

## Technical Data Sheet

### Siliguard Coat V2

Electrically conductive coating for impressed current cathodic protection of steel in concrete



#### Description

Siliguard Coat is an electrically conductive coating specifically designed to provide electrochemical protection, known as impressed current cathodic protection (ICCP), to protect reinforcing steel in concrete from corrosion, in accordance with EN ISO 12696. The current required for cathodic protection is supplied by a DC power source through an anode feeder cable.



#### Features of application

- 1K-Water based solution with low-alkaline content
- solvent free (no VOC)
- non inflammable and incombustible
- long shelf life
- good penetration in concrete
- open porous structure
- sealing is based on formation of polysilicics and carbonates
- reaction products in the substrate are not water soluble
- reaction products are acid resistant

#### Applications

Siliguard Coat is a one-component, inorganic, low-alkaline aqueous composite coating for active corrosion control of reinforcing steel in concrete. Once applied, the coating forms an open, porous structure based on mineral components and provides excellent adhesion and acid-resistant properties.

Siliguard coat can be applied either by brushing, rolling or spraying. Primary anodes like Cu/Nb- or Ti-wire/stripp need to be embedded into the paint for a uniform current distribution. Protection of the steel in concrete is achieved by applying a voltage in the range of 2 - 5 Volts between the paint and the steel in concrete.

The anodic electrochemical reactions taking place on the electrode material produce hydrogen-ions (H<sup>+</sup>) and oxygen gas (O<sub>2</sub>). The acidification by the anode reaction will not harm the paint and the oxygen gas will be easily dissipated by the natural porosity of the paint.

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### SILIGUARD COAT

|                                              |                            |
|----------------------------------------------|----------------------------|
| DENSITY                                      | 1,36 G/CM <sup>3</sup>     |
| SOLIDS BY VOLUME                             | 50%                        |
| EXPECTED SERVICE LIFE                        | MINIMUM 20 YEARS           |
| PH                                           | 12.5                       |
| WET FILM THICKNESS                           | 600 UM                     |
| DRY FILM THICKNESS                           | 300 UM                     |
| THEORETICAL SPREADING RATE                   | 1,2 M <sup>2</sup> /L      |
| ADHESION STRENGTH (AGAINST CONCRETE)         | > 2 MPA                    |
| WATER VAPOUR DIFFUSION : UM H <sub>2</sub> O | 250                        |
| WATER ABSORPTION RATE                        | 350GR/M <sup>2</sup> /H0.5 |
| WATER VAPOUR DIFFUSION THICKNESS : SD        | 0,025 (100 UM)             |
| ELECTRIC RESISTIVITY                         | APPR. 1 OHM.CM             |
| VOLTAGE DROP IN THE COATING                  | < 5% / METER (300 UM)      |
| EXPECTED SERVICE LIFE                        | > 20 YEARS                 |

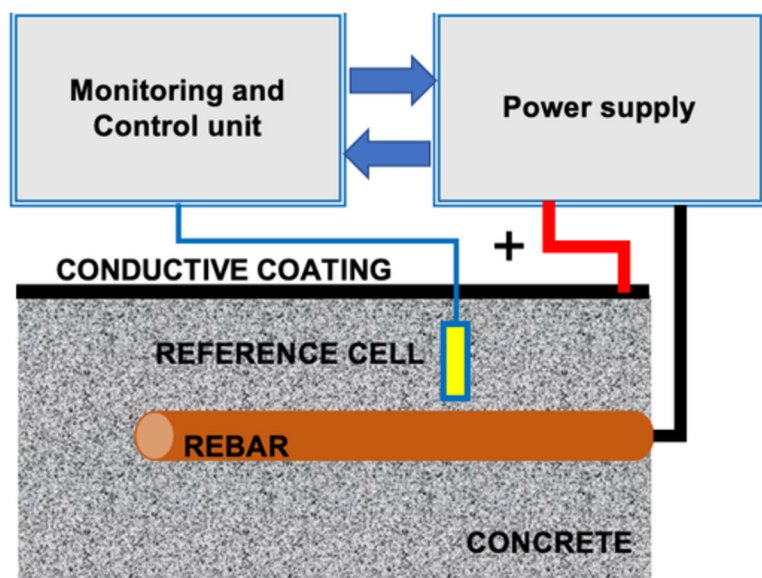
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### ICCP design

In line with other CP systems, a CP system based on Siliguard Coat should be designed by qualified and certified engineers and installed by qualified and experienced contractors.

Please refer to the international standard EN/ISO 12696 "Cathodic protection of steel in concrete" and EN 15257 "Competence levels and certification of cathodic protection personnel".

For further recommendations refer to the General Description and Installation Guidelines.



*All technical data stated in this Technical Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control. The information, and, in particular, the recommendations relating to the application and end-use of CorrPRE's products, are given in good faith based on CorrPRE's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with CorrPRE's recommendations.*

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**Approved by:** R. Giorgini