GALVANIC SYSTEMS

# Vector™

# Galvanode® DAS

## Distributed Anode System for Corrosion Control and Cathodic Protection

### Description

Galvanode DAS is a distributed anode system designed to provide corrosion control or cathodic protection to concrete decks, columns, beams and walls. Galvanode DAS galvanic anode system is distributed over concrete and masonry structures to provide global corrosion protection.

The quantity of zinc provided, the anode shape, electrical components and installation procedures can be customized to meet specific project requirements. Individual Galvanode DAS anode components are typically square, rectangular or circular in cross section and can be supplied in lengths of up to 7.5 ft (2.3 m). The system is quickly and easily installed to provide corrosion protection for a variety of applications. The system can be encased in new concrete, embedded in concrete overlays, encapsulated inside reinforced concrete jackets or used in conjunction with stay-in-place FRP or steel jackets for column and pile protection.

### Applications

- Bridge and marine structures
- Power and industrial plant rehabilitation
- Concrete jacketing/section enlargement
- Galvanic jackets for columns and piles
- Galvanic deck overlays
- Service life extension in severe service conditions
- Conventionally reinforced and prestressed/post-tensioned concrete

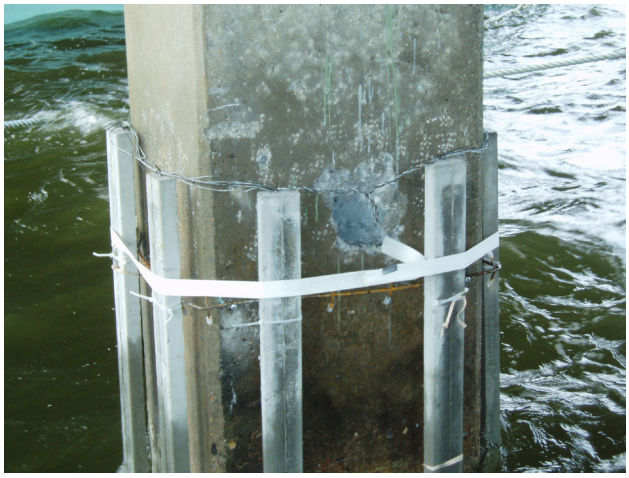
### Features and Benefits

- **Proven technology** - supported by independent test program.
- **High capacity** - can provide more zinc and more current output than other galvanic anode systems. .
- **Design flexibility** - anode design and spacing can be customized to meet project performance requirements and service life objectives.
- **Versatile** - can be used for both conventionally reinforced and prestressed or post-tensioned concrete.
- **User friendly** - installation is quick and easy, requiring no specialized equipment.
- **Low maintenance** - requires no external power source or system monitoring.
- **Measurable** - system performance can be easily monitored if required.
- **Embedded system** - provides more uniform performance, eliminates risk of vandalism.
- **Long lasting** - 10 to 20 year service life* reduces the need for future repairs.

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

*Galvanic anode system on bridge pier prior to concrete placement*

| Level of Protection | Description | Galvanode DAS |
|---|---|---|
| Corrosion Prevention | Preventing new corrosion activity from initiating | • |
| Corrosion Control | Significantly reducing active corrosion | • |
| Cathodic Protection | Stopping active corrosion by applying on-going electrical current | • |
| Corrosion Passivation | Stopping active corrosion by changing the concrete environment around the steel | |



*Galvanic anode system on bridge column prior to encasement in concrete jacket*

# Vector™
# Galvanode® DAS

## Specification
Galvanic protection shall be provided using Galvanode DAS as manufactured by Vector Corrosion Technologies. Galvanode DAS anode system shall consist of pre-manufactured activated anode components consisting of zinc in compliance with ASTM B418-95a Type I, or ASTM B69 with integral chemical activator. The zinc anode components shall be manufactured such that the zinc contains integral activator and sufficient porosity to accomodate anode corrosion products. Each Galvanode DAS anode component shall be supplied with integral electrical lead wires for connecting to the reinforcing steel.

## How It Works
When two dissimilar metals are coupled together in an electrolyte, the metal with the higher potential for corrosion (more electronegative) will corrode in preference to the more noble metal. In concrete applications, the Galvanode DAS zinc anode component corrodes in favor of the reinforcing steel and produces an electrical current that mitigates corrosion activity.

## Design Criteria
Galvanode DAS distrubuted anode system can be used for corrosion prevention, corrosion control or cathodic protection applications. Anode design and spacing are varied to meet project objectives. Anode spacing generally ranges between 6 in. (150 mm) and 30 in. (750 mm) on center depending upon project objectives, the severity of the service environment and expected service life of the anode components. For assistance with system design, please contact Vector Corrosion Technologies.

## Installation Instructions
Galvanode DAS distributed anode system is used for a wide range of applications. Specific application procedures are developed on a project-by-project basis. For additional information, please contact Vector Corrosion Technologies.

## Precautions
Galvanode DAS distributed anode system is not intended to address or repair structural damage. Where structural damage exists, consult a structural engineer.

## Packaging

| | |
|---|---|
| Galvanode DAS Distributed Anode System | Custom-packaged based on project requirements. For additional information, contact Vector Corrosion Technologies. |

***Galvanic anode system on bridge deck prior to placement of reinforced conrete overlay***

## Storage
Store in dry conditions in the original unopened containers. Take special precaution not to damage anode components during transportation or while handling. Avoid extremes of temperature and humidity. System should be installed within one year.

## Health and Safety
Contact with moisture can release alkalis which may be harmful to exposed skin. Anode components should be handled with suitable gloves and other personal protective equipment in accordance with standard procedures for handling cement and other alkaline materials. Additional safety information is included in the Material Safety Data Sheet.

## Related Documents
A range of related documents are available including installation instructions, guideline specifications, project histories, applications, and MSDS. For more information, contact Vector Corrosion Technologies.

## About Vector
Vector Corrosion Technologies is a member of the Vector Construction Group, a privately owned corporation with 11 offices throughout the United States and Canada. The company takes pride in offering technically advanced cost effective solutions for concrete structures subject to corrosion damage and has earned numerous awards and patents for product innovation. As evidenced by the Corporate Safety and Environmental Policies, Vector is commited to a safe, healthy and sustainable environment.



14000 - 2009Apr01

Vector Corrosion Technologies Ltd. 474 Dovercourt Drive Winnipeg, MB R3Y 1G4
Vector Corrosion Technologies, Inc. 13312 N. 56th Street, #102, Tampa, FL 33617



VECTOR CORROSION TECHNOLOGIES
www.vector-corrosion.com

CAN: Phone: (204) 489-6300 Fax: (204) 489-6033
USA: Phone: (813) 830-7566 Fax: (813) 830-7565
Email: info@vector-corrosion.com