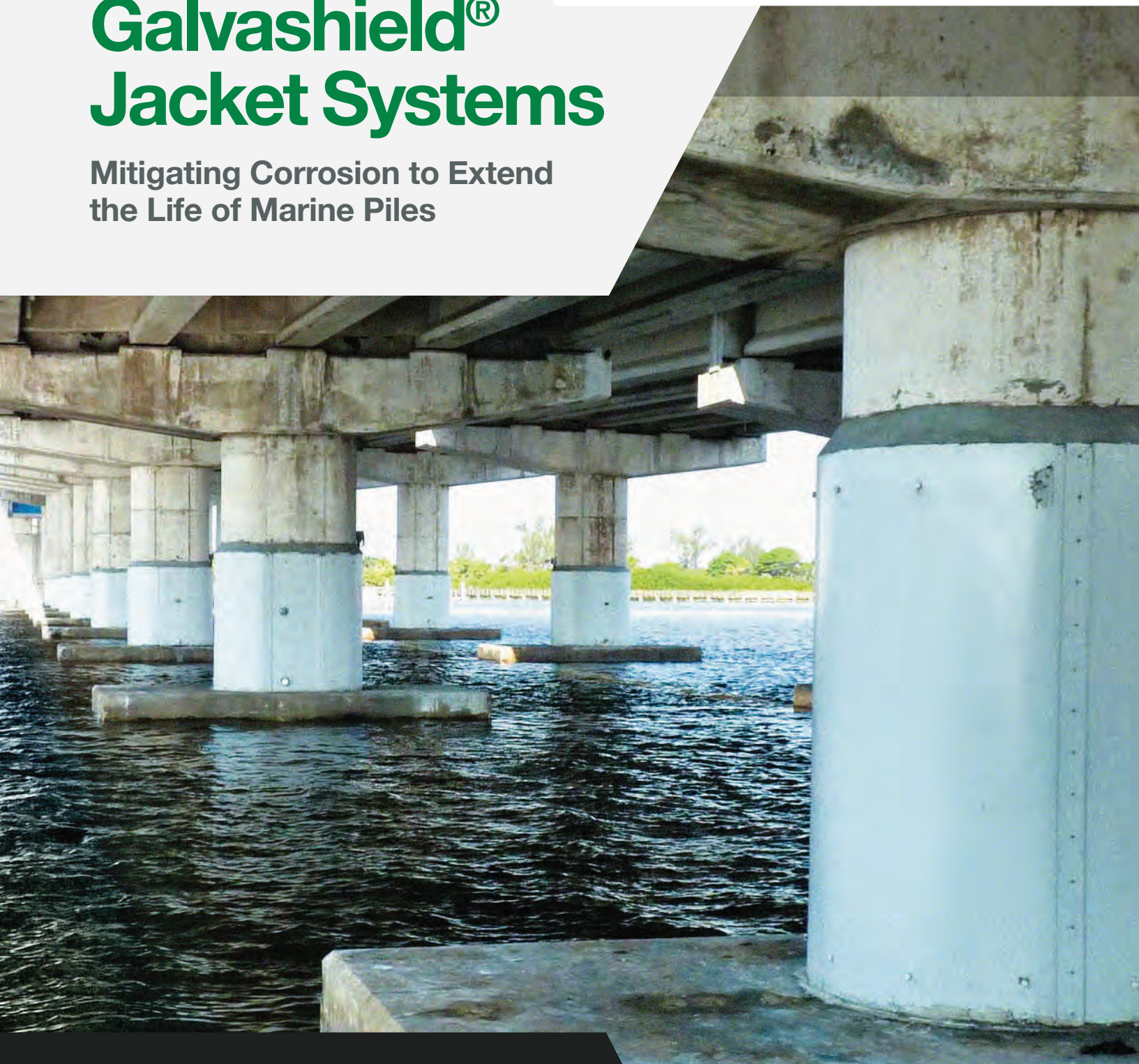




**VECTOR
CORROSION
TECHNOLOGIES**

Galvashield® Jacket Systems

Mitigating Corrosion to Extend
the Life of Marine Piles



We Save Structures™

Vector-Corrosion.com

Marine Pile Corrosion

Marine environments can be harsh for concrete and steel piles and often require significant maintenance needs. Over time, heavy chloride contamination can lead to corrosion resulting in visible cracking and rust staining. This damage eventually leads to more severe problems like spalling and delamination of the concrete. Neglecting these issues can lead to higher maintenance and extensive rehabilitation costs.



Cross sectional loss due to corrosion induced spalling

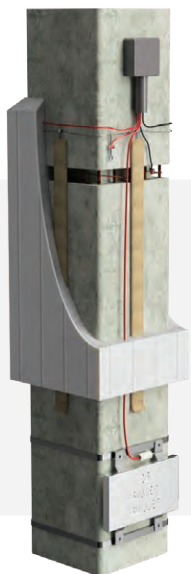
Galvashield® Jacket Systems

Galvashield® Jacket Systems provide long-term, low-maintenance, global galvanic cathodic protection to prestressed or conventionally reinforced concrete and steel piles that are exposed to extremely corrosive marine environments. A typical system will consist of galvanic anodes within the jacketed area, stay-in-place FRP or PVC forms and bulk aluminum or zinc anode attached to the pile in the submerged area.



Galvashield® DAS Jackets

Incorporate premanufactured alkali-activated distributed galvanic anodes in the area to be protected. These anodes can be used with FRP, PVC or removable concrete forms in all conditions and all elevations, including saltwater, brackish water, freshwater and dry land applications.



Galvashield® Tidal Plus Jackets

Use innovative wicking fabric around bare zinc anodes. The fabric wicks saltwater well above high tide to saturate and activate the zinc thus mitigating corrosion in both the tidal and the transitional zones. The wicking anodes can be used with FRP or PVC stay-in-place forms.



Galvashield® Tidal Jackets

Are used for tidal zone protection and include high purity bare zinc mesh anodes inside a stay-in-place FRP form. The open-bottom jacket design allows seawater to penetrate into the jacket and saturate the zinc through direct saturation.

Pile Exposure Zones

The severity of pile corrosion is correlated to the surrounding environment. Corrosion is significantly driven by moisture levels and chlorides present in seawater.



Atmospheric Zone

Atmospherically exposed sections of concrete piles are contaminated by airborne chloride deposition.



Periodic/Splash Zone

The pile section above mean high tide is exposed to moisture, chloride saturation and oxygen from periodic splashing and is subject to aggressive corrosion.



Tidal Zone

The tidal area is subjected to regular wet-dry cycling and is at the highest risk of corrosion, especially in saltwater environments.



Underwater Zone

Submerged sections of piles are continuously wet and can be affected by corrosion but less frequently.

Exposure Conditions

Saltwater Exposure

Saltwater contains the highest levels of chlorides and is the most aggressive to marine structures.



Brackish Water Exposure

When fresh water and saltwater mix, chlorides are present at lower concentrations.



Fresh Water Exposure

Fresh water is a less corrosive environment than brackish water but corrosion can still occur, particularly near the water-air interface.



Dry Land Exposure

Non-marine piles and columns exposed to airborne chlorides and deicing salts can also benefit from galvanic jacketing.



Atmospheric Zone

Periodic/Splash Zone

Tidal Zone

Underwater Zone

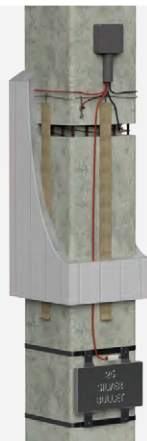


Contact Vector today for assistance with Galvashield® Jacket System selection and design.



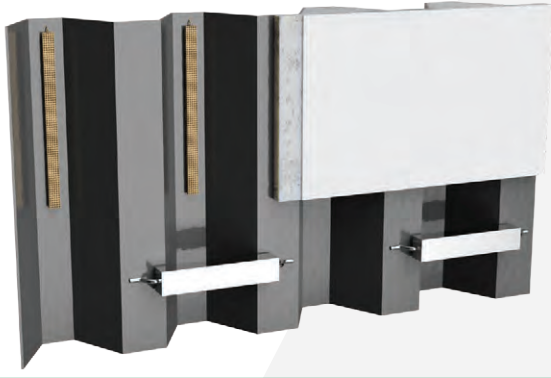
Jacket Model	Anode Description	Anode Activation Method	Form Options
Galvashield® Tidal Jacket	Zinc mesh anode	Saltwater	➔ FRP
Galvashield® Tidal Plus Jacket	Zinc anode strips inside wicking fabric	Saltwater	➔ FRP ➔ Modular PVC
Galvashield® DAS Jacket	Zinc anode strips inside self-activating mortar	Self-Activated Alkali pH >14	➔ FRP ➔ Modular PVC ➔ Removable Forms

Exposure Condition	Tidal Jacket	Tidal Plus Jacket	DAS Jacket
Saltwater	Tidal	✓	✓
	Transitional		✓
	Atmospheric		✓
Brackish Water			✓
Freshwater			✓
Dry Land			✓



Silver Bullet® Al Bulk Anode

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.



Galvashield® Tidal Plus Jacket Protecting Sheet Piles



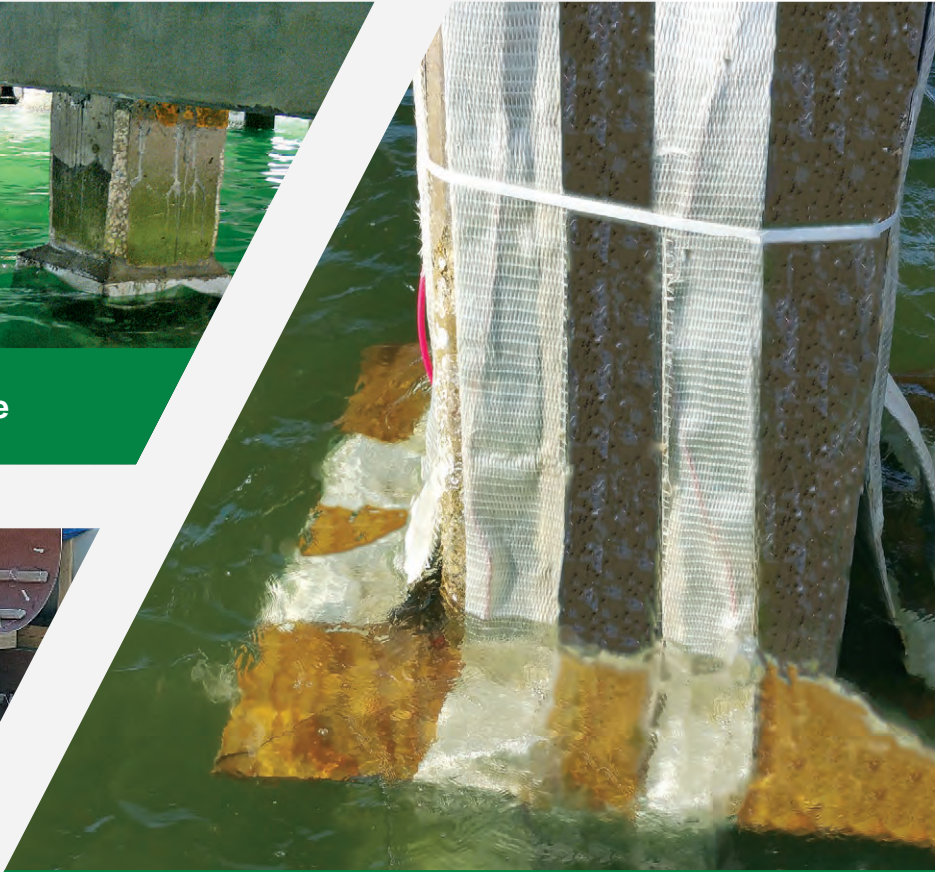
Galvashield® DAS Jackets Installed



Galvashield® Tidal Jackets in Service



Galvashield® DAS Jackets Prior to Installation



Galvashield® Tidal Plus Jacket with Wicking Fabric Anodes (prior to jacking)

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 for more information
on our Galvashield®
Jacket Systems

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.

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



Vector Corrosion Technologies

Vector-Corrosion.com

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