt to remove graffiti by aggressively scrubbing or by using excessive force. Repeated gentle rubbing and use of Nanoman Graffiti Remover will ensure the paint is removed without damaging the coating
4. Do not use abrasive brushes or tools that could potentially damage the coating.
5. When using a pressure washer always use a fan-type nozzle. A spray fan angle of 15-50 degrees

is considered best for graffiti removal and general surface cleaning. Larger angles reduce spray impact but increase area coverage, while a 0 degree pencil jet produces an intense impact harmful to soft or crumbly masonry and wood surfaces.

6. It is recommended that the graffiti to be removed be approached at a steep angle (as close to the wall with the spray wand as possible) to undercut the graffiti as much as possible. This will allow it to "peel" from the surface. Coming straight at the graffiti to be removed may drive it further into the surface.
7. Avoid using pressure power washers if possible, as repeated use of this method will eventually break down the coating. If the Nanoman Anti Graffiti Coating is damaged, lightly sand the surface of the coating (not the substrate) with 220 grit sandpaper being careful not to disrupt the substrate. Then reapply the coating.

13 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 specific context of the planned use. To the maximum extent permitted by law, Nanotech Products Pty Ltd will not be responsible for damages of any nature resulting from the use or reliance upon the information contained in this data sheet. No express or implied warranties are given other than those implies mandatory by law.
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