Siliguard Coat

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

Technical Data Sheet

Product application
Siliguard Coat is an electrically conductive coating specifically designed for giving electro-chemical protection, known as impressed current cathodic protection (ICCP), for the prevention of corrosion of the concrete steel reinforcement according the international standard ISO/EN 12696. The current required for cathodic protection is provided by a DC power source supplied through an anode feeder cable.

Product description
Siliguard Coat is a one component inorganic low alkaline acqueous composite paint for active corrosion control of steel in concrete. Once applied the paint -consisting of concrete's own ingredients with an open porous structure- guarantees excellent adhesion and acid proof 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^+) and oxygen gas (O_2). 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.

Features
- 1K-Water based solution with low alkali content.
- Solvent free (no VOC)
- Non inflammable and incombustible.
- Long shelf life.
- Good penetration.
- 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.

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Technical Information

Siliguard Coat	**Density**	1,36 g/cm^3
	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^2/l
Siliguard Primer	**Density**	1,10 g/cm^3
	Solids by volume	13%
	pH	11
	wet film thickness	100 um
	dry film thickness	10 um
	theoretical spreading rate	5 m^2/l

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.