Fosroc® Nitocote AG

constructive solutions

A non-sacrificial anti-graffiti coating that allows the easy removal of graffiti with cold water only

Uses

Nitocote AG is a single component, ready to use product that cures to provide non-sacrificial protection against defacement by most permanent markers and aerosol paints.

Nitocote AG is for use in all public areas such as subways, railway stations, car parks and schools. Suitable for use on mineral building materials such as concrete and brick, as well as wood and metal.

Advantages

- One component ready to use system.
- Applied by airless spray, roller, or brush.
- Graffiti can be removed with just cold water - no cleaning agents or aggressive / abrasive cleaning techniques required.
- Graffiti can be removed typically up to 20 times, without compromising protection.
- Single layer application usually sufficient on most substrates, multi-layer application possible.
- Posters and stickers are easily removed.
- Breathable coating: Compatible with cathodic protection systems.

Standard Compliance

Requirements of BS EN1504-2 Principles 2.2 and 8.2

Description

Nitocote AG is a single component product based on silicone elastomers. The coating creates a porous, hydrophobic barrier that allows the substrate to 'breathe', while preventing the graffiti from permanently staining the surface. The cured film forms a clear, flexible seal that enhances and protects the substrate underneath.

Spray paints, permanent markers, posters, and stickers no longer adhere strongly to the surface and can easily be cleaned off. For small areas of graffiti, a wet cloth or sponge can be used. On larger areas cold-water low pressure (~80-100 bar) washing can be used.

The product is available in a clear grade and is semi-gloss in appearance.

Design criteria

Nitocote AG is designed for application in one coat to achieve an approximate total wet film thickness (w.f.t.) of 300 microns. Generally, one coat is sufficient on a clean and suitably prepared substrate.

Properties

The values given below are average figures achieved in laboratory tests. Actual values obtained on site may show variations from those quoted. The times stated below are approximate and will be affected by changes in humidity, temperature and wind conditions.

Volume solids	65%
Recommended thickness per coat	
Dry	~200 microns
Wet	~300 microns
Theoretical coverage rate at 300 microns w.f.t	3.0 m^2/L
Usable life @ 20°C	1 hour
Tack free @ 20°C	4 hours
Fully cured* @ 20°C	~7 days

*Anti-graffiti properties of the coating will develop after 24 hours cure, with full protection at 5 - 7 days

Test Method	Standard	EN1504-2 Requirement	Result*
Adhesion strength by pull off test. (BS EN 1504-2, table 1, item 15)	EN 1542	>1.0MPa Rigid systems without tracking	1.2Mpa
Permeability to water vapour permeability (BS EN 1504-2, table 1 item 7)	EN ISO 7783	Sd <5m Class I	Sd 0.4m
Capillary absorption and permeability to water (BS EN 1504-2, table 1, item 8)	EN 1062-3	W<0.1kg/m^2/hr	0.003kg/m^2

Application Instruction

All coating work to be carried out in accordance with the relevant sections of BS6150:2019, Painting of Buildings - Code of Practice.

Ensure appropriate PPE is used at all stages during preparation and application.

Preparation

Bare concrete and masonry

All surfaces should be dry and free from contamination such as oil, grease, loose particles, decayed matter, moss, algal growth, laitance, and all traces of mould release oils and curing compounds. For concrete surfaces this is best achieved by suitable mechanical means. On other surfaces where moss, algae or similar growths have occurred, treatment with a proprietary biocide should be carried out.

It is essential to produce an unbroken coating of Nitocote AG. To ensure this is achieved, surfaces containing blowholes or similar areas of pitting should first be filled using Renderoc FC or Renderoc FCR cementitious fairing coats. All relevant data sheets must be referred to before commencing overcoating of Renderoc products with Nitocote AG.

For further advice, refer to the Nitocote AG Method Statement or contact Fosroc Technical Services.

Metal surfaces

Any metal surfaces should be blasted to a bright finish, meeting the requirements of Swedish Standard SA 2½ or equal.

Existing coatings

Trial areas should be conducted to ensure compatibility and

bond of Nitocote AG to the existing coating and to validate retention of the bond between the underlying coating and the substrate after overcoating. Only after successful test panels are completed and approved by the Project / Site Manager, should application proceed over large areas.

The existing coating should be cleaned by high pressure water jetting and / or with a sponge and dilute detergent then rinsed with clean water to remove all service contaminants. The surface must be allowed to thoroughly dry. Any areas of flaking or crazing in the existing coating should be removed back to an area soundly bonded. Any bare concrete exposed should be prepared as described above.

For further advice, refer to Nitocote AG Method Statement or contact Fosroc Technical Services.

Wooden surfaces

If necessary, clean the surface to remove any dirt. Mild soapy water and a soft cloth should be used. Ensure the surface is completely dry before continuing.

Lightly sand all surfaces, either by hand or with a sheet orbital sander, using fine grade sandpaper. Remove any traces of dust after sanding. Inspect the wood for any cracks or holes. Use a wood filler to even out the surface. Once the filler is dry, sand it down to ensure it is level with the rest of the surface. Remove any traces of dust from the surface. Ensure the surface is completely dry before proceeding with application of Nitocote AG.

Priming

All metal surfaces should first be primed with a diluted coat of Nitocote AG (dilute with Fosroc Solvent 102 at a ratio of 1:1). Apply by brush, as thin as possible and free of air bubbles, at a rate of approximately 50g/m^2. Allow the primed surface to dry, after which proceed with the topcoat application (undiluted Nitocote AG) within 12 hours.

For further advice, refer to Nitocote AG Method Statement or contact Fosroc Technical Services.

Application

To obtain the protective properties of Nitocote AG, it is important that the correct rate of application and film thickness is observed.

The contents of the tin should be thoroughly stirred prior to application to ensure the product is homogenous.

Nitocote AG should be applied onto a test area prior to full application to validate compatibility and bond to the substrate.

The required application conditions are as follows:
Ambient air temperature: 5°C - 30°C
Relative Air Humidity: ≤ 80 %
Substrate temperature: At least 3°C (5°F) above the dewpoint temperature.
Full cure: ~5-7 days

Containers, once opened, should be used until empty.

Only wooden surface require two coats of Nitocote AG, applied at 3.0 m^2/L each coat.

Brush / Roller Application

Application can be achieved by brush or short pile roller, particularly recommended for small, confined areas. Apply the product evenly over the surface. To prevent surface damage of the freshly applied coating, protect the coating from rain until the coating is dry.

Airless Spray Application

Recommended airless spray model includes: GRACO ST MAX II 695.
Specification:

- Operating Pressure: 1300 – 3300 psi
- Tip size: 0.017 – 0.021 inches
- Filter: 60 mesh

The specification ranges quoted above are dependent on site conditions.

Airless spray application is highly specialised and such operations should only be undertaken by applicators experienced in the use of airless spray equipment.

Prior to application the equipment should be flushed through twice with Fosroc Solvent 102, to ensure any traces of water and contamination are removed. The product should be spray applied in a continuous action and at a constant speed to ensure a consistent recommended wet film thickness. Where possible avoid product overlap to prevent curtaining.

Three light spray passes are recommended to achieve the recommended wet film thickness. Where possible avoid product overlap to prevent sagging of product.

In case of precipitation cover the freshly applied coating for at least 12 hours after tack-free time has been achieved.

If the surface is particularly porous do not attempt to cover with one application. In such circumstances, Nitocote AG can be diluted with Fosroc Solvent 102 (up to 1:1 dilution). Diluted solution should be used within 1-2 hours of mixing, depending on conditions. Apply a thin coat, leave until tack free to partially reduce porosity, and then apply a second light and even coat to achieve the recommended wet film thickness.

For further advice, refer to Nitocote AG Method Statement or contact Fosroc Technical Services.

Graffiti removal

Any form of graffiti should be removed as soon as possible. Graffiti removal can take place using either of the two options:

- Cold-water low pressure (~80-100 bar) cleaning equipment, used from a distance of ~ 10cm from the substrate.
- By hand using a suitable absorbent clean cloth using cold water. Cleaning using gentle circular motions are recommended.

Aggressive/abrasive cleaning techniques should be avoided.

If light shadows from the graffiti are visible after cleaning, it is recommended to add a small amount of bleach (≤5%) to the water to remove these.

Cleaning

Tools and equipment used with Nitocote AG can be cleaned with Fosroc Solvent 102 immediately after use. Do **not** clean equipment with water or water-based cleaning products. The use of water or water-based cleaning product will cause the Nitocote AG to gel. Airless spray equipment should be cleaned at regular intervals to prevent any gelled product blocking the filter and spray tip. Gelled material can only be mechanically removed.

Limitations

Containers, once opened, should be used until empty. Any remaining coating, exposed to air will continue to cure and thicken resulting in surface skinning and increased viscosity.

Therefore, it is recommended that all product is used up once the container is opened.

Application of Nitocote AG should not proceed if the air or substrate temperature is 5°C and falling. At a steady 5°C, or 5°C and rising, application may commence. Nitocote AG should not be applied at less than 3°C above the dew point or ≥ 80% RH, or where exposure to dust, rain or frost is likely within the drying time.

Areas of repair may be noticeable through the Nitocote AG film.

It is recommended that Nitocote AG be reapplied when graffiti starts to leave shadows and traces that can no longer be removed after cleaning with a diluted bleach (≤5%) solution.

Estimating

Supply

Nitocote AG: 5L and 20L tins.
Fosroc Solvent 102: 5L and 25L tins

Coverage

Nitocote AG: 3.0 m^2 per litre per coat.

Coverage figures are theoretical. Due to the variety and nature of possible substrates, and wastage factors, practical coverage figures may be reduced.

Storage

Nitocote AG has a shelf life of 6 months when stored in warehouse conditions of 5ºC to 25ºC. Nitocote AG must be kept dry, unopened, and away from heat and naked flames.

If the product is stored at high temperatures and/or high humidity or exposed to any form of moisture the shelf life may be reduced.

Precautions

Health and safety

For additional information see relevant Product Safety Data Sheet and Method Statement.

Fire

Nitocote AG and Fosroc Solvent 102 are flammable. Keep away from sources of ignition. No Smoking. In the event of fire, extinguish with CO2 or foam. Do not use a water jet.

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