

PatchGuard™ Plus

Technical Datasheet



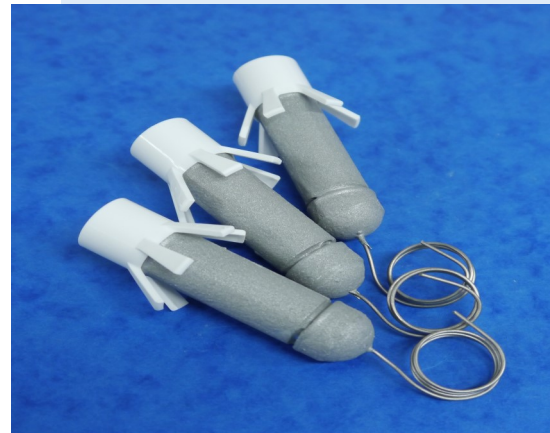
Description

PatchGuard Plus is a discrete sacrificial anode applied to patch repairs on reinforced concrete structures which are corroding as a result of chloride ingress or concrete carbonation.

Many structures suffer corrosion damage due to the incipient effect following concrete patch repairs. Although the fresh mortar in patch repairs halts corrosion of the steel within, it does not deal with chloride contaminated concrete outside the patch repair which is the cause of the corrosion. This leads to further corrosion damage at the periphery of the repair.

PatchGuard Plus anodes redress the electrochemical imbalance induced through removal of the corrosion process from steel in the patch. PatchGuard Plus anodes corrode preferentially to the surrounding steel, protecting it from further corrosion damage.

PatchGuard Plus anodes are located within the parent concrete. Protective current is thus delivered directly to the steel outside the patch which is at greatest corrosion risk as opposed to clean steel within the patch repair. In addition, there is no compromise in the quality of the concrete repair material that can be used in reinstatement, as is typically the case for sacrificial anodes placed within patch repairs. The insulating properties of bonding primers prevents their use with traditional patch anodes – however, as PatchGuard Plus is placed in the parent concrete primers may be used which leads to an enhanced repair bond.



Features

- Simple, single small volume unit
- Corrosion resistant attachment system
- Rapid installation—no additional break out
- Bonding primers can be used
- High resistivity repair mortars can be used
- Targeted application
- Pre-packaged application mortar

Product Data

Packaging: 25 Units per tub.

Storage: Tubs should only be opened when Product is required.

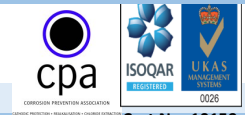
The lid of the tub should be closed at all times

When not in use. Do not remove silica gel!

Ancillary Material

The following ancillary materials are also available from CPT Ltd;

- PatchGuard and PatchGuard Plus
- Manganese dioxide reference electrode
- Monitoring equipment



Cert No. 10159

ISO 9001

PatchGuard™ Plus

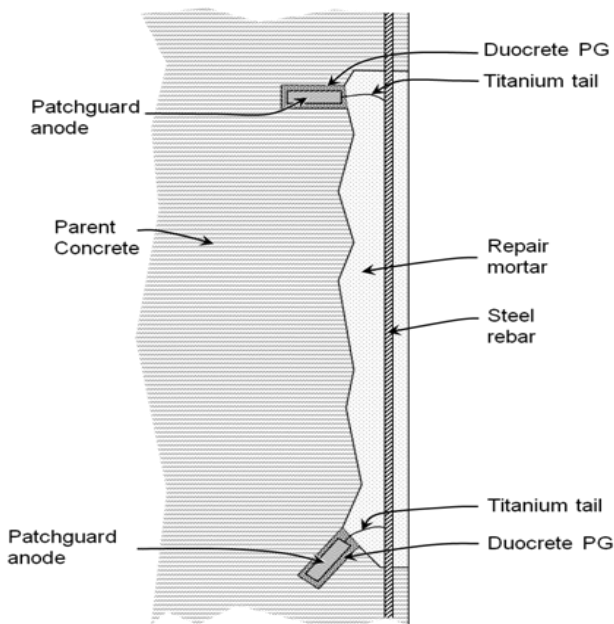
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Application

A location for the discrete anodes as close as practical to the edge of the broken out repair shall be selected and holes drilled into the parent concrete within the patch at locations identified by the engineer. A hole of dimensions 25 mm diameter by 80 mm long shall be drilled to house the PatchGuard Plus anode unit.

Pre-wet the drilled hole with water for a minimum of 15 minutes. Once the excess water has been removed



from the bottom of the hole, DuoCrete PG mortar shall be applied into the hole with a nozzle to ensure no entrapment of air voids within the mortar matrix. The PatchGuard Plus anode shall be placed into the hole and inserted such that the DuoCrete PG mortar surrounds the whole unit.

The protruding titanium wire from the anode shall be directly connected to the clean reinforcing steel within the patch repair by winding at least twice around the rebar and fixing the tail with the supplied wire and twisting tool.

Electrical continuity of the PatchGuard Plus anode conductors and the reinforcing steel shall be confirmed. The patch repairs shall be immediately reinstated.

Health and Safety

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

Specification Clause

The discrete anode shall be PatchGuard a sacrificial alloy anode with an integral electrical connection which allows fixing of the anode at a range of distances from the reinforcing steel and which is formed of a material more noble than steel, the anode unit being embedded within a hole within the patch using a backfill mortar of Ph<12.5, which remains pliable for >48 hours.

Limitations

Concrete repair material cover to the PatchGuard unit must be a minimum of 20 mm.

Concrete repairs must be undertaken in accordance with EN 1504. Any discontinuous steel should be electrically bonded to ensure continuity.

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

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