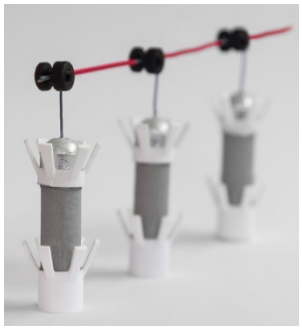
TECHNICAL DATASHEET

PatchGuard™ Connect

An inter-connected sacrificial anode system which acts to control corrosion of reinforcing steel in concrete.



Uses

PatchGuard Connect is used to control corrosion and mitigate cracking and spalling of sound but contaminated concrete where a corrosion risk has been identified.

Advantages

- Compact size
- Quick and easy to install
- Corrosion resistant connection system
- No need to break out contaminated concrete
- Tough and resistant to damage on site
- Can be adapted to comply with BS EN ISO 12696 (2016) standard for cathodic protection of steel in concrete
- Suitable for carbonated and chloride contaminated structures
- No need to pre-soak anodes
- Pre-mixed embedding mortar in handy cartridge
- Measurable performance
- Up to 20 year service life*

Description

A corrosion control system comprising zinc alloy units, with integral titanium connecting wires, used in conjunction with polymeric screw connectors, XLPE coated titanium feeder wire and a specially formulated backfill mortar. PatchGuard Connect is a proven effective method of adopting BS EN 1504 Part 9 Principle 10 (cathodic protection by applying an electrical potential). When installed into sound but carbonated or chloride contaminated concrete, typically in strings of up to 40 anodes, the PatchGuard Connect system will provide corrosion control within the zone of influence of the installed anodes.

Application

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

Mark up locations for the PatchGuard Connect units and saw cuts in conjunction with the contract drawings. The spacing between anodes is typically 400mm (16") to 500mmm (20") and will depend on local conditions and steel density. Drill a 25mm (1") diameter hole to a depth of 30mm (1¼") greater than the anode length and cut chases 4mm (3/16") wide x 15mm (⅝") deep for recessing the titanium feeder wires. No reinforcing steel shall be exposed as this may cause electrical shorts. Remove a small area of cover concrete and drill a 4mm (3/16") hole. Using steel rivets connect the titanium wire at both ends of each string of anodes (max no. 40) to the exposed steel.

Clean and then wet the anode holes for a minimum of 15 minutes and remove excess water. Position the anodes in the drilled holes. Connect the anodes to the feeder wire using the plastic screw connectors and twist excess wire from the PatchGuard around the titanium feeder wire to ensure continuity. A multi meter shall be used to check the connection between the PatchGuard Connect anode and the feeder wire and the feeder wire to the steel. Remove the anodes from the holes and apply DuoCrete PG mortar using a caulking gun and hose extension. Insert PatchGuard units into the mortar which shall flow 20mm (⅞") from the concrete surface. The remaining void at the top of the anode hole, titanium wire chases and steel connection excavations shall be filled with an appropriate low shrink mortar within 2 hours of installation.

Properties

Product	Diameter	Length	Zinc Weight
PatchGuard Connect 175	18mm (¾")	42mm (1⅝")	62g
PatchGuard Connect 350	18mm (¾")	77mm (3")	120g
Patchguard Connect 400	18mm (¾")	95mm (3¾")	160g
PatchGuard Connect 500	18mm (¾")	115mm (4½")	180g

Limitations

In order that suitable current flow and lifetime can be achieved from the PatchGuard Connect anode, certain practical considerations should be taken into account.

The patch repair material cover for the PatchGuard Connect unit must be a minimum depth of 20mm. When installed in a previous patch repair, the resistivity of the repair material should be in the range of 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 PatchGuard Connect unit and should thus be pre-treated.

*Service life will depend on local site conditions including chloride concentration, concrete properties, humidity and temperature.

Packaging

25 units per tub plus polymeric screw connectors.

Storage

Store dry.

Tubs should only be opened when the product is required.

The lid of the tub should be closed at all times when not in use. Do not remove silica gel.

Do not allow contact with oxidizing materials.

Ancillary Materials

DuoCrete PG Mortar

XLPE coated titanium feeder wire

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 a sacrificial alloy anode with an integral titanium electrical connection which allows fixing of the unit to an insulated titanium feeder wire by use of a polymeric screw connector. The anode unit shall be embedded within a drilled hole of maximum 27mm (1 1/16") diameter using a factory pre-mixed backfill mortar of pH<12.8 which remains pliable for a minimum of 48 hours.

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