

Galvashield® DAS

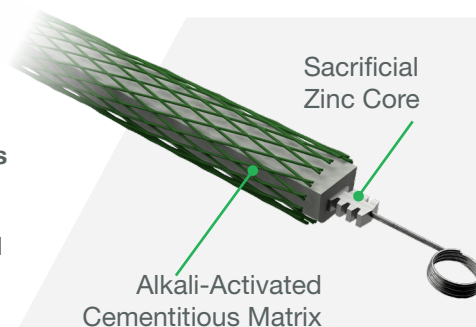
Distributed Anode Corrosion Protection System

GALVANIC SYSTEMS



Galvashield® DAS is a distributed anode system that is quickly and easily installed to provide corrosion protection for a variety of applications, such as new concrete, embedded in concrete overlays, encapsulated inside reinforced concrete jackets or used in conjunction with stay-in-place forms for column protection. Galvashield® DAS anode units are distributed over concrete and masonry structures to provide global corrosion protection. They can also be used for targeted protection such as bridge widening and new/old concrete interfaces.

Galvashield® DAS anodes contain alkali-activated mortar cast around a high-purity zinc core. The anode size, electrical components and installation procedures are customized to meet specific project requirements. For applications where anodes will be installed in submerged or tidal conditions i.e. marine piles, use Galvashield® DAS Marine anodes.



	DAS		DAS-X	
Zinc Weights	0.6 lb/ft	0.89 kg/m	1.65 lb/ft	2.45 kg/mt
Lengths	Recommended 39 in (100 cm), can be customized to meet project requirements			
Anode Dimensions	1.1" x 1.5" 28 mm x 38 mm		1.25" x 2" 32 mm x 50 mm	
Custom Ordering Example	DAS – 32 in		DAS-X – 100 cm	

Features and Benefits

- **Proven technology** – supported by independent test program.
- **High capacity** – can provide more zinc and more current output than many other galvanic anode systems.
- **Design flexibility** – anode design and spacing is customized to meet project performance requirements and service life objectives.
- **Cathodic protection** – can be designed to meet cathodic protection performance criteria.
- **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 40 year service life* reduces the need for future repairs.

Applications

- Bridges, piers and wharves
- Power and industrial plant rehabilitation
- Concrete jacketing/section enlargement
- Galvanic jackets for columns
- Galvanic jackets for walls
- Joint repairs and widening
- Service life extension in severe service conditions
- Conventionally reinforced, prestressed and post-tensioned concrete
- New construction

**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.*





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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 Galvashield® DAS anode unit corrodes in favor of the reinforcing steel and produces an electrical current that mitigates corrosion activity.

Design Criteria

Galvashield® DAS distributed galvanic anode system can be used for corrosion prevention, corrosion control or cathodic protection applications. Anode spacing can vary from 6 in. (150 mm) to 30 in. (750 mm) on center depending upon project objectives, the severity of the service environment and expected service life of the anode components. In environments with average annual temperatures higher than 15°C (60°F) or more corrosive conditions such as marine exposure, Galvashield® DAS-X is recommended. For more information on the design methodology or to receive a custom design, contact Vector Corrosion Technologies.

Installation Requirements

Galvashield® DAS distributed anode systems are used for a wide range of applications. Specific application procedures can be developed on a project-by-project basis. For additional information, please contact Vector Corrosion Technologies.



Galvashield® DAS installed into a new concrete beam prior to forming and casting.

Specification Clause

Galvanic protection shall be provided using Galvashield® DAS anode units as manufactured by Vector Corrosion Technologies. The distributed galvanic anode units shall be alkali-activated with a pH greater than 14 and shall not contain intentionally added constituents that are corrosive to reinforcing steel as per ACI 222R such as chlorides, bromides, or other halides. The zinc shall be manufactured with zinc that is compliant with ASTM B418 Type II (Z13000) and ASTM B6 Special High Grade (Z13001) with iron content less than 15 ppm and shall be evenly distributed around a steel core which is continuous along the length of the unit. For a specification clause including alternative requirements, please see our sample specification available at Vector-Corrosion.com/das.

Precautions

Galvashield® DAS distributed anode system is not intended to address or repair structural damage. Where structural damage exists, consult a structural engineer. For applications where wetting may occur prior to concrete placement, limit water exposure to 20 minutes or less. For submerged applications such as tidal zone protection, use Galvashield® DAS Marine or Tidal anode units. For optimum performance, encasement concrete resistivity should be less than 50,000 ohm-cm.



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Storage

Store in dry conditions in the original unopened containers for up to one year from date of manufacture. System should be installed within one month of opening container. Take special precaution not to damage anode components during transportation or while handling. Avoid extremes of temperature and humidity.

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 Safety Data Sheet.

Related Documents

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

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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