GALVANIC SYSTEMS

Vector™ Galvashield® XP

Installation Instructions

The Galvashield XP anode unit is designed to mitigate corrosion of reinforcing steel in concrete. In concrete restoration, the Galvashield XP anode can be 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”). The Galvashield XP anode is simply tied to the existing reinforcing steel along this interface or around the perimeter of the repair area.

For maximum performance, the anodes should be installed as close as practical to the edge of the repair area (within 6 in. or 150mm) 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 however anode spacing should not exceed 30 inches (750mm) on center. Structures containing heavy reinforcement or exposure to a particularly corrosive environment require reduced spacing (See data sheet for spacing guidelines). For additional information, refer to the Galvashield XP data sheet or contact Vector Corrosion Technologies.

Installation Procedure

1. As in standard patch 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 ¾ in. [19 mm] or ¼ in. [6 mm] larger than the top size aggregate in the repair material, whichever is greater).

2. The exposed rebar in the repair area shall be thoroughly cleaned to bright metal 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 1mV or less is acceptable. Discontinuities can be corrected by wiring the “unconnected” bar to adjacent bars using standard steel tie wire.

3. Presoak anode units thoroughly in a shallow bath of clean water for a mimimum of 10 minutes to a maximum of 20 minutes.

4. Securely fasten anode in place with attached tie wires. If the anode is to be tied onto a single bar, or if less than 1 inch (25 mm) of concrete cover exists, place anode beneath the bar (away from the surface of the concrete). If sufficient cover exists, the anode may be placed at the intersection between two bars and secured to each clean bar.

Level of Protection	Description	Galvashield XP
Corrosion Prevention	Preventing new corrosion activity from initiating	•
Corrosion Control	Significantly reducing on-going corrosion activity	
Cathodic Protection	Highest level of protection intended to stop on-going corrosion activity	

5. Once installed, electical contiuity 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.

6. Repair material must have a resistivity below 15,000 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 high 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.

7. Complete the repair following normal concrete repair procedures, taking care not to create any voids around the anode.

Health and Safety Information

As with all cement based products, contact with water/moisture can release alkalis which may be harmful to exposed skin. Avoid contact with skin. Wear suitable gloves and other personal protective equipment in accordance with standard practices for handling cement based materials. Additional safety information is provided in the Galvashield XP Material Safety Data Sheet (MSDS).

Storage Instructions

Avoid extremes of temperature and humidity. Anodes are not particularly vulnerable to storage conditions but should be installed within 1 year.

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