

AN ELASTOMERIC SPECIAL ACRYLIC POLYMER BASED PROTECTIVE / WATERPROOFING COATING, BONDING AGENT, REPAIRING COMPOUND AND ANTI-CORROSIVE COATING

Description

NIROGUARD UNICOAT is a high-performance, single-component acrylic polymer emulsion used as an additive in cementitious systems. It is suitable for flexible waterproofing coatings, bonding agents, polymer-modified repair mortars, and screeds. The product also provides effective corrosion protection for reinforced concrete by forming a protective barrier. It is especially useful in rehabilitation work, as it reduces water and chloride ion penetration into concrete and reinforcement, thereby helping to prevent chloride-induced corrosion.

Typical applications include

- Waterproofing and tanking: Complete waterproofing system for basement to roof including basements, toilets, kitchens, terraces, lift pits, inspection pits, water tanks, effluent tanks, swimming pools, and lime terracing.
- Anti-corrosive coating for steel reinforcement and rebar using cementitious systems.
- Bonding slurry for old-to-new concrete, mortar, render, and screed layers.
- Polymer-modified flooring, render key coats, render modification, and patch repair mortars.
- Additive for injection grouting in cracks and fissures.
- Cementitious system for waterproof plasters, damp-proofing, and anti-carbonation/anti-efflorescence coatings.

Advantages

- Provides resistance to structural movement with crack-bridging and waterproofing properties for concrete and mortar; also suitable for lime terracing.
- Flexible system capable of bridging hairline cracks (up to 1 mm), preventing water ingress and accommodating thermal expansion and contraction.
- Offers effective corrosion protection to reinforced steel/rebar.
- Offers superior adhesion to lime terraces compared to other commercially available polymers.
- Produces durable, weather-resistant mortar with improved impermeability to chlorides and other harmful agents.
- Hydrolysis-resistant; suitable for wet-area applications.
- UV resistant, ensuring longer service life; in some cases, protective screed may be omitted where application is difficult.
- Tough film resists wind-driven rain.
- Resistant to fungus and algae, maintaining aesthetic appearance.
- Easy application by brush, roller, or spray.
- Non-toxic and environmentally friendly.

Characteristics

Appearance	: Milky white liquid
pH	: > 6
Specific gravity	: 1.03 ± 0.02
Elongation of the cured Polymer	: > 400%
Tensile adhesion strength	: ≥ 1.5 N/mm ² (concrete failure, as per EN 1542)

Direction for use

Surface preparation

Surface preparation shall ensure a clean, sound substrate with a good mechanical key. All surfaces must be free from dust, laitance, plaster, oil, grease, paint, corrosion deposits, and other deleterious materials. Smooth surfaces shall be mechanically roughened by suitable methods such as scabbling, needle gunning, or grit/sand blasting. Spalled concrete, cracks, and blowholes shall be cut back to sound substrate and repaired with NIROGUARD UNICOAT modified cementitious mortar/slurry. Steel reinforcement/rebar shall be cleaned by wire brushing or sand blasting.

WATERPROOFING COATING

Prepare a waterproofing slurry by mixing 2 parts cement with 1 part NIROGUARD UNICOAT (by weight) to a lump-free creamy consistency using a slow-speed drill with paddle. Allow the mix to stand for 5 minutes, then remix before use. Do not prepare more material than can be used within 30–45 minutes.

Apply the slurry on a pre-dampened surface free from standing water; high-suction substrates may require additional dampening. Apply evenly by brush or broom and use immediately, especially in hot weather conditions.

First Coat: Apply the slurry by brush or broom onto the pre-dampened prepared surface, ensuring full coverage without spreading too thinly. If the material begins to drag or ball, do not add water; re-dampen the surface.

Second Coat: Allow the first coat to cure overnight, then dampen lightly and remove excess water. Apply the second coat in the opposite direction to the first coat.

Consumption: 0.4 - 0.6 Kg/m² for two coats

Note: For large areas exceeding 500 m², fibre mesh reinforcement shall be embedded between coats to improve crack resistance and minimize the risk of shrinkage and movement-induced cracking.

Protective Layer:

1.No foot traffic: Protective layer may be omitted where the waterproofed surface is not exposed to traffic or where such protection is not required or practical.

2.Light foot traffic / exposed conditions: A protective top coat is recommended for exposed or permanently submerged conditions subject to light foot traffic. Dry-shake silica sand shall be broadcast over the second coat while still tacky to provide anchorage. The protective coat shall be prepared by mixing 4 parts cement : 4 parts silica sand : 1 part special elastomeric acrylic polymer : 1 part water (by weight) and applied to a thickness of approximately 1.5 mm with a flat trowel.

Consumption: 0.3 - 0.4 Kg/m² for 1.5mm thickness

3.Heavy foot traffic / usable roof: Provide cement-sand screed or polymer-modified screed of approved mix, generally 25–40 mm thick, finished smooth and laid to a slope of 1:100 to 1:80 (1.0%–1.25%) for proper drainage. Fibre or wire mesh reinforcement may be provided where required to improve crack resistance and durability.

BONDING COAT

Prepare the bonding coat in the weight ratio of NIROGUARD UNICOAT : Water : Cement = 1 : 1 : 4 for bonding old to new concrete/mortar. Mix by weight and apply it to the prepared substrate. Ensure that the fresh repair mortar/concrete is placed while the bond coat is still tacky. Consumption: 0.08 – 0.12 Kg/m²

REPAIR MORTAR

Mix NIROGUARD UNICOAT, cement & silica sand (Zone II) in 1:5:15 proportion by weight. Add required amount of water to achieve trowellable consistency (no exceeding 30% by weight of cement). Use this NIROGUARD UNICOAT modified mortar for repairs of substrate & filling the cracks; and making vata at the corners.

Consumption: 20mm thick render shall require 2 kg of NIROGUARD UNICOAT, 10 Kg of cement, 30 Kg of sand & 1-2 litre water per m²

REBAR PROTECTION AND SALT PETRE FREE PLASTER ON BRICK MASONRY

Prepare a slurry by mixing 2 parts cement with 1 part NIROGUARD UNICOAT by weight. Achieve a lump-free, creamy consistency. Start by pouring the measured quantity of NIROGUARD UNICOAT into a clean mixing container. Gradually add the cement to the liquid and mix using a slow-speed drill fitted with a suitable paddle. Allow the mixture to stand for 5 minutes to ensure full saturation, then remix to restore consistency. Do not mix more material than can be used within 30 minutes.

Apply the first coat to the cleaned steel, rebar, or brick (as applicable) within 20 to 30 minutes of preparation. After 2 to 3 hours, apply the second coat. Subsequent concreting should be done after 24 hours.

For rusted metal (iron base): First, remove rust using NIROVER RUST. Then apply the NIROGUARD UNICOAT slurry as described above to achieve better and more durable results

Curing

Correct curing of NIROGUARD UNICOAT modified cementitious slurry is important. Moisture cure for 24 hours and then allow to dry out slowly. (Note that initial curing is necessary to provide good curing conditions for the hydration of the Portland cement, then the polymer slurry must be allowed to dry out to permit the polymer particles to join together to form the continuous films and strands.)

Technical support

NIRMAN CHEMICALS provides technical advisory services for on-site assistance and guidance on mix design, optimum dosage evaluation of trials.

Packaging

NIROGUARD UNICOAT is supplied in 1/2kg, 1kg, 5kg, 20kg & 210 kg

Storage and Shelf life

NIROGUARD UNICOAT must be stored where temperatures do not drop below +5°C. If product has frozen, thaw at +5°C or above and completely reconstitute using mild mechanical agitation. Do not use pressurized air for agitation. Store under cover, out of direct sunlight and protect from extremes of temperature. Shelf life is 12 months when stored as above. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult our local NIRMAN CHEMICALS representative.

Safety precautions

NIROGUARD UNICOAT does not fall into the hazard classifications. However, it should not be swallowed or allowed to come into contact with the skin and eyes. Suitable protective gloves and goggles should be worn. Splashes on the skin should be removed with water. In case of contact with the eyes it shall be rinsed immediately with plenty of water and medical advice sought immediately. If swallowed, medical attention shall be sought immediately - Vomiting should not be induced.

Fire

NIROGUARD UNICOAT is water based and non-flammable.

Cleaning of Tools

Clean all tools and application equipment with water immediately

Note

All Technical Data Sheets are updated on regular basis; it is the user's responsibility, to obtain the most recent issue. Field services where provided, does not constitute supervisory responsibility, for additional information contact our local NIRMAN CHEMICALS representative.

Disclaimer

Whilst any information contained herein is true, accurate and represents our best knowledge and experience, no warranty is given or implied with any recommendations made by us, our representatives or distributors, as the conditions of use and the competence of any labor involved in the application are beyond our control.



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