



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

TA 2205



Benefits

TECHNICAL BENEFITS

- Reacts on UV and visible light
- Suitable for textiles and fabrics
- Self-cleaning properties
- Hydrophilic surface avoids baking in of acids and droppings
- Bonds with substrate
- Low material use per m² 50 – 300 ml/m²
- 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
- Provides stain resistant and odour-neutralizing properties
- 90m² treated surface = filter capacity of 8 mature oak trees
- Minimizes need for cleaning
- Application by ESS, HVLP, roller or bathing
- 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 m²
- Minimizes cost for cleaning agents and soaps
- Minimizes repair and replacement costs due to pollution
- Reduces cost for ill personnel

Description

nC® Nadicare® TA2205 Textile and Fabrics 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. TA2205 is active under UV light as well as under artificial light up to a wavelength of 475 nm.

TA2205 is designed for all textiles and fabrics. Not suitable for textiles that are machine-washed frequently. For long durability, the primer TP2221 is requested.

nC® Nadicare® TA2205 is an in- and outdoor application. Surfaces which are coated with TA2205 become self-cleaning and air purifying (reduction of VOC and bad odours).



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Description

Furthermore, the coating protects the surface against algae, mould, germs and bacteria. The design of nC® Nadicare® TA2205 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.”

nC® Nadicare® TA2205 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.

Application

TA2205 is suitable for industrial application (bath coating or spraying technique). The application quantities depend on the application method and, as to the bath coating process, on the absorption rate. For in-line surfaces, like carpets or curtains, it is recommended to apply TA2205 with HVLP or roller. 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 bath, roller or HVLP for application.
- Recommended application quantities:
 - Sails and canopies 60 ml – 120 ml/m²
 - Carpets and curtains 100ml - 250 ml/m²
 - Sunscreens, cushions and wools 100 ml – 350 ml/m²



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Application

- For BATH application, place a tub, tray or tank on an even and horizontal surface.
- Put the item in the tub, tray or tank. Make sure the item can be submerged completely in the tub, tray or tank when filled.
- Fill the tub, tray or tank with nC® Nadicare® TA2219.
- Make sure item is completely under water, soaked and saturated.
- Surfaces must be heated up to around max. 100 °C where possible. Use ironing or hot-air blower.
- Let surface dry for 30 minutes.
- Put left-over nC® Nadicare® TA2205 in container and use-up within 4 weeks after first opening of original.
- nC® Nadicare® TA2205 will deteriorate fast when dirty or greasy items are coated without cleaning.
- Clean tools, spraynozzles 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 2 to 72 hours, which is dependent upon environmental variables, humidity and heat applied (max 150 °C). Tests for performance should be done after full cure. However, the surface can be used and exposed 30 minutes after application.

Limitations

- 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® TA2205 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 < 475nm for artificial light.

Logistic info

- Store nC® Nadicare® TA2205 at temperatures between +5° C and +30° C.
- Store nC® TA2205 for max. 12 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® TA2205 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

- TiO₂ , H₂O
- Appearance: Yellowish transparent
- Active material: 1% by weight
- Effective light spectrum: up to 475 nm
- pH value: approx. 8,0
- Primary particle size: < 8nm
- Specific Density: 1,095 g/ml

