

# INERTA 271 A –EPOXY SYSTEM

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Intended to be used in nuclear power stations as a protective coating system for steel surfaces. The system consists of chemically curing solvent-borne two-pack epoxy paints. Semigloss epoxy coating INERTA 271 A is used as the top coat. The system comes up to the specifications of STUK-YTO-TR 210 (Research Report VTT-CR-01511-20 by the Technical Research Centre of Finland).

| <b>ISO 12944-5:2019</b><br><b>symbol / corrosivity category / durability range</b> | <b>C3.06/C3/H</b>   |
|--|---------------------|
| The coating system structure:  | EP180/2-<br>FeSa 2½ |
| INERTA PRIMER 5 A Epoxy Primer   | 1 x 60 µm           |
| INERTA 271 A Epoxy Coating   | 1 x 120 µm          |
| Total film thickness   | 180 µm              |
| Paint system VOC, g/m <sup>2</sup>   | 78                  |

Marking of the coating system: ISO 12944-5/C3.06(EP180/2-FeSa2½).

## USAGE

For protection of steel surfaces in nuclear power stations in controlled indoor areas that are exposed to radiation and decontamination in corrosivity category C3 with durability class High.

## Surface preparation

Remove from the surfaces any contaminants that might be detrimental to surface preparation and painting. Remove also water-soluble salts by using appropriate methods. The surfaces are prepared according to the different materials as follows:

**Steel Surfaces:** Remove mill scale and rust by blast cleaning to preparation grade Sa 2½ (standard ISO 8501-1). Roughening the surface of thin-plate improves the adhesion of the paint to the substrate.

The place and time of the preparation are to be chosen so that the prepared surface will not get dirty or damp before the subsequent treatment.

For more detailed information about the above-mentioned products please see individual product data sheets.

**Application** Stir the components until they are homogeneous before use. Mix base and hardener with each other in the proportions given on the paint labels and stir the mixture thoroughly. Take into consideration the pot life of the mixture when estimating the amount to be mixed.

Apply preferably by airless spray as only this method provides the recommended film thickness in a single operation. The temperature of the air and the surface as well as the relative air humidity during the application and drying period must conform to the figures given in the table. At elevated temperatures the drying process speeds up. The surface must be dry and free from dust.

The technical data of the paints are given in the table below and in the product data sheets.

**Maintenance** Repair, maintenance and renewal painting is done according to separate instructions given for the nuclear power plant, observing valid local orders issued by the authorities.

### Technical Data

|                                 |                   |                             |                        |            |                |
|---------------------------------|-------------------|-----------------------------|------------------------|------------|----------------|
| Paint                           |                   | INERTA PRIMER 5 A           | INERTA 271 A           |            |                |
| Data Sheet                      | No.               | 1193                        | 2441                   |            |                |
| Paint Type                      |                   | two-pack epoxy primer       | two-pack epoxy coating |            |                |
| Colours                         |                   | red, yellow, grey and white | Teknotint tinting      |            |                |
| Finish                          |                   | matt                        | semigloss              |            |                |
| Thinner                         |                   | TEKNOSOLV 9506              | TEKNOSOLV 9506         |            |                |
| Methods of application          |                   | airless spray               | airless spray          |            |                |
| Airless spray nozzle            |                   | 0.013 – 0.018"              | 0.013 – 0.021"         |            |                |
| Application conditions          |                   |                             |                        |            |                |
| - min. temperature              | °C                | +10                         | +5                     |            |                |
| - max. relative humidity        | %                 | 80                          | 80                     |            |                |
| Safety markings                 |                   | See Safety Data Sheet       | See Safety Data Sheet  |            |                |
| Volume solids                   | %                 | 55 ±2                       | 76 ±2                  |            |                |
| Total mass of solids            | g/l               | abt. 1000                   | abt. 1300              |            |                |
| Volatile organic compound (VOC) | g/l               | abt. 430                    | abt. 200               |            |                |
| Recommended film thickness      |                   |                             |                        |            |                |
| - wet                           | µm                | 133                         | 158                    |            |                |
| - dry                           | µm                | 60                          | 120                    |            |                |
| Theoretical spreading rate      | m <sup>2</sup> /l | 7.5                         | 6.3                    |            |                |
| Drying time, +23°C / 50 % RH    |                   | (dry film 60 µm)            | (dry film 80 µm)       |            |                |
| - dust free (ISO 9117-3:2010)   |                   | after 1 h                   | after 3 h              |            |                |
| - touch dry (ISO 9117-5:2012)   |                   | after 3 h                   | after 5 h              |            |                |
| Overcoatable, 50% RH            |                   | by itself:                  | by itself:             |            |                |
|                                 |                   | min.                        | max.*                  | min.       | max.*          |
|                                 | <b>+10°C</b>      | after 12 h                  | after 6 months         | after 10 h | after 2 months |
|                                 | <b>+23°C</b>      | after 4 h                   | after 6 months         | after 5 h  | after 1 month  |
|                                 |                   | with INERTA 271 A:          |                        |            |                |
|                                 |                   | min.                        | max.*                  |            |                |
|                                 | <b>+10°C</b>      | after 12 h                  | after 1 month          |            |                |
|                                 | <b>+23°C</b>      | after 4 h                   | after 1 month          |            |                |

\* Maximum overcoating interval without roughening.