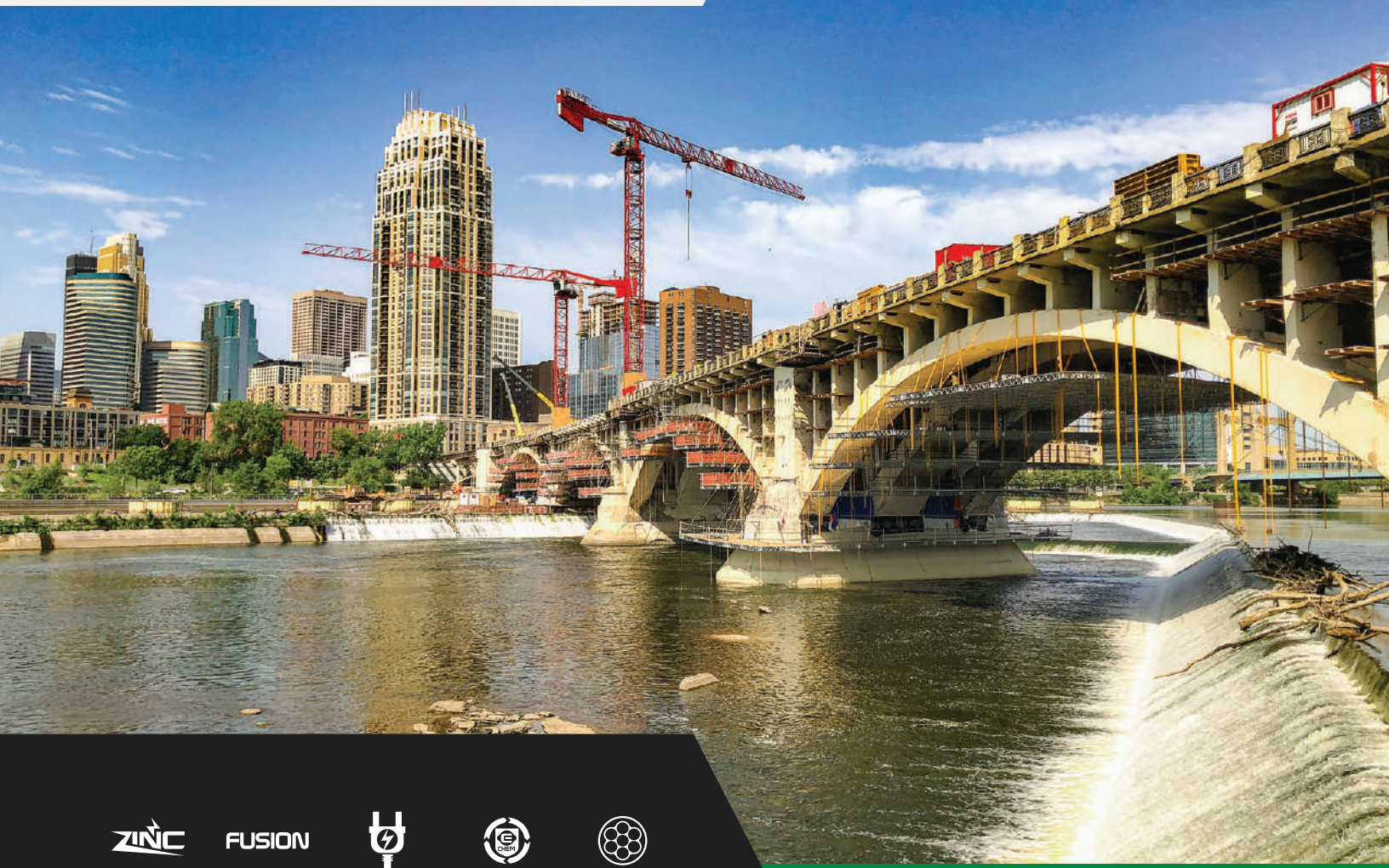
VECTOR CORROSION TECHNOLOGIES

Corrosion Control Technologies

Unlock the Power of Corrosion Control with Our Complete Range of Technologies



ZINC FUSION

We Save Structures™

Vector-Corrosion.com

Concrete Preservation

Save Economic Resources

Corrosion of reinforcing steel is a major cause of concrete deterioration and if left unchecked, can lead to significant structural repair or replacement. The good news is that many technologies are available to extend the life of new and existing structures, including cathodic protection and other electrochemical methods.

Making new structures last longer and promoting the rehabilitation and reuse of existing structures can save money compared to the cost of premature failure, demolition and rebuilding.

Save Natural Resources

According to the World Economic Forum, the construction industry is the largest global consumer of resources and raw materials, almost 50% of the total. And, it is estimated that up to 40% of solid waste comes from construction and demolition. Improving the durability of concrete structures reduces the consumption of natural resources, pollution and construction waste.

Environmental Impact Calculator

At Vector Corrosion Technologies, concrete preservation is what we do. With the largest range of cathodic protection technologies and services to control concrete corrosion, Vector offers an innovative solution for any budget and service life objective.

Systems & Services

Galvanic Systems

Galvanic systems provide protection to reinforcing steel through the use of sacrificial anodes.

Fusion Systems

Combines the benefits of an electrochemical treatment and galvanic protection in a single anode unit.

Impressed Current Systems

Impressed current cathodic protection systems provide protection through externally powered anodes.

Electrochemical Treatments

Electrochemical treatments passivate active corrosion by directly attacking the root cause.

Post-tension Services

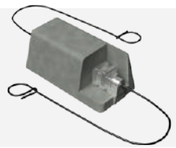
Vector offers a range of options to mitigate corrosion in post-tensioned tendons.

Discrete Galvanic Anodes

- No monitoring required
- Low maintenance
- Wide range of anode systems

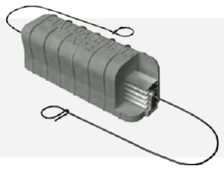
Patch Accelerated Corrosion

Type 1A embedded anodes are alkali-activated and typically used around the edge of concrete repairs to prevent incipient anode formation (halo effect).

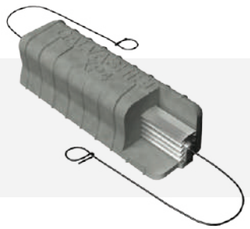


Galvashield® XP Compact

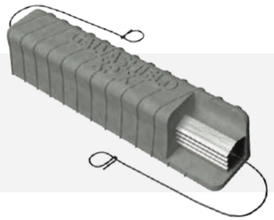
Galvashield® XPT



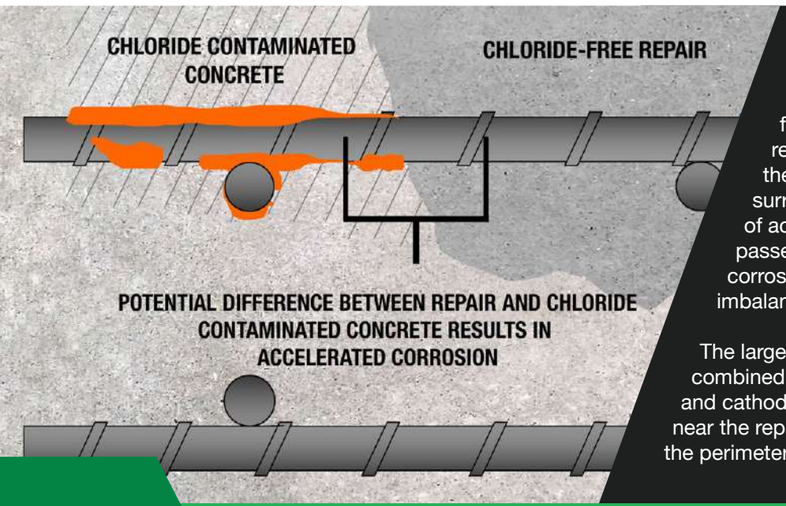
Galvashield® XP2



Galvashield® XP4



Galvashield® XPX



What is the Halo Effect?

When a concrete repair is completed, fresh high pH concrete is placed in the repair area. The chemical makeup of the new concrete differs from that of the surrounding concrete, creating a differential of activity between them. Since reinforcement passes through both of these environments, a corrosion cell forms due to the electrochemical imbalance across the steel.

The large difference in corrosion potential (voltage) combined with the short distance between anode and cathode, leads to accelerated corrosion in areas near the repair, resulting in a “halo” of spalling around the perimeter of the repair.

General Protection

Type 2A discrete galvanic anodes are installed into drilled holes for general protection or for targeting specific corrosion hotspots.

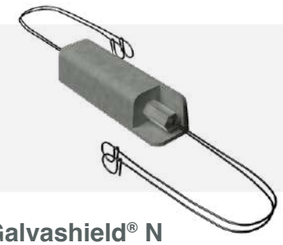
Galvashield® CC2

Galvashield® CC4

Galvashield® CCX

New Construction

Galvanic anodes can be used in new concrete construction for global protection or to target problem areas such as construction joints.



Galvashield® N

- Alkali-activated corrosion prevention anode
- Extra-long tie wires to position anode in center of reinforcing grid

Each variant in these product lines is optimized to prevent or control corrosion in a range of conditions found in reinforced structures. These conditions include:

Steel Density: High density of steel reinforcement requires more powerful and larger anodes.

Corrosion Risk: Areas with high chloride levels require more protection than areas with low chlorides or carbonation.

Environmental Temperatures: An increase of 10-15°C can double the corrosion rate and should be accounted for in the design and anode selection.

Embedded Anode Nomenclature

Type 1
Connected to exposed reinforcing in concrete repairs, joints or between new and old concrete.

Type 2
Installed into holes drilled in sound concrete to provide proactive protection in areas at high risk of corrosion.

Class A
Zinc activated by alkaline mortar pH 14+

Class H
Zinc activated by halide salts such as chloride or bromide

Distributed Galvanic Anodes

Embedded Anodes

Common applications for embedded distributed anodes are large area repairs, overlays, or encasements such as concrete jacketing.

Galvashield® DAS

- Long alkali-activated anodes
- Custom-designed for the application

Galvashield® DAS-X

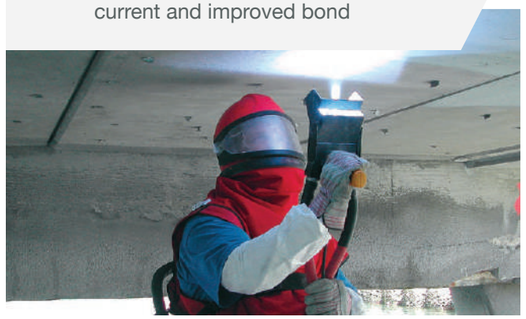
- For protection in extreme environments

Surface Applied Anodes

Galvanic anodes can be placed onto the surface of the structure and connected to the embedded reinforcing steel.

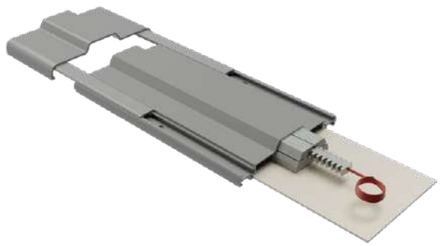
Galvanode® ASZ+

- Metalized zinc anode
- Humectant activator for higher current and improved bond



Galvashield® SM-DAS

- Innovative design for fast installation
- Easily replaceable in the future



Jacketing

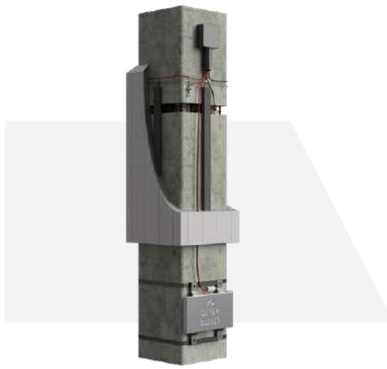
Galvanic jackets are used for piles, abutments, walls and columns on marine and non-marine structures and include anodes and stay-in-place form work.

Galvashield® Tidal Jacket

- Zinc mesh anode inside FRP forms with optional bulk anode
- Saltwater tidal zone protection

Galvashield® Tidal Plus Jacket

- Zinc anode strips inside wicking fabric, FRP or PVC forms with optional bulk anode
- Saltwater tidal and transitional zone protection



Galvashield® DAS Jacket

- Alkali-activated anodes, FRP or PVC forms with optional bulk anode
- Complete protection of marine and non-marine piles and columns

Silver Bullet® Al Bulk Anode

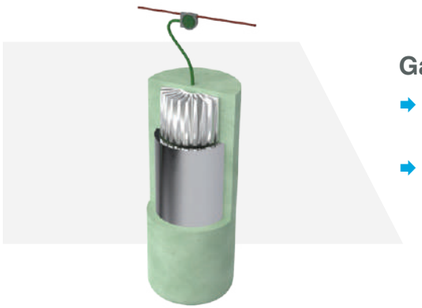
The Silver Bullet Aluminum Bulk Anode is a cost-effective solution when protection is required for submerged pile sections and has been specifically designed for use with Vector's Galvashield® Jacket Systems. The 25 lb. (11.3 kg) mil-spec aluminum alloy will provide over 20 years of protection to most concrete and steel piles without contributing to marine life zinc toxicity.

FUSION

Fusion Anodes

- Two-stage, long-term protection
- Inbuilt power supply passivates active corrosion
- Passivity is maintained with galvanic cathodic prevention

Powered galvanic technology that combines Stage 1 impressed current (passivation) and Stage 2 galvanic anode (maintenance) into a single unit.



Galvashield® Fusion® T2 Standard

- Type 2 corrosion passivation and cathodic prevention anode unit
- Custom-designed solution for global or targeted protection

Galvashield® Fusion® T2 Slim

- Smaller diameter for faster installation
- Lower steel densities

Global vs Targeted Protection

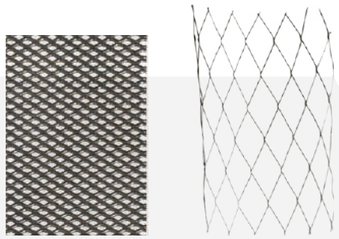
Global
Protect the entire structure or large structural elements

Targeted
Only protect areas of active corrosion or high corrosion risk

Impressed Current Anodes

Impressed current cathodic protection systems use an external power supply and deliver a high level of protection.

- High level of protection
- Long life system
- System monitoring and maintenance is necessary



Elgard® & Lida® Titanium Mixed Metal Oxide Anodes

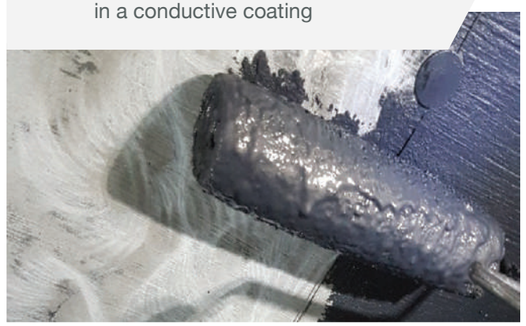
- Mixed metal oxide coated titanium anodes
- Mesh or ribbon mesh available

Ebonex®

- Cylindrical or star-shaped discrete ceramic anodes
- High current capacity with ventilation

DAC-Anode®

- Surface-applied ICCP anode
- Primary anode wire embedded in a conductive coating



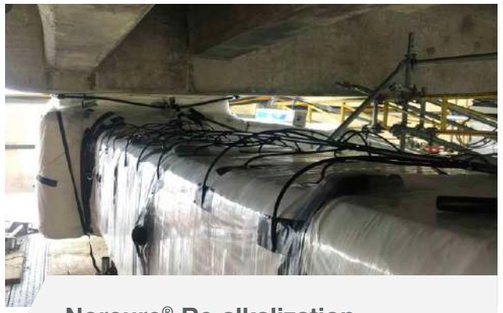
Electrochemical Treatments

- Reduces chloride levels
- Increases alkalinity
- No permanent system left in place
- Maintains aesthetics

These systems provide long-term corrosion passivation by delivering a high current density for a short duration.

Norcure® Chloride Extraction

- Reduces chloride levels
- Increases alkalinity around reinforcing steel



Norcure® Re-alkalization

- Drives alkaline solution into concrete
- For carbonated concrete structures

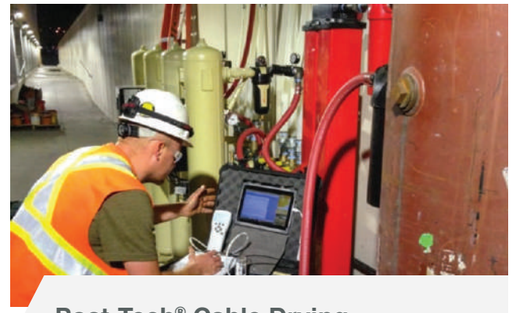
Post-tension Services

Vector offers a range of solutions to evaluate and mitigate corrosion in bonded and unbonded post-tensioned structures.

- Tendon Corrosion Evaluation
- Tendon Drying & Regreasing
- Impregnation of bonded systems

Post-Tech® Corrosion Evaluation

- Test for moisture level inside ducts
- Determines probability of corrosion



Post-Tech® Cable Drying

- Removes moisture from inside tendons
- Mitigates active corrosion

Post-Tech® PTI Impregnation

- Very low viscosity impregnation system for bonded tendons
- Leaves anti-corrosion barrier around wire strands

VECTOR CORROSION TECHNOLOGIES

Technology Development

Vector continues to lead the way with major research and development activities conducted at our two laboratories.

Vector's UK-based laboratory performs fundamental research in the area of concrete corrosion and cathodic protection of concrete.

Vector's North American product development lab is the proving ground for innovations in concrete anodes and post-tension corrosion mitigation technologies.

Scan to view Vector Corrosion Technologies' technical data sheets for selecting the correct product for your structure.

Technical Consultation

Vector works collaboratively with engineering consultants, government agencies, private owners and contractors to identify the root cause of deterioration and deliver technologically advanced, cost effective corrosion solutions. Our certified cathodic protection engineers and technicians are trained in the most advanced concrete restoration and corrosion mitigation techniques.

International Distribution

Vector's cathodic protection technologies are available worldwide from over 30 distributors strategically placed in most major markets. Contact Vector or visit our website for an up-to-date list of international distributors.

Vector Corrosion Technologies

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