

Galvashield® XP Product Line

Installation Instructions

INSTALLATION INSTRUCTIONS

The Galvashield XP Product Line is designed to mitigate corrosion of reinforcing steel in concrete. In concrete restoration, Galvashield XP anodes are used in locations where an interface between the new repair mortar/concrete and the existing chloride contaminated or carbonated concrete creates a high potential for future corrosion (for more information, refer to “Galvashield Theory” and “Corrosion Management Strategies”). Galvashield XP anodes are simply tied to the existing reinforcing steel along this interface or around the perimeter of the repair area or on a grid within the repair area to protect a second layer of steel if necessary.

The anodes should be installed as close as practical to the edge of the repair area (preferably within 4 in. or 100 mm) while still providing sufficient clearance for the anode to be completely surrounded by the repair mix. Anode spacing shall be as specified by the designer. For additional information, refer to the Galvashield XP Product Line data sheet or contact Vector Corrosion Technologies.

INSTALLATION PROCEDURE

1. As in standard concrete repairs, all old/loose concrete should be removed from around and behind the steel reinforcement inside the repair area in accordance with good concrete repair practice.

Provide sufficient clearance between the anode and the substrate concrete (minimum of $\frac{3}{4}$ in. [19 mm] or $\frac{1}{4}$ in. [6 mm]

larger than the biggest aggregate in the repair material, whichever is greater).

2. The exposed rebar in the repair area shall be thoroughly cleaned to remove all residual concrete and rust residue to facilitate a good electrical connection where anodes will be attached. Prior to installation, electrical continuity of the rebar within the repair area should be confirmed with the use of an appropriate meter.

Note: When checking electrical continuity DC resistance of 1 ohm or a potential difference of 1 mV or less is acceptable. Discontinuities can be corrected by wiring the “unconnected” bar to adjacent bars using standard steel tie wire.

3. Securely fasten anode in place with the attached tie wire and wrap the tie wires around the clean reinforcing steel at least one full turn in the opposite directions and bring the two free ends together and twist tight. The minimum cover of the repair material over the anodes should be $\frac{3}{4}$ in (20 mm). Galvashield XP2 and XP4 anodes with the BarFit™ groove and Galvashield XPT anodes are placed along side the steel.

4. Once installed, electrical continuity between the anode tie wires and the rebar should be confirmed using an appropriate meter. (Maximum DC resistance of 1 ohm or potential difference of 1mV).

5. Repair material must have a resistivity below 50,000 ohm•cm. Products with significant polymer

modification and/or silica fume content may not be suitable. Similarly, if bonding agents are used, they should have suitable conductivity. Insulating materials such as epoxy bonding agents should not be used. If higher resistance repair materials are to be used, anodes should be installed with Galvashield Embedding Mortar (contact Vector for further details).

Note: If rebar coatings are to be used, care should be taken to ensure the anode and tie wires do not become coated or the connection between the anode tie wires and the rebar is not lost.

6. Complete the repair following normal concrete repair procedures, taking care not to create any voids around the anode. Do not soak the anode units for greater than 20 minutes.

STORAGE INSTRUCTIONS

Store in dry conditions in the original unopened box. Avoid extremes of temperature and humidity. Units should be installed within 2 years.

HEALTH AND SAFETY

As with all cement-based materials, contact with moisture can release alkalis which may be harmful to exposed skin. Galvashield anode units and Galvashield Embedding Mortar should be handled with suitable gloves and other personal protective equipment in accordance with standard procedures for handling cementitious materials. Additional safety information is included in the Safety Data Sheet.

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