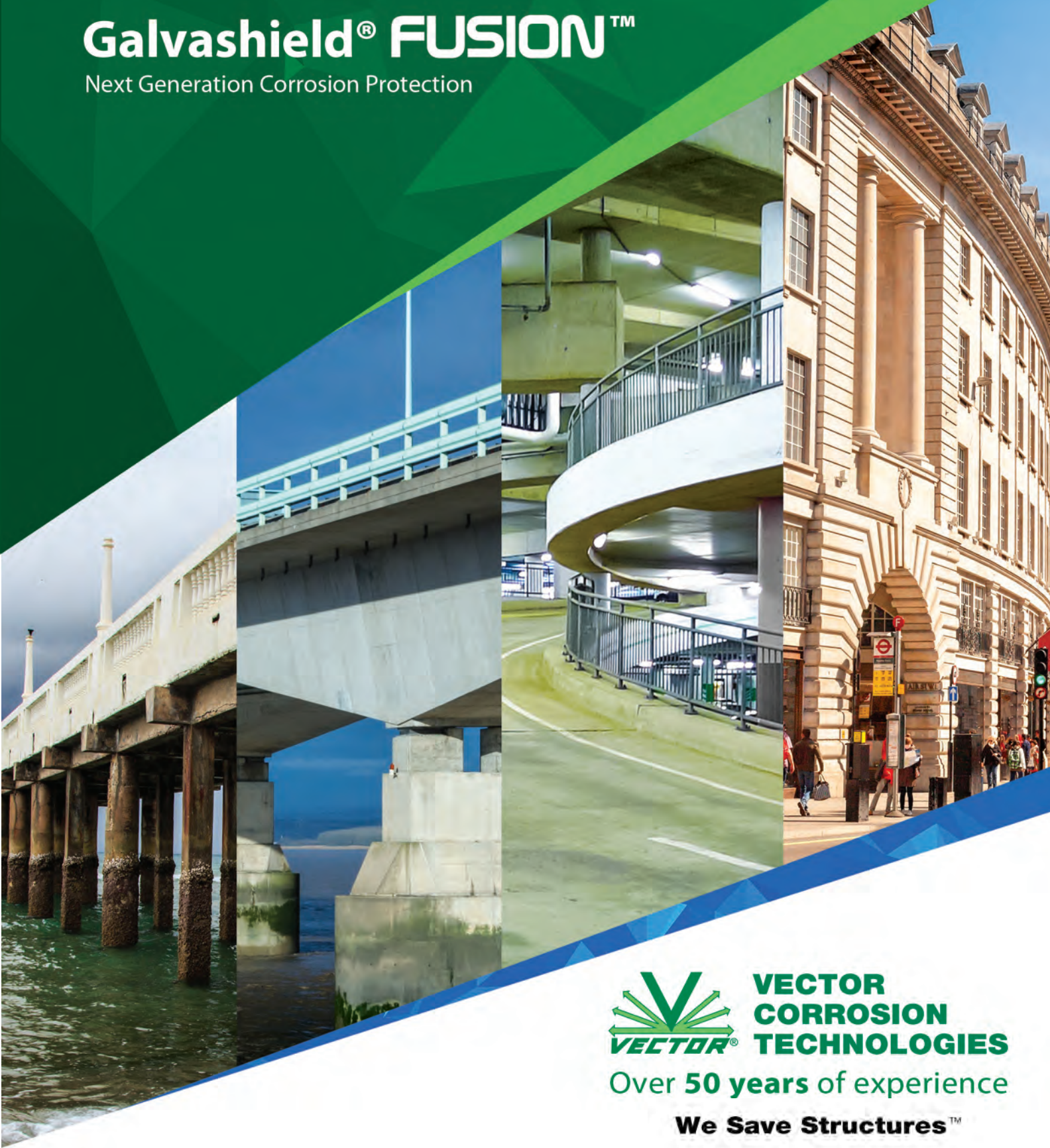


# Galvashield® FUSION™

Next Generation Corrosion Protection



**VECTOR  
CORROSION  
TECHNOLOGIES**

Over **50 years** of experience

**We Save Structures™**



# 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 with time. One independent report indicates that after 15 years, there was a 50% probability that the system would 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 are 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 Technology

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 which offers short term ICCP to re-passivate steel (**Stage 1**) and long-term cathodic prevention to maintain that state (**Stage 2**). This is achieved with a single unit 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

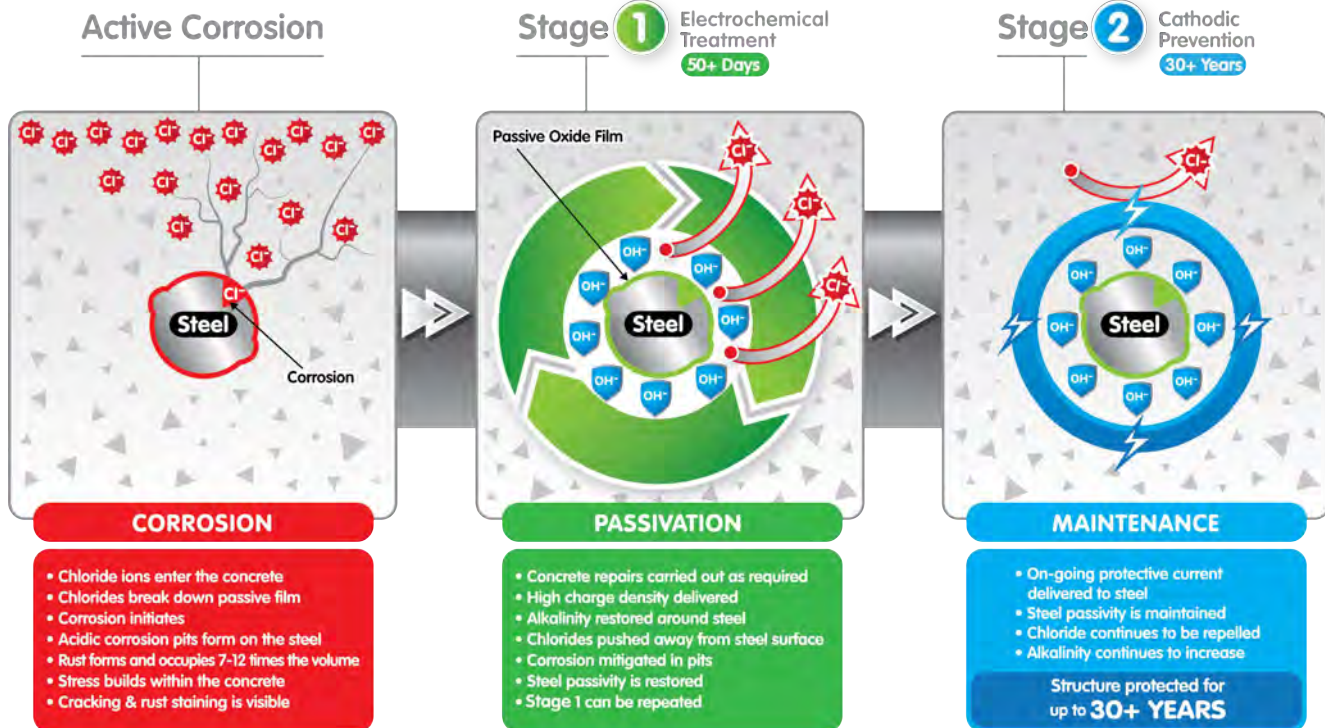
①

A high but short term electrochemical treatment to effectively mitigate corrosion and re-passivate steel. The aim of **Stage 1** is to reinstate the alkaline environment around the steel.

### Stage

②

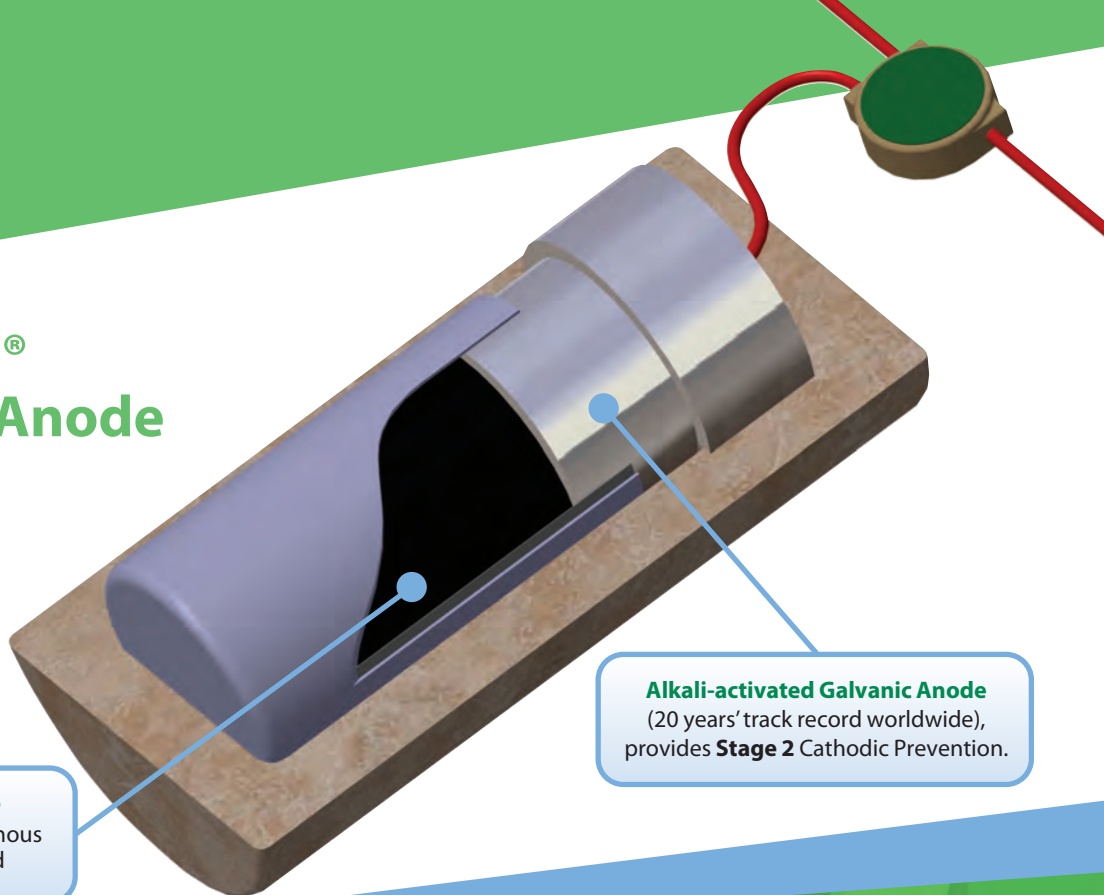
Once **Stage 1** is complete the units automatically switch to a corrosion prevention system, where the galvanic current maintains steel passivity for the life of the system.







## Galvashield® Fusion™ T2 Anode



**Fully integrated ICCP system**, provides autonomous **Stage 1** protection and performance.

**Alkali-activated Galvanic Anode**  
(20 years' track record 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.\*

### Measureable Performance

While not critical for the long-term operation of the system, site performance can be measured and validated if required.

### Economical

Up to 40% reduction in installed cost when compared to other embedded galvanic systems.



Galvashield® Fusion™ T2 Anode

\*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 spacing.

# Vector Corrosion Services

**VCS** provides solutions for engineers, contractors and asset managers facing corrosion and concrete durability concerns. We offer non-destructive testing & monitoring, corrosion engineering and Cathodic Protection design services for infrastructure and building 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's leading organizations (ICorr, NACE, CPA) on corrosion science, ensuring our advice 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**



Structure View®  
**Site Monitoring**





Specify or **Design**



Determine **Corrosion Management Options**



Corrosion Management  
**Options**

-  **Fusion Systems**
-  **Impressed Current Cathodic Protection**
-  **Galvanic Systems**
-  **Electrochemical Treatments**

## Typical Applications



**PARKING STRUCTURES**



**BUILDINGS**



**BRIDGES**



**MARINE**



**POWER & ENERGY**

# 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 most major markets. Contact Vector or visit our website for an up-to-date list of international distributors.

#WeSaveStructures



**Australia**  
**Parchem Construction Supplies**  
7 Lucca Road, Wyong NSW 2259  
Phone: 1300 737 787  
[www.parchem.com.au](http://www.parchem.com.au)  
ABN 80 069 961 968

**New Zealand**  
**Concrete Plus**  
23 Watts Road, Sockburn 8042  
Phone: 0800 657 156  
[www.concreteplus.co.nz](http://www.concreteplus.co.nz)  
NZBN 9429033691282

Parchem is the licensed distributor of Vector in Australia, and Concrete Plus is the licensed distributor in New Zealand.