

## 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 for embedment within drilled holes in sound concrete.

Galvashield Fusion T2 combines an impressed current electrochemical treatment system with the long term maintenance-free capabilities of an alkali-activated galvanic cathodic prevention system. 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 to passivate active corrosion (Phase 1). Then, the anode automatically switches to galvanic cathodic prevention to provide long term, maintenance free corrosion protection (Phase 2).

The anode spacing and parameters of pre-treatment are customised 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.

### Uses

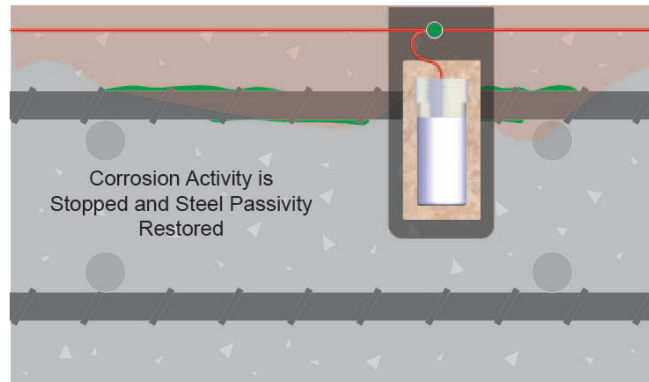
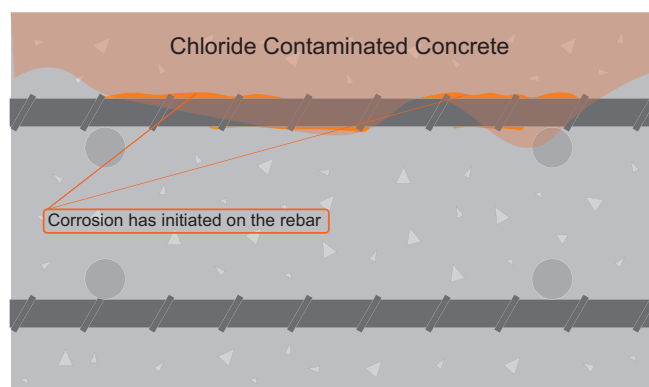
- Multi-story Carparks
- Bridge Decks, Columns & Beams
- Marine Piers and Wharfs
- Balconies

### Advantages

- 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.

*\*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.*

Level of Protection	Description	Galvashield Fusion T2
Corrosion Prevention	Preventing new corrosion activity from initiating	✓
Corrosion Control	Significantly reducing on-going corrosion	✓
Cathodic Protection	Stopping active corrosion by applying on-going electrical current	✓



Typical installation

### Specification Clause

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.

# Galvashield® Fusion T2

## Installation Instructions

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 100 mm 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. Fosroc Renderoc HB40 or Fosroc Construction Grout, (or other suitable mortar as recommended by Fosroc) should be used to install the still wet units into presoaked (saturated-surface dry) holes.

Unit	Unit Size diameter x length	Minimum Hole Size diameter x depth
Galvashield Fusion T2 Standard	46 x 100 mm	50 x 130 mm
Galvashield Fusion T2 Slim	29 x 135 mm	32 x 165 mm

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 20mm.

Anodes may be individually connected to the steel reinforcement or may be connected in a circuit as per the design. Saw cut a groove approximately 5mm wide by 12mm deep into the concrete to interconnect the 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.

## Limitations

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.

## Supply

Galvashield Fusion T2 anodes	20 units per box
Galvashield Fusion T2 Standard (MTO):	FC312005-UNIT
Galvashield Fusion T2 Slim (MTO):	FC312006-UNIT
Galvashield Fusion T2 Standard Plus (MTO):	FC312007-UNIT
Galvashield Fusion T2 Slim Plus (MTO):	FC312008-UNIT

## Ancillaries

Vector Rebar Connection Kit	Contains 20 steel connections and 20 anode connectors per kit. Innovative design allows for quick rebar connections to be made.
Anode Connection Kit 14m insulated cable, 23 anode connectors, and 5 steel connections per kit. For use when Galvashield anodes are installed in series.	Included in Galvashield Fusion T2 units pack
Vector Setting Tool	1 unit per box

## Storage

Store in dry conditions in the original unopened containers for up to one year from date of manufacture. System should be installed within one month of opening container. Take special precaution not to damage anode components during transportation or while handling. Avoid extremes of temperature and humidity.

### Important notice

A Safety Data Sheet (SDS) is available from the Fosroc website. Read the SDS and TDS carefully prior to use as application or performance data may change from time to time. In emergency, contact any Poisons Information Centre (phone 13 11 26 within Australia) or a doctor for advice.

### Product disclaimer

This Technical Data Sheet (TDS) summarises our best knowledge of the product, including how to use and apply the product based on the information available at the time. You should read this TDS carefully and consider the information in the context of how the product will be used, including in conjunction with any other product and the type of surfaces to, and the manner in which, the product will be applied. Our responsibility for products sold is subject to our standard terms and conditions of sale. Parchem does not accept any liability either directly or indirectly for any losses suffered in connection with the use or application of the product whether or not in accordance with any advice, specification, recommendation or information given by it.

