



### Description

nC Protect 4600 PT Finish is a transparent coating developed to protect materials from abrasion, absorption, corrosion and fouling. It can be applied on uncoated chalybeate and non-chalybeate metals, (U)HDPE, PMMA, epoxy- and polyuretane coatings and polyestercoatings. Furthermore on galvanized metals and powdercoated surfaces and glass. nC Protect 4600 PT Finish is approved for foodcontact according to FDA specifications.

nC Protect 4600 PT Finish bonds chemically into materials and their surfaces. Its ultra-thin, glass-like finish and lasting soiling protection is used to protect against negative chemical and environmental influences. It is user ready and can be applied by brush, roller, cloth and airgun (HVLP).

### Benefits

#### TECHNICAL BENEFITS

- ✓ Forms ionic chemical bond with substrate
- ✓ Strongly abrasion resistant
- ✓ Not permeable
- ✓ Chemical resistant
- ✓ Prevents fouling from adhering to surface
- ✓ Transparent
- ✓ Gloss and matted
- ✓ Foodgrade
- ✓ Free of fluor

#### OPERATIONAL BENEFITS

- ✓ Transparent finish allows direct view on material
- ✓ Fast drying
- ✓ Functions in temperatures between -50°C to 730° C
- ✓ Easy-to-clean without soaps or chemicals
- ✓ Protects against shearing and shockloads
- ✓ Hinders galvanic corrosion

#### FINANCIAL BENEFITS

- ✓ Low cost per m<sup>2</sup>
- ✓ Longlasting protection up to 15 years
- ✓ Significantly reduces downtime for maintenance
- ✓ Reduces corrosion related costs to minimum

### Directions of use

This product is intended for professional use by persons familiar with this product data sheet, the Material Safety Data Sheet (MSDS) that accompanies product shipments, and applicable health, safety, and environmental practices and regulations.



- ✓ Substrate must be free from grease, dirt, dust and water or moist.
- ✓ Substrate temperature must be between 5° C and 30° C.
- ✓ Do not apply when ambient humidity exceeds 80%.
- ✓ Do not let nC Protect 4600 PT Finish make contact with water during application or during cure time (first 12 hours).
- ✓ Product is ready to use. **DO NOT USE ANY THINNER!**
- ✓ Use safety glasses and adequate ventilation. Protect skin from exposure using gloves and appropriate clothing.
- ✓ Film thicknesses can be varied from between 5 – 20 µm, depending on application conditions.
- ✓ Application rate varies between 10ml to 15ml per m<sup>2</sup>
- ✓ nC Protect 4600 PT Finish is very thin and fluid, take care not to use too much product!
- ✓ In case of HVLP application use 2 – 3 bar pressure and 0,8mm - 1,3mm nozzle.
- ✓ Keep uncured product from flame, all ignition sources, and moisture.
- ✓ nC Protect 4600 PT Finish must be applied in one go. Because of the repelling characteristics of the coating, stains, open spots or other mistakes can be repaired within 10 minutes after first application. After 10 minutes, the coating starts to repel any layer that will be applied, including paint, solvent or other fluids.
- ✓ Dry to touch in ambient temperatures above 10° C : 1 to 2 hours
- ✓ Curing times, after which coating can be put into full operation:
  - Ambient temperatures between 10° C and 20° C: 8 to 12 hours
  - Heated to 60° C: 150 mins
  - Heated to 80° C: 120 mins
  - Heated to 180° C: 60 mins



Hamburg Airport Parkingdeck P1 ground zero. Left door is untreated, right door is treated with nC Protect 4600 PT Finish. Picture shows situation 1 week after treatment. Application was done by cloth and sponge. (picture R. van Hoorn)



- ✓ Full strength will be reached after 3 to 5 days.
- ✓ Clean tools immediately after use with (butyl)acetone or mineral spirits. Solvent cleaning can be followed by a wash with soapy water. Cured material cannot be removed with solvent. Proper clean-up of equipment is essential.
- ✓ Store nC Protect 4600 PT Finish at temperatures between 5° C and 30° C.
- ✓ nC Protect 4600 PT Finish can be stored for 2 years for unopened containers.
- ✓ Storage life for opened containers will be determined by the precautions taken to keep containers tightly sealed and protected from moisture. Maximum storage for opened containers is 12 months.
- ✓ Open used containers every 3 months to release possible pressure build up.
- ✓ nC Protect 4600 PT Finish is available in containers of 0,25L, 1L and 5L.

The product is dry to touch within 1 up to 2 hours and in most cases can be applied while equipment is in operation. As nanotechnology is about bonding into surfaces and matrices of nanoparticles need to be built up after application, the coating reaches full insulating ability AFTER a cure time of approximately 3 to 5 days, which is dependent upon environmental variables, humidity, and thickness of coat used. Test of maximum performance should be performed after full cure. Benefits will typically begin to be seen approximately 12 hours after application, and will continue to improve as the cure time completes. Cure time won't interfere with normal operations, you can continue to use your equipment as usual while the product cures.

## TYPICAL PROPERTIES

- ✓ **Transparent colourless to pale-yellow fluid**
- ✓ **Gravity 0.92**
- ✓ **Flashpoint 21°C**
- ✓ **Hardness drycoat Mohs H9 – H10**