

Vector®

Galvashield® DAS Jacket

Galvanic Jacket for Cathodic Protection

Description

The Galvashield DAS Jacket, formerly available as Galvanode® Jacket with DAS Marine anodes, is an extremely versatile galvanic jacket protection technology that can be used for all jacketing applications. It is a low cost reliable method of extending the service life of corroding piles in marine and non-marine environments. The Galvashield DAS Jacket system is comprised of self-activated zinc anodes that do not require saltwater exposure to function. This allows the Galvashield DAS Jackets to work in all exposure conditions including saltwater, brackish water, fresh water, and non-marine applications.

The zinc anode units are placed inside a modular polyvinyl chloride (PVC) jacket, preformed fiber reinforced polymer (FRP) or other stay-in-place or removable formwork system. After the anodes and jacket are placed around the structure, the annular space is filled with portland cement concrete or mortar. Unlike traditional FRP or concrete jackets, epoxy grouted jackets and wraps, Galvashield DAS Jackets provide on-going galvanic current to address corrosion in the tidal zone, above the tidal zone, in dry pile sections or non-marine columns.

The system is self-powered and regulates its current output according to the corrosion rate of the steel and its operating environment. If protection is required for submerged pile sections, bulk zinc anodes are typically placed below mean low tide.

The Galvashield DAS Jacket system with modular formwork is very simple to install and most work can be completed while the structure remains in service. The system requires no maintenance and restores concrete loss due to steel corrosion and concrete spalling in one operation. Galvashield DAS Jackets can be round or square and are supplied in custom lengths suited for the project.

Applications

- Piles and columns subject to corrosion
- Marine Piles
- Saltwater, brackish and freshwater exposure
- Prestressed concrete piling
- Steel H piles
- Bridge columns

Features and Benefits

- **Versatile** - can be used to protect steel or concrete structures in all exposure conditions. Can be used with stay-in-place or temporary forms.
- **Low maintenance** - requires no external power source or system monitoring.
- **User friendly** - repair spalled concrete and provide lasting protection in one step. No costly electrical work required.
- **Site support** - on-site training and technical service available from factory-trained cathodic protection technicians.
- **Measurable** - anode performance can be easily monitored if required.
- **Long Lasting** - 10 to 35+ year service life* as required.
- **Enhanced aesthetics** – modular PVC jackets create a clean attractive appearance.
- **Minimal downtime** - system can be generally installed without major disruption of operations.

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



Galvashield DAS Jackets provide protection to pile sections above the tidal zone.

Level of Protection	Description	Galvashield®
Corrosion Prevention	Mitigates initiation of new corrosion activity	•
Corrosion Control	Reduces on-going corrosion activity	•
Cathodic Protection	Reduce or eliminate on-going corrosion activity	•

Specification

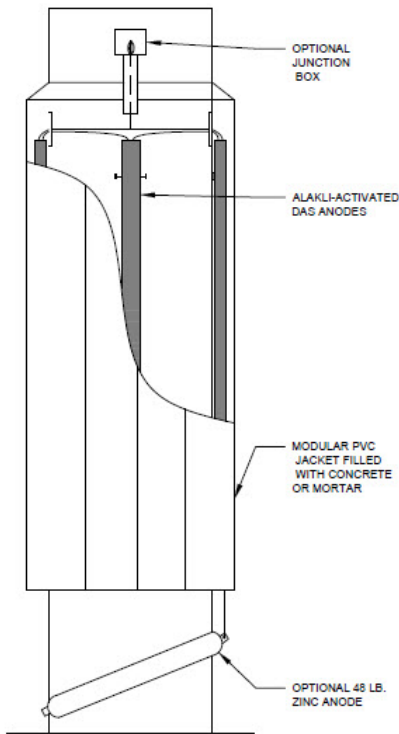
Contact Vector Corrosion Technologies for assistance in developing job-specific specifications.

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 zinc anodes in Galvashield DAS Jackets will corrode in favor of the reinforcing steel, thus providing corrosion protection.



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Installation Instructions

Installation of the Galvashield DAS Jacket system can be accomplished with relative ease. The first step is to remove any deteriorated concrete with pneumatic hammers and any marine growth (if applicable) using methods approved by the engineer. Once all loose concrete has been removed, the surface of the column is prepared by grit or hydro blasting to clean the concrete and remove all corrosion products from the steel.

An electrical connection must be made to the reinforcing steel that is to be protected. Electrical connection can be made to exposed reinforcing steel. If no exposed steel is present, a concrete excavation will be required to make the reinforcing steel connection. In order for the system to work properly, the steel reinforcement must be electrically continuous. If not, electrical continuity must be established.

If specified, the bulk anode is installed below the low tide line. All wiring from the zinc anodes and the bulk anode are run up inside the jacket into the junction box.

The Galvashield DAS Jacket system is used with a modular PVC or fiberglass jacket assembly with tongue and groove joint(s). The jacket is set on a temporary bottom form and is positioned around the pile and the zinc anodes.

To complete the installation, the Galvashield DAS Jacket is braced and filled with approved cement-based grout or concrete to completely fill the annular space. Once the grout is cured, the lead wires from the anode in the jacket, bulk zinc anode and reinforcing steel are connected and the system becomes immediately operational. The continuous flow of current from the zinc anodes provides galvanic corrosion protection to the reinforcing steel.

Precautions

Galvashield DAS Jackets 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 DAS Jackets 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.

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.

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

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