

The RebaGuard™ & RebaGuard™ Plus Sacrificial Anode

Installation Guidelines



This installation methodology is an outline – modifications will be made for local site requirements and will be identified in the final specification.

1.0 Preliminaries

The structure should be assessed prior to application of the RebaGuard technology as follows;

- 1. The reinforcement continuity:** shall be proven on site by measuring the electrical resistance between reinforcing bars in mutually remote locations across the structure and between reinforcing bars exposed during concrete repairs or other works following the method and acceptance criteria as specified in ISO 12696:2012, clause 7.1.
- 2. Assessment:** The structure should be assessed to ascertain the mechanism and extent of the corrosion problem. Typically chloride content, carbonation depth, concrete cover and steel half-cell potentials shall have been obtained.
- 3. Preparation:** Break out the areas of concrete to be repaired according to guidelines in EN1504 and any relevant specifications for the works.



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The RebaGuard™ & RebaGuard™ Plus Instillation Guidelines



2.0 Installation

1. Prior to installing the anode unit, the reinforcing steel should be fully exposed as detailed in EN1504. The anode location should be identified as close to the edge of the repair patch as practicable.
2. Clean the rebar in the location where the anode unit will be attached, removing electrically insulating materials to ensure a sound electrical connection between anode and steel.
3. Pre-soak the RebaGuard anode unit in clean water for 10 to 30 minutes prior to installation. Handle all RebaGuard anode materials with appropriate safety equipment.
4. Immediately apply the pre-soaked RebaGuard unit to the reinforcing steel at the specified location using the steel tie wires provided. The tie wire should be threaded through the tying point on the anode and wrapped around the steel reinforcing bar. A metal tool should be used to tighten the steel ties thus attaching the RebaGuard anode to the reinforcing steel bar. Additional steel wire ties should be applied if the RebaGuard unit is to be applied between reinforcement bars or if the anode exhibits significant movement relative to the steel bar which may compromise the patch repair.



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The RebaGuard™ & RebaGuard™ Plus Installation Guidelines



5. Once the anode is in position, use a meter to confirm that the RebaGuard unit is electrically connected to the reinforcement. Use a high impedance multimeter to measure the resistance between the (clean) steel bar and the wire protruding from the RebaGuard unit. Resistance must be less than 1 ohm—if not then the anode must be removed and re-attached. The electrical resistance of all anodes should be recorded as follows;

Unit	Data Test	Electrical Resistance/ ohm

A copy of this data shall be handed to the engineer/client and Concrete Preservation Technologies Ltd at the end of the project.

6. A bridging mortar can be used to initially embed the RebaGuard anode ensuring complete coverage of the anode surface, prior to reinstatement of the complete repair with EN1504 approved repair mortar. The bridging mortar has a low resistivity which allows current to more easily flow from the sacrificial anode unit to the adjacent reinforcing steel.
7. Patch repair material cover to the RebaGuard unit must be a minimum of 20mm

NOTE: Insulating patch repair materials and primers (eg. Epoxy modified) shall not be used with the RebaGuard anodes as this compromises current flow from the anodes to the parent concrete outside the patch.



The patch repair should be completed ensuring the RebaGuard unit is not disturbed.



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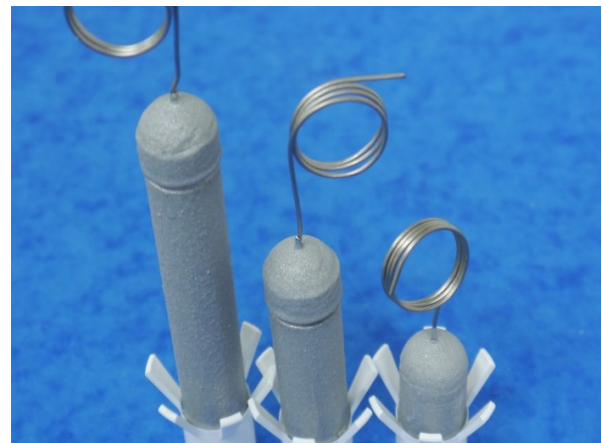
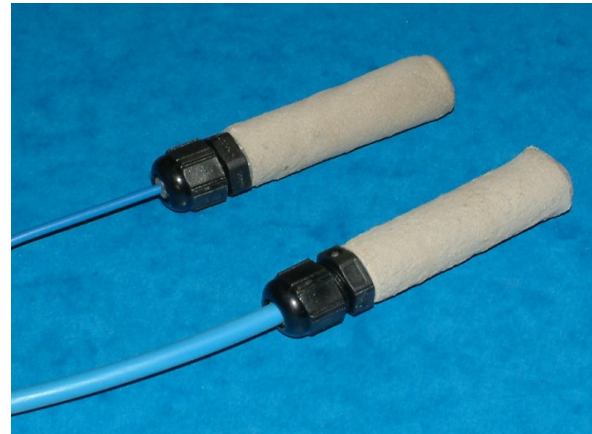
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The RebaGuard™ & RebaGuard™ Plus Installation Guidelines



3.0 Other Materials

1. **MN15 manganese oxide reference electrode**
In order to monitor the performance of the RebaGuard anode units a reference electrode can be used to establish extent of protection offered.
2. **PatchGuard sacrificial anode**
PatchGuard anodes are 2nd generation sacrificial anodes used in the protection of rebar surrounding patch repairs. PatchGuard anodes are drilled into the parent concrete and thus provide enhanced protection, without the requirement for low resistivity repair materials.



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