TECHNICAL DATASHEET

RAAC-Guard Strip™

A hybrid anode system which acts to stop and control corrosion in RAAC panels

Uses

RAAC-Guard Strip™ is used to control corrosion and extend the life of RAAC panels through a combination of realkalisation, steel passivation and galvanic corrosion protection. The profile of RAAC-Guard Strip™ makes it ideal for installing into slots in the concrete cover.

Advantages

- Compact size to fit into 6mm (1/4") wide slots
- Quick and easy to install
- Corrosion resistant connection system
- No need to break out contaminated concrete
- Suitable for use in carbonated structures
- Maintenance free
- Pre-mixed bedding mortar in handy cartridges
- Measurable performance
- Up to 20 year service life*

Description

A corrosion control system comprising sacrificial metal strips with pre-connected feeder wire embedded into slots at defined centres and temporarily powered at 8 Volts before connecting to the steel reinforcement via recessed feeder wiring.

During the impressed current phase the environment around the steel reinforcement is realkalised though the generation of inhibitive hydroxide ions and corroding sites on the steel are moved to the surface of the installed RAAC-Guard Strip anodes. At the end of the brief impressed current treatment the RAAC-Guard Strip units are connected to the steel to act as a sacrificial anodes in a long term preventative role.

Application

Application shall be in accordance with the Installation Guidelines, summarised as follows:

Mark up locations for the RAAC-Guard Strip™ units in conjunction with the contract drawings. Cut slots 6mm (¼") wide by 30mm (1¼") to 35mm (1½") deep to accommodate the anode units and 10mm (½") deep to accommodate the pre-connected anode feeder wire. Excavate a small pocket at the centre of the panel to expose a section of steel reinforcement.

Clean the slots and pre -soak with electrolyte for a minimum of 15 minutes. Apply RAAC-Guard DuoCrete P™ mortar into the slots at anode locations using a caulking gun and insert RAAC-Guard Strip™ anodes into the mortar. Ensure that the units are located at the back of the slots and are fully encapsulated in the DuoCrete P™ mortar. Locate the pre-connected feeder wire to the back of the 10mm deep slots. The remaining space at the top of the slots shall be filled with an appropriate low shrink mortar within 2 hours of installation.

Within one day of installation electrically connect the individual RAAC-Guard Strip™ units to the positive terminal of the temporary power supply and the steel to the negative terminal. On each of the seven days the unit is connected to the 8 Volt power supply, spray apply the electrolyte to the panel surface above all rebar locations, locally removing any surface coatings where required.

Using a phenolphthalein test assess the performance of the powered treatment to representative panels in accordance with 9.5 BS EN 14038-1:2016

After the impressed current phase the feeder wire is removed from the temporary power supply and connected to the reinforcing steel. The RAAC-Guard Strip™ units are now operating in galvanic mode, maintaining the steel in a passive state. Fill the steel exposure pocket with an appropriate low shrink repair mortar.

Properties

Product	Thickness	Width	Length	Charge Capacity
RAAC-Guard Strip™	3mm	20mm	150mm	100kC
RAAC-Guard Strip™	3mm	20mm	450mm	300kC
RAAC-Guard Strip™	3mm	20mm	650mm	435kC

Different lengths can be fabricated on request.

Limitations

In order that suitable current flow and lifetime be achieved from the RAAC-Guard Strip™ unit, certain practical considerations should be taken into account. The patch repair material cover for the RAAC-Guard Strip unit must be a minimum depth of 20mm (⅞”). When installed in a patch repair, the resistivity of the 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 delamination in the concrete which affect ionic current flow will affect performance of the RAAC-Guard Strip™ unit and should be pre-treated. During installation, electrical shorts between the RAAC-Guard Strip™ unit and other metal components must be avoided.

*Service life and current density will depend on local site conditions including chloride contamination, concrete properties, humidity and temperature

Packaging

RAAC-Guard Strip™ units are supplied as individual units or in bespoke pre-connected strings of units to meet project requirements.

Storage

Store dry.

Boxes should only be opened when the product is required. The lid of the box should be closed at all times when not in use. Do not remove silica gel.

Do not allow contact with oxidizing materials.

CPT products have specific guidelines shown clearly on the packaging which must be followed to ensure a successful installation.

Ancillary Materials

DuoCrete P™ Mortar

Electrolyte

RAAC-Guard SA, a surface applied anode for internal applications including roof panels.

Precautions - Health and Safety

Health and safety protective clothing, gloves and eye protection must be worn at all times.

Specification Clause

The discrete anode shall be an activated zinc alloy strip with an integral titanium electrical connection which retains the option to operate in both impressed current and sacrificial anode modes. The zinc strip anode shall be embedded into pre-prepared slots using a factory pre-mixed backfill mortar of pH<12.8 which remains pliable for a minimum of 48 hours.

Technical and Sales Support

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