

REBARGUARD SACRIFICIAL ANODE



Description

Rebarguard is a discrete sacrificial anode applied as a remedial measure to patch repairs to reinforced concrete structures suffering attack from chloride salts.

Many structures suffer continual chloride induced corrosion damage due to incipient anode corrosion damage resulting after concrete repairs. Although the fresh mortar in patch repairs offers a passive environment for the steel within, it does not deal with chloride contaminated concrete outside the patch repair. This leads to further corrosion damage at the periphery of the repair.

Rebarguard anodes redress the electrochemical balance induced through removal of the previously corroding steel in the patch. Rebarguard anodes corrode preferentially to the surrounding steel protecting it from further corrosion damage. Rebarguard anodes also use a flexible attachment system allowing positioning of the Rebarguard anode away from the steel appreciably enhancing current distribution.

Features

- Simple, single low profile unit
- Enhanced attachment system
- Large charge capacity > 150 kC*
- High current density*
- Targetted application

Advantages

- No long term maintenance
- Simple installation
- Enhanced health and safety features
- No long term costs
- Performance can be monitored
- Enhanced current distribution*

- Suitable for all rebar sizes
- Long life*
- Cost effective corrosion control solution

Application

Application shall be in accordance with the 'Installation Guidelines' and is summarised as follows:

Rebarguard anodes are typically applied at a density of 2-9 units/sqm concrete surface, at a spacing of 350-700mm between anodes.

Rebarguard anodes are typically installed at the edge of concrete repairs which have previously been broken out following procedures detailed in national standards.

The individual Rebarguard units are applied to the edges of the patch repair at locations detailed in the design. The units are attached parallel or beneath the rebar using the connectors provided, so as to ensure no direct contact with the steel in order to maximize current distribution. No units shall be applied in the cover zone above the reinforcing steel.

Electrical continuity of the Rebarguard anode conductors and the reinforcing steel shall be confirmed. The Rebarguard units shall then be encased in the repair mortar ensuring complete coverage of the anode surface.

The Rebarguard anode installation can be monitored using half-cell potential surveys, current outputs and reinforcing steel corrosion rate measurements.

Product Data

Packaging : 20 units per box

Storage : Store dry. Do not allow contact with oxidizing materials.

*dependent on local site conditions, including chloride concentration, concrete properties, humidity and temperature.

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Specification Clause

The discrete anode shall be Rebarguard, a sacrificial alloy anode with an integral electrical connection which allows fixing of the anode at a range of distances from the reinforcing steel in order to maximise current distribution.

Ancillary Materials

The following ancillary materials are also available from CPT Ltd;

- Duoguard 500 anodes for treatment of chloride contaminated concrete outside patch repairs
- Manganese dioxide reference electrodes
- Monitoring equipment

Limitations

Patch repair material cover to the Rebarguard unit must be a minimum of 20mm. When installed in a patch repair, the resistivity of the patch repair material should be in the range 50-200% of the parent concrete. Any discontinuous steel should be either electrically bonded to or electrically isolated from the system negative. Any cracks or delaminations in the concrete which affect ionic current flow will affect performance of the Rebarguard unit and should thus be pre-treated.

The time to achieve steel protection will be dependent on site conditions. Depolarisation of treated steel will be slower in moist conditions.

Health and Safety

Protective clothing must be worn. Wear gloves and eye protection at all times.

Design of the Rebarguard system should be undertaken by a competent designer.

Contact details

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