Vector Corrosion Services

Vector provides solutions for engineers, contractors and asset managers facing corrosion and concrete durability concerns. We offer comprehensive services for infrastructure and buildings, including non-destructive testing, site surveys, engineering and Cathodic Protection design services for infrastructure and valuable assets. Our Certified Senior Cathodic Protection Engineers are experts in sustainable solutions for durable concrete structures.

Contact Vector today for a free consultation on your structure.

Vector employees are active members of the world leading organizations (ICorr, NACE, CPA) on corrosion science, ensuring our advices and solutions are the most current and advanced in the industry.

The process for the most effective Corrosion Management System

- Contact VECTOR
- Full Site Survey
- Analyze Results
- Corrosion Management Options
- Structure View® Site Monitoring
- Specify or Design
- Determine Corrosion Management Options
- Fusion Systems
- Impressed Current Systems
- Galvanic Systems
- Electrochemical Treatments (Re-alkalization & Chloride Extraction)
- Post-tensioned Corrosion Protection Systems

Typical Applications

- Buildings
- Marine
- Bridges
- Power & Energy
- Parking Structures
- Dams
- Garages
- Ponds & Reservoirs

Vector Corrosion Technologies

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 most every budget and service life objective.

- Galvanic Systems
- Impressed Current Systems
- Fusion Systems
- Electrochemical Treatments (Re-alkalization & Chloride Extraction)
- Post-tensioned Corrosion Protection Systems

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

Trust in Vector

Vector’s cathodic protection technologies are available worldwide from over 20 distributors strategically placed in major markets. Contact Vector or visit our website for an up-to-date list of international distributors.

Typical Applications

- Australia
  - Parchem Construction Supplies
    - Phone: 1300 737 787
    - Sydney Head Office: 200 Circular Rd, Homebush West
  - Concrete Plus
    - Phone: 0800 657 156
    - Sockburn Rd, Sockburn 8042

- New Zealand
  - Parchem Construction Supplies
    - Phone: 0800 851 900
    - Auckland: 100 Housing Rd, Panmure
  - Concrete Plus
    - Phone: 0800 851 900
    - Sockburn Rd, Sockburn 8042

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 most every budget and service life objective.
The Problem
Concrete corrosion problems occur when contamination results in a loss of steel passivity. The resulting ‘rust’ occupies a volume much greater than the steel it consumes. This expansion leads to cracking, concrete delamination and eventual structural implications. International estimates put the costs of corrosion to an economy at 3-5% of GDP.

What causes Corrosion?
A number of everyday contaminants can cause steel to corrode in concrete.
- Seawater & airborne salts
- De-icing chemicals
- Carbon dioxide in the atmosphere
- Cast in chlorides
- Sea dredged aggregates

Traditional Cathodic Protection Systems
Traditionally, Impressed Current Cathodic Protection (ICCP) has worked by utilising a small electrical current generated by an external power source to control corrosion. Due to the nature of the technology, power, monitoring and maintenance are all continuously required over its life. This often leads to systems being overlooked and not maintained. Over time, this can result in a 50% probability that the system will not be working and would require repair. This increased to 75% at 20 years. Galvanic Corrosion Control systems have increased in popularity over the past 20 years due to their simplicity. No external power or monitoring is required for their function. This makes them an attractive option, even though they have a finite life and their performance cannot be altered once installed.

Galvashield® Fusion™ Next Generation Corrosion Protection System
Galvashield® Fusion™ is a next generation corrosion protection system that combines the designable performance of ICCP systems with simple, maintenance-free performance and installation of a galvanic system. Through extensive innovation, Vector has developed a unit which offers short-term ICCP to re-passivate steel (Stage 1) and long-term cathodic protection to maintain that state (Stage 2). This is achieved with a single unit and without the need for any external power or complicated wiring. This two-stage treatment is designed to the performance requirements of ISO and NACE standards.

Next Generation Corrosion Protection System

Stage 1: A high but short-term electrochemical treatment to effectively mitigate corrosion and re-passivate steel. The aim of Stage 1 is to re-contaminate the environment and protect the steel.

Stage 2: Once Stage 1 is complete the units automatically switch to a corrosion prevention system, where the galvanic current maintains steel passivity for the life of the system.

Key Benefits
- Proven Technology: ICCP and alkali-activated galvanic anode technologies fused together into a single unit.
- Simple Installation: Galvashield® Fusion™ T2 anodes provide ICCP and galvanic protection with no external power requirements.
- Fit & Forget: Galvashield® Fusion™ operates automatically once installed, reducing access requirements, time and cost.
- Long Lasting: Provides corrosion protection for 30+ years without the need for maintenance.
- Measurable Performance: While not critical for the long-term operation of the system, site performance can be monitored and validated if required.
- Economical: Up to 40% reduction in installed cost when compared to other embedded galvanic systems.

Galvashield® Fusion™ T2 Anode
Alkali activated galvanic anode (60 year life with no maintenance), provides Stage 1 protection and performance.
**The Problem**

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**What causes Corrosion?**

A number of everyday contaminants can cause steel to corrode in concrete.

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**Traditional Cathodic Protection Systems**

Traditionally, Impressed Current Cathodic Protection (ICCP) has worked by using a small electrical current generated by an external power source to control corrosion. Due to the nature of the technology, power, monitoring and maintenance are continuously required over its life. One independent report indicates that after 15 years, there is a 50% probability that the system would not be working and would require repair. This increased to 75% at 20 years.

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**Galvashield® Fusion™**

Galvashield® Fusion™ is a next generation corrosion protection system that combines the designable performance of an ICCP system with simple maintenance-free performance and installation of a galvanic system. Through extensive innovation Vector has developed a unit that offers short term ICCP (Stage 1) and long term cathodic protection or maintenance of the state (Stage 2). This is achieved with a single unit and without the need for any external power or complicated wiring. This two stage treatment is designed to the performance requirements of ISO and NACE standards.

**Next Generation Corrosion Protection System**

**Galvashield® T2 Anode**

Galvashield® Fusion™ T2 Anode is a fully integrated ICCP system, providing autonomous Stage 1 protection and reduced performance.

**Galvashield® Fusion™ T2 Anode**

Alkali-activated Galvanic Anode (40 year track worldwide), provides Stage 2 Cathodic Prevention.

**Key Benefits**

- **Proven Technology**
  - ICCP and alkali-activated galvanic anode technologies fused together into a single unit.
- **Simple Installation**
  - Galvashield® Fusion™ T2 anodes provide ICCP and galvanic protection with no external power requirements.
- **Fit & Forget**
  - Galvashield® Fusion™ operates automatically once installed, reducing access requirements, time and cost.
- **Long Lasting**
  - Provides corrosion protection for 30+ years without the need for maintenance.
- **Measurable Performance**
  - While not critical for the long-term operation of the system, site performance can be measured at intervals as required.
- **Economical**
  - Up to 40% reduction in installed cost when compared to other embedded galvanic systems.

*As with all galvanic protection systems, service life is dependent upon a number of factors including reinforcing steel density, concrete conductivity, chloride concentration, alkalinity and salt loading.
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Galvashield® Fusion™
Galvashield® Fusion™ is a next generation corrosion protection system that combines the designable performance of an ICCP system with simple maintenance-free performance and installation of a galvanic system. The system operates autonomously and utilises an advanced anode design, as well as incorporating proprietary technology to control the rate of reaction, ensuring long-term performance.

Next Generation Corrosion Protection System
Galvashield® Fusion™ is a high but short term electrochemical treatment to effectively mitigate corrosion and re-passivate steel. The aim of Stage 1 is to reverse the oxide environment on the steel and return it to a passive state. Stage 2 is a corrosion prevention system, where the galvanic current maintains steel passivity for the life of the system.

Key Benefits
- Proven Technology: ICCP and alkaline-activated galvanic anode technologies fused together into a single unit.
- Simple Installation: Galvashield® Fusion™ T2 anodes provide ICCP and galvanic protection with no external power requirements.
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Vector Corrosion Services

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  - www.parchem.com.au
  - ABN 80 069 961 968
- Concrete Plus
  - www.concreteplus.co.nz
  - NZBN 9429033691282

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We Save Structures

Vector Corrosion Technologies

Over 50 years of experience

Contact Vector today for a free consultation on your structure.