



# Photocatalytically active coating for self-cleaning, algae prevention and air purification outdoors

## TA 2227



### Benefits

#### TECHNICAL BENEFITS

- Reacts on UV-light
- Suitable for concrete, plaster and stone
- Self-cleaning properties
- Hydrophilic surface avoids baking in of acids and soot
- Bonds with substrate
- Low material use per m<sup>2</sup> 100 – 200 ml/m<sup>2</sup>
- Full transparent coating
- No change of look-and-feel of host-material
- Fast drying
- Free of solvents
- Contains no biocides
- Long durability of >10 years

#### OPERATIONAL BENEFITS

- Prevents organic growth like mold, algae or moss
- Filters VOC's, pollen, NOx from the air
- Removes odours and bad smell
- 90m<sup>2</sup> treated surface = filter capacity of 8 mature oak trees
- Minimizes need for cleaning
- Application by HVLP or roller
- Easy to touch-up during replacement or repair of surface
- Maintains pristine appearance of treated surfaces
- Non-hazardous, easy to transport

#### FINANCIAL BENEFITS

- Low cost per m<sup>2</sup>
- Minimizes cost for cleaning agents and soaps
- Minimizes repair and replacement costs due to pollution
- Reduces cost for ill personnel

### Description

nC® Nadicare® TA2227 Concrete Stone Outdoor is a very fine, water-based titanium-dioxide dispersion. Its formulation is a photocatalytically active coating and is fully transparent. Upon radiation with light, the coatings will release oxygen radicals from the ambient air and thus decompose organic pollution: The surface becomes self-cleaning. TA2227 is active under UV light.

TA2227 is designed for all unpainted concrete, stone and plaster surfaces. Not suitable for marble, glass, metal, painted surfaces and plastics. For painted surfaces please refer to TA2202 or consult our technical department. TA2227 can be applied without primer.

nC® Nadicare® TA2227 is an outdoor application. TA2227 is an extra abrasion resistant formulation to withstand wear when applied on roads, sidewalks, gardens, swimming pools etc.



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### Description

The coating protects the surface against algae, mould, moss, germs and bacteria. The design of nC® Nadicare® TA2227 provides self-cleaning properties to the treated surfaces, to protect them against pollution. The active self-cleaning titanium-dioxide particles transform all organic pollution on the surfaces, like soot, bird-droppings, stains of coffee, wine, oils, fingerprints etc. , into harmless compositions and oxygen. As the coating has strong hydrophilic capacities, pollution can never scale or “bake in.” It also filters NOx and VOC’s from the air.

nC® Nadicare® TA2227 unites the advantages of photo catalysis and hydrophilicity. By doing this, the coating system offers a very robust and wear resistant surface. The lifetime cycle of the coating is around 10 years. The active self-cleaning characteristics of titanium-dioxide will easily remain intact throughout this period.

nC® Nadicare® TA2227 Metal Surfaces unites the advantages of photo catalysis with the unique capacity of nano-technology. Instead of sticking mechanically on the surface (like waxes or foils do), the use of nanotechnology ensures that the nC® Nadicare® TA2227 coating bonds into the surface chemically. The active self-cleaning characteristics of titanium-dioxide will not exhaust.

### Application

It is recommended to apply TA2227 with HVLP or roller. Industrial application processes are also possible. In case of industrial application, technical consultation at the nC Group R&D dept. is strongly recommended.

- Do not eat, drink or smoke during application.
- Surface must be clean and free from kit, glue, grease, mold or moss.
- Rinse with clean and fresh water to remove soap residues.
- Surface must be dry.
- Ambient temperature during manual application must be at least 15° C.
- Do not apply when ambient humidity exceeds 80%.
- Do not apply in a dusty environment.
- Wear protective gloves during application. Wear safety goggles during application.
- Shake container well for a minute.
- Use roller or HVLP for application.



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## Application

- Recommended application quantities (no bathing):
  - Plain surfaces 100 ml/m<sup>2</sup>
  - Textured surfaces 100 - 150 ml/m<sup>2</sup>
  - Absorbent surfaces 150 – 200 ml/m<sup>2</sup>
- Let surface dry for 60 minutes at ambient temperature of minimal 15 °C.
- Put left-over nC® Nadicare® TA2227 in container and use-up within 4 weeks after first opening of original.
- nC® Nadicare® TA2227 will deteriorate fast when dirty or greasy items are coated without cleaning.
- Clean tools, spray-nozzles with water immediately after every stop.
- Wash hands and face after every stop.

As the technology is about bonding particles into surfaces, matrices of particles need to be built up after application. The treatment reaches full performance AFTER a cure time of approximately 72 hours, which is dependent upon environmental variables, humidity and ambient temperatures. Tests for performance should be done after full cure. However, the surface can be used and exposed 60 minutes after application.

## Limitations

- Do NOT apply on marble.
- Re-apply regularly on paths or walking areas that are in heavy use.
- When installing over poor, greasy or dirty surfaces, the bonding of nC® Nadicare® TA2227 will become erratic, and so will the results be.
- Do NOT freeze product or store in subzero areas.
- Do not allow application during freezing temperatures.
- The selfcleaning effect will not occur in poor visible light, the effective light spectrum is < 400nm for UV-light only.

## Logistic info

- Store nC® Nadicare® TA2227 at temperatures between +5° C and +30° C.
- Store nC® TA2227 for max. 6 months in unopened containers counting from production date.



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### Logistic info

- Storage life for opened containers is 4 weeks, keep containers tightly sealed and store in a dark place.
- **Avoid freezing product.**
- nC® Nadicare® TA2227 is available in 5L, 25L and 200L containers.
- Never use pressure to empty containers.
- Dispose of contents/container in accordance with local/regional/national/international regulations.
- UN number DOT, IMDG, IATA: None
- Shipping name DOT, IMDG, IATA: None
- Transport hazard class DOT, IMDG, IATA: None
- Packaging group DOT, IMDG, IATA: None
- Environmentally hazardous: No
- Marine pollutant: No

### Typical properties

- TiO<sub>2</sub> , H<sub>2</sub>O
- Appearance: semi-transparent liquid
- Active material: >10% by weight
- Effective light spectrum: up to 400 nm
- pH value: approx. 10,0 – 11,0
- Primary particle size: 20 – 40 nm
- Specific Density: 1,1 g/ml

