

# Vector®

## Galvashield® Fusion™ T2

### Self-Powered Dual Phase Hybrid Anode Series

#### Description

Galvashield Fusion T2 is a second generation hybrid anode system used to control corrosion in reinforced concrete structures. Galvashield Fusion T2 is a Type 2 anode embedded within drilled holes in sound concrete.

Galvashield Fusion T2 combines the high level performance of an impressed current electrochemical treatment system with the long-term maintenance-free capabilities of an alkali-activated galvanic cathodic prevention. The single-unit system does not require complex wiring or an external DC power supply (temporary or permanent).

When installed, the inbuilt impressed current component provides an initial phase of high charge density that passivates active corrosion (Phase 1). Then, the anode automatically switches to a cathodic prevention phase, which maintains steel passivity and provides long-term, maintenance-free corrosion protection (Phase 2).

The anode spacing and parameters of pre-treatment are customized by Vector Corrosion Technologies based upon the specific condition of the structure and are in conformance with the principals of ISO BS EN 12696:2016.

#### Applications

- Parking Structures
- Bridge Decks, Columns & Beams
- Marine Piers and Wharfs
- Balconies

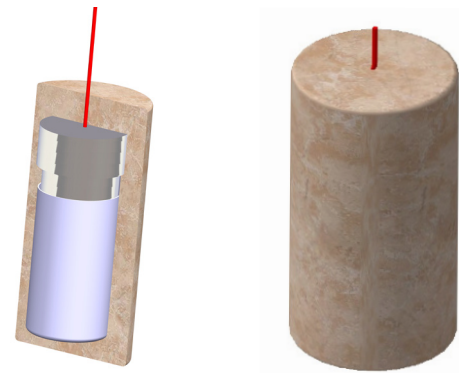
#### Features and Benefits

- **Proven Technology** - ICCP electrochemical treatment and alkali-activated galvanic anode technologies fused together into a single unit.
- **Simple Installation** - Galvashield Fusion T2 is a single unit hybrid system with no external power requirements.
- **Fit & Forget** - Galvashield Fusion T2 operates automatically once installed, reducing access requirements and therefore time and cost.
- **Long Lasting** - Provides corrosion protection for up to 30+ years without the need for maintenance.\* Phase 1 can be designed to be repeated at any time if desired.
- **Measurable Performance** - While not critical for the long term operation of the system, the site performance can be measured and validated if required.

#### Specification

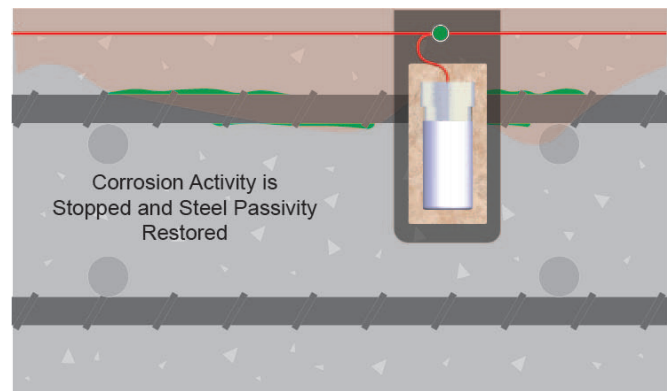
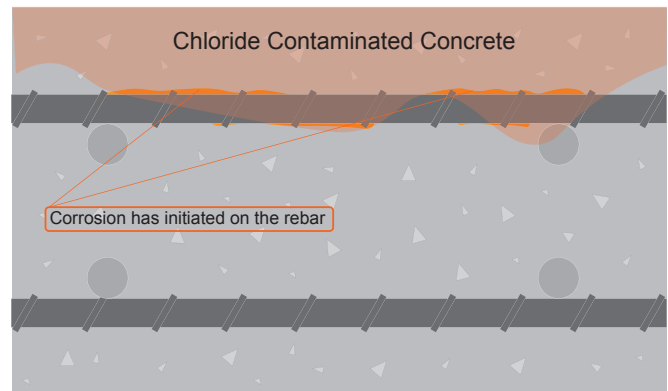
Embedded anodes shall be Galvashield Fusion T2 anodes as designed by Vector Corrosion Technologies. The dual phase anode shall be pre-manufactured and shall include a self-powered ICCP anode and an alkali-activated galvanic anode in a single unit. The galvanic anode shall have a zinc core in compliance with ASTM B418 Type II and be encased in an activated cementitious mortar with pH of 14 or greater. The anode unit shall contain no intentionally added chloride, bromide, sulphate or other constituents that are corrosive to reinforcing steel as per ACI document 222R.

\*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.



Galvashield Fusion T2

Level of Protection	Description	Galvashield® Fusion T2
Corrosion Prevention	Mitigates initiation of new corrosion activity	•
Corrosion Control	Reduces on-going corrosion activity	•
Cathodic Protection	Reduce or eliminate on-going corrosion activity	•



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### Summary Installation Procedure

Galvashield Fusion T2 anodes shall be installed on a grid pattern as specified in the design document. Using a rebar locator, locate existing steel and mark areas to drill anode installation holes to avoid cutting steel. When possible, anodes should be installed in the centre of a reinforcing grid or a minimum of 4 inches away from steel. Verify continuity of steel with a multi-meter.

Drill holes as per the design to accommodate the anodes. Pre-wet the holes and the anodes to a saturated surface dry condition, then install with Galvashield Embedding Mortar. Mix one 44 lb. bag of mortar with 3.4 to 3.9 quarts of potable water. Add the powder to the water and mix with a drum or paddle mixer until a smooth consistency is achieved. Do not use partial bags.

Place the mixed embedding mortar into the bottom 2/3 of each hole and slowly press the anode into the mortar, allowing the mortar to fill the annular space ensuring there are no air voids between the anode and the parent concrete. The minimum cover depth over the anodes shall be 3/4 in.

Anodes may be individually connected to the steel reinforcement or may be connected in circuit as per the design. Saw cut a groove approximately 1/4 inch wide by 1/2 inch deep into the concrete to interconnect rebar connection holes and anode holes.

Connect the anodes to the interconnecting header wire with the supplied connectors (wire and connectors are available as the Vector Anode Connection Kit). Verify continuity between anode locations and rebar connections with a multi-meter. Connect each end of the circuit to the steel at the rebar connection points.

Place wires into grooves and top off anode holes and saw cuts flush to the concrete surface with embedding mortar. Embedding mortar should be wet cured or cured with a curing compound and protected from traffic for 24 hours.

### Precautions

Galvashield Fusion T2 anodes are not intended to address or repair structural damage. Where structural damage exists, consult a structural engineer. Any discontinuous steel should be either electrically connected or isolated. Complete concrete repairs prior to the installation of Galvashield Fusion T2 anodes.

### Storage

Store in dry conditions in the original unopened box. Avoid extremes of temperatures and humidity.

### Health & Safety

As with all cement-based materials, contact with moisture can release alkalis which may be harmful to exposed skin. Galvashield Fusion T2 and Galvashield Embedding Mortar should be handled with suitable gloves and other personal protective equipment in accordance with standard procedures for handling cementitious materials. Dispose of excess material as per local requirements. Additional safety information is included in the Safety Data Sheet.

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Vector products are provided with a standard limited warranty against defects for a period of 12 months from the date of sale. To obtain a complete copy of Vector's limited warranty, contact Vector or visit [www.vector-corrosion.com/warranty.pdf](http://www.vector-corrosion.com/warranty.pdf). User shall determine the suitability of the products for the intended use and assumes all risks and liability in connection therewith. For professional use only; not for sale to or use by the general public. US and international patents and patent applications apply. Vector, the Vector logo and Galvashield are registered trademarks.

### Unit Dimensions

Unit	Description	Unit Size diameter x length	Minimum Hole Size diameter x depth
Galvashield Fusion T2-100	2nd Generation Hybrid System	1 3/4 x 4 in.	2 x 5 1/8 in.
Galvashield Fusion T2-135	2nd Generation Hybrid System	1 1/8 x 5 3/8 in.	1 1/4 x 6 1/2 in.
Galvashield Fusion T2-C	2nd Generation Hybrid System	Custom	Custom

### Packaging

Galvashield Fusion T2 anodes	20 units per box, weight varies.
Galvashield Embedding Mortar	44 lb. bags one bag per 40-80 units
Vector Rebar Connection Kit	Contains 20 steel connections and 20 anode connectors per kit. Innovative design allows for quick rebar connections to be made.
Vector Anode Connection Kit	Contains 45 ft. insulated cable, 23 anode connectors, and 5 steel connections per kit. For use when Galvashield anodes are installed in series.
Vector Setting Tool	1 unit per box

### 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, details of which can be found on our website.



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