

Galvanode® ZincSheet™

Surface Mounted Galvanic Protection System

DESCRIPTION

Galvanode® ZincSheet is used to provide galvanic corrosion protection to reinforced concrete structures. The system is applied to concrete surfaces and connected electrically to the embedded reinforcing steel. Once installed, the zinc anode corrodes preferentially to the surrounding rebar, thereby providing galvanic corrosion control or cathodic protection to the adjacent reinforcing steel.

The Galvanode® ZincSheet system consists of high purity zinc sheets, ionically conductive acrylic adhesive, and a removable protective liner. This sheet is supplied in rolls with a width of 9.8 in. (25 cm) and length of 66 ft. (20 m). For applications where the anode should be protected from the environment, the zinc sheet and surrounding concrete is protected by a reinforced elastomeric waterproof coating system.



Building Structure Application

APPLICATIONS

- Balconies and walkways
- Columns and beams
- Bridge decks
- Parking garages
- Concrete slab edges
- Prestressed concrete
- Post-tension anchor protection

** As with all galvanic protection systems, service life and performance is dependent upon a number of factors including reinforcing steel density, concrete conductivity, chloride concentration, temperature, humidity and anode spacing.*

Level of Protection	Description	ZincSheet™
Corrosion Control	Reduces on-going corrosion activity	•
Cathodic Protection	Reduce or eliminate on-going corrosion activity	•

FEATURES AND BENEFITS

- **Proven technology** - high level of protection as demonstrated in laboratory and field installations.
- **Focused protection** - installed to protect specific areas of a structure or for global protection of entire structural elements.
- **Economical** - cost effective corrosion mitigation solution.
- **Versatile** - effective with carbonated and chloride- contaminated concrete. Can be used for both conventionally reinforced and prestressed or post-tensioned concrete.
- **Low maintenance** - requires no external power source or system monitoring.
- **Measurable** - anode performance can be easily monitored if required.
- **Long lasting** - 10 to 15 year service life* reduces the need for future repairs.

(more electronegative) will corrode in preference to the more noble metal. In concrete repair applications, the Galvanode® ZincSheet system will corrode in favor of the reinforcing steel, thus providing galvanic corrosion control or cathodic protection. When utilized, the waterproof coating provides protection to the anode and reduces chloride, carbonation, and oxygen ingress into the concrete structure.

SPECIFICATION CLAUSE

Surface mounted galvanic sheet anodes shall be Galvanode® ZincSheet, a pre-manufactured anode unit consisting of a 10 mil (250 micron) thick 99.9% pure zinc sheet with an ionically conductive pressure sensitive acrylic adhesive. Installation shall be as per the manufacturer's recommendations. Applications that will be subject to saturated conditions such as ponded or running water shall be protected by a suitable reinforced waterproof coating system. Contact Vector Corrosion Technologies for complete specification details.

HOW IT WORKS

When two dissimilar metals are coupled together in an electrolyte, the metal with the higher potential for corrosion



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INSTALLATION INSTRUCTIONS

Surface Preparation

Complete any repairs required prior to installation of Galvanode® ZincSheet. Concrete repair materials should be compatible with installation of galvanic protection systems and shall have resistivity less than 15,000 ohm-cm. Remove non-conductive or high resistance materials such as existing coatings, dirt, grease and other contaminants. Surface should be clean and dry to achieve proper bond and performance. Smooth concrete surfaces are preferable however moderate surface roughness less than or equivalent to International Concrete Repair Institute's Concrete Surface Profile #6 (ICRI CSP #6 - Medium Scarification) is acceptable.

Installation

Make connections to the reinforcing steel at a rate of one connection per 500 ft² with a minimum of two connections per individual structural element to be protected. All connections should be coated with 100% solids non-conductive epoxy. Verify the electrical continuity of the reinforcing steel by using a high impedance multimeter. Any steel found to be discontinuous should be bonded to continuous steel with steel tie wire or other approved means.

Cut the individual sheet to the appropriate length using heavy scissors or tin snips. Pull back a small section of the plastic liner to expose the adhesive and place the edge of the sheet onto the concrete in the proper position. ZincSheets are typically applied in the longest direction. Sheets should be installed within 3 in. (75 mm) of the outside perimeter of the area to be protected. Slowly remove the liner and manually press the anode sheet onto the concrete surface. Rub the anode sheet along its full surface area with a rubber



Bridge Substructure Application

mallet or roller to ensure no voids exist. Continue to apply additional zinc sheets at the recommended spacing. Install plastic "Christmas tree" anchors at the corners of the Galvanode® ZincSheet and along the sheet edges at a 3 ft (0.9 m) spacing.

If more than one zinc sheet anode is used, connect the sheets together by soldering or approved mechanical connections. Seal all sheet connections with epoxy. Run all wires from anode sheets and rebar connections to a junction box in an accessible location. Connect all anode and rebar connection wires.

Seal anode strip edges with approximately ½ in. (12 mm) band of polyurethane sealant to protect from moisture intrusion under the anode sheet. For additional protection from saturated conditions, install reinforced waterproof coating over the entire anode and concrete surface.

PRECAUTIONS

Galvanode® ZincSheet is not intended to address or repair structural damage. Where structural damage exists, consult a structural engineer. Galvanode® ZincSheet is designed to provide galvanic corrosion control or cathodic protection. Corrosion control products are designed to reduce or stop on-going corrosion. For more information on corrosion mitigation strategies, contact Vector Corrosion Technologies.



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PACKAGING

Galvanode® ZincSheet 66 ft (20 m) long rolls 12 rolls per pallet

STORAGE

Store away from direct sunlight in dry conditions in the original unopened packaging. Avoid extremes of temperature and humidity. Sheets should be installed within one year of manufacture.

LIMITATIONS

Short duration exposure temperature range is -40 to 160oF (-40 to 70o C). Application temperature range is 40 to 120oF (4 to 50o C). Protect installed anode sheets from exposure to water and other liquids, traffic, abrasion and mechanical damage.

HEALTH AND SAFETY

Wear appropriate personal protective equipment. Use protective gloves to protection from sharp edges of the zinc sheet. Wash any affected area with soap and water. Additional safety information is included in the Safety Data Sheet.

ABOUT VECTOR

Vector Corrosion Technologies takes pride in offering technically advanced, cost effective corrosion protection solutions to extend the service life and improve the durability of concrete and masonry structures around the world. Vector has earned numerous project awards and patents for product innovation and is committed to a safe, healthy and sustainable environment.

For additional information on concrete preservation and sustainability, visit **WeSaveStructures.Info**. For additional information or technical support, please contact any Vector office or our extensive network of international distributors.

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