

Vector®

Galvanode® ZincTape™

Zinc Tape Protection for Steel Structures

Description

Galvanode ZincTape is used to provide galvanic corrosion protection to new and existing steel structures such as bridge supports, light posts, pipelines, marine structures, transport vehicles, and industrial tanks. Galvanode ZincTape is designed to cover the surface of iron, steel, aluminum and light metals in order to protect them from corrosion. The product consists of high purity zinc with an electrically conductive, self adhesive backing. This allows the adhesive to create an electrical couple between the surface that needs to be protected and the zinc tape, so the zinc can act as a galvanic anode. Galvanode ZincTape can be supplied in custom shapes and can be factory top-coated for improved protection and aesthetics.

Applications

- Bridges
- Masonry supports
- Light posts
- Marine structures
- Pipelines
- Industrial tanks and pipelines
- Hinges and bolted connections
- Automotive and transport vehicles

Features and Benefits

- **Dual protection** - Galvanode ZincTape provides both barrier and galvanic protection to the steel surface. The zinc layer provides a barrier to oxygen, water and chemicals. If electrolyte penetrates the tape, the zinc will act as a galvanic anode to protect the steel.
- **Custom sizing** - Galvanode ZincTape is available on rolls or in custom shapes, to meet customer needs.
- **Long service life** - Zinc layer provides long term protection to metallic surfaces that in many cases is equal to or longer than the expected lifetime of the structure.
- **Economical** - significant reduction in coating maintenance over the life of the structure.
- **Easy application** - the product is hand or mechanically applied with minimal surface preparation required. Conforms to irregularities in the metal surface such as welds and corrosion pits.
- **Environmentally friendly** - reduction in debris released to the environment through the elimination of abrasive blasting and spray coating.
- **Low maintenance** - once applied, Galvanode ZincTape requires minimal maintenance over the long term.
- **Versatile** - can be used to cover and protect the surface of iron, steel, aluminum and light alloys.

Specification

The zinc tape shall be Galvanode ZincTape supplied by Vector Corrosion Technologies, a zinc tape of high purity (min. 99.99% zinc) with a nominal thickness of 0.080mm (3 mils). The tape shall be supplied with an electro-conductive pressure sensitive adhesive of a nominal thickness of 0.025mm (1 mils) capable of resisting a continuous operating temperature of 120°C (248 °F). The adhesive layer shall be covered by a silicone paper tape which protects the adhesive from damage or contamination until the tape is applied.



Condition of Tanks before ZincTape Application



Condition of Tanks after ZincTape Application

How It Works

Galvanode ZincTape provides both passive and active protection to the metal surface:

- **Passive (barrier) protection** – the metal surface is protected from oxygen and moisture exposure due to the impermeable zinc layer.
- **Active (galvanic) protection** – When two dissimilar metals are coupled together in an electrolyte, the metal with the higher potential for corrosion (more electronegative) will corrode in preference to the more noble metal. The potential of zinc allows the tape to act as a sacrificial anode relative to the steel or light alloy.

Installation Instructions

In cases where Galvanode ZincTape is to be applied to protect dissimilar metals, the zinc tape must be applied to the more noble metal. Should there be doubts concerning the electrolytic potentials of the materials, it is advisable to cover both surfaces with zinc tape, to minimize the possibility of corrosion attack.

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Surface preparation is essential in achieving the optimum performance of the applied zinc tape. The surface preparation method chosen should be capable of removing loose corrosion by-products and loose coatings. Mechanical or manual wire brushing is used on structures with light to medium corrosion and in areas of previously coated surfaces. Blast cleaning can be used in areas where tightly adherent mill scale is present or where heavy corrosion has occurred. Ensure direct contact between the zinc tape and steel in at least one location.

In areas exposed to liquids, apply Galvanode ZincTape to the surface from the bottom up such that the overlaps allow water to drain on the surface similar to shingles on a roof.

The main methods of applying Galvanode ZincTape are as follows:

Flat or large surfaces – used primarily for large storage tanks, beams, bolted connections, vehicles, chassis, etc. Galvanode ZincTape is applied directly to the steel structure. Cut the tape to protect irregular shapes. Carefully apply the tape to ensure no voids or creases. Very good adhesion is achieved by using the Galvanode ZincTape Magnetic Roller applicator. Ensure joints and seams between sections of tape overlap a minimum of 20mm (3/4 in.).

Spiral wrapping – a continuous wrapping process for pipes that is carried out by means of a wrapping machine. This method of application is the fastest and most efficient method of applying zinc tape to pipe structures. The tape should be fitted to the dispenser on the wrapping machine and set up ensuring that the pressure rollers and tape tension are adjusted such that the tape is applied to the pipe without creases or voids. Contact Vector Corrosion Technologies for additional information on wrapping.

Cigarette wrapping – used on structures such as pipes, tanks and light posts where it is not possible to utilize the wrapping machine with tape dispenser. Circumferential strips of zinc tape are cut and hand applied. The tape is then compressed onto the structure using the magnetic roller ensuring that the tape is applied to the pipe without creases or voids.

Precautions

Metal surface must be dry during installation. Do not apply Galvanode ZincTape when the air or metal temperature is less than 3°C (38°F) or within 3°C (5°F) of the dew point. Exposure temperature should be between -45 and +120°C (-45 to +248°F). Protect the zinc surface from highly acidic or alkaline substances with a protective top coat.

Packaging and Availability

Standard Roll Sizes:

Roll Widths: 75 mm (~ 3 in), 150 mm (~ 6 in), 300 mm (~ 12 in)
Roll Length: 50 m (164 ft)

Custom widths and shapes, based on the client's need are also available.



Pipeline Application

Health and Safety

For health and safety information, please refer to the Galvanode ZincTape Material Safety Data Sheet (MSDS).

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.