

Galvashield® SM-DAS

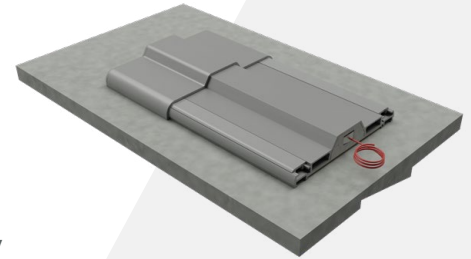
GALVANIC SYSTEMS



Surface Mounted Distributed Anode Corrosion Protection System

Galvashield® SM-DAS is a surface mounted distributed anode system designed to provide corrosion control or cathodic protection to steel reinforced concrete structures.

Galvashield® SM-DAS anode units are distributed across reinforced concrete and masonry structures to provide global corrosion protection or can be used to target specific sections with high corrosion risk such chloride contaminated concrete around joints and areas with high corrosion potential. Galvashield® SM-DAS anodes contain alkali-activated mortar cast around a high purity zinc core. Once installed, the zinc anode corrodes preferentially to the surrounding steel reinforcement, thereby providing galvanic corrosion control to the embedded reinforcing steel. The quantity of zinc provided, the anode length, electrical components and installation procedures are customized to meet specific project requirements.



Features and Benefits

- **Proven technology** – utilizes Galvashield® technology which is supported by independent test program and over 20 years of real world performance data.
- **Fast installation** – the surface mounted anode tray has been designed for maximum installation efficiency.
- **Long lasting** – the designed 10 to 40 year anode life* reduces the need for future repairs.
- **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.
- **Convenient replacement** – surface mounted anodes can be easily removed and replaced when needed.
- **Economical** – save time and money by targeting only the remaining areas of high corrosive risk.
- **Versatile** – effective in chloride contaminated and carbonated 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.
- **Mechanically bonded** – anchors ensure bond to structure is maintained throughout the service life of the anode.
- **Fire & heat resistance** – rated 5VA under UL 94, the anode housing uses uPVC material which is combustible but also naturally flame retardant and will not cause, support or encourage the development of fire.
- **Cathodic protection** – can be designed to meet cathodic protection performance criteria.
- **UV resistant** – anode housing is made with uPVC which is the same material used in vinyl house siding. uPVC has excellent durability in outdoor environments, including high UV degradation resistance.

Applications

- Columns and beams
- Parking structures
- Concrete tanks
- Prestressed concrete
- Bridges, piers and wharfs
- Bridge deck soffits
- Power and industrial plant rehabilitation
- Service life extension in severe service conditions
- Shallow or thin concrete members
- Double T beams

**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.*



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How it Works

When two dissimilar metals are coupled together in an electrolyte (concrete), the metal with the higher electronegative potential for corrosion (zinc) will corrode in preference to the more noble metal (reinforcing steel). Galvashield® SM-DAS anodes are attached to sound concrete with an ionically conductive mortar then mechanically anchored to provide corrosion prevention or corrosion control to the embedded reinforcing steel.



Design Criteria

For assistance with system design, please contact Vector Corrosion Technologies.



Specification & Drawings

See sample specification and drawings provided on our website.



Installation Instructions

See installation instructions provided on our website.

	SM-DAS		SM-DAS-X	
Zinc Weights	0.6 lb/ft	0.89 kg/m	1.65 lb/ft	2.45 kg/m
Lengths	Recommended 39 in (100 cm), can be customized to meet project requirements			
Anode Dimensions	6" x 1" 150 mm x 26 mm		6.3" x 1.18" 160 mm x 30 mm	
Custom Ordering Example	SM-DAS – 32 in		SM-DAS-X – 100 cm	



Packaging	
Galvashield® SM-DAS Anodes	5 Anodes per box
End Caps	Covers end of anode and the wired connection
Track Cover Strips	Covers anchoring track
Insulated Anchors	Stainless steel anchors with insulated sleeves
Galvashield® Embedding Mortar	20 kg (44 lbs.) bags - one bag per 15–17 anodes
Custom V-Notched Trowel	For effectively applying Galvashield® Embedding Mortar
Wire Connectors	User friendly and secure wire connectors
Gel Insulator Boxes	Insulates wire connection from moisture
Din Rail Mounting Kit	Optional anode horizontal installation assistance kit
U-Bracket Mounting Kit	Optional anode vertical or overhead installation assistance kit
Rivet Connection Kit	For making connection to embedded steel

Optional Inclusions	
Inter-anode Junction Covers	Used for chained installations



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Precautions

Galvashield® SM-DAS anodes may be part of an overall structure rehabilitation program to extend the service of life of corroding columns and piles. Where structural damage exists, consult a structural engineer.

Galvashield® SM-DAS anodes may be used in conjunction with Vector's extensive line of galvanic corrosion protection products to protect other portions of the structure. For more information on corrosion mitigation strategies and options, contact Vector Corrosion Technologies.

Storage

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

Health and Safety

Portland cement concrete and mortar should be handled with suitable gloves and other personal protective equipment in accordance with standard procedures for handling cementitious materials.

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](https://www.VECTORCORROSION.COM).

For additional information or technical support, please contact any Vector office or our extensive network of international distributors.

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