ADVANCED CORROSION PROTECTION MATERIALS

TECHNICAL DATA SHEET

GalvaWrap

GalvaWrap offers an alternative to traditional organic based barrier coating systems, offers similar durability benefits to hot dip galvanizing and organic, zinc rich coatings.

Suitable for durability enhancement and life extension of new and deteriorating metallic structures, offering active and passive corrosion control.

It is designed to cover the surface of iron, steel, galvanised steel, stainless steel and aluminium, preventing corrosion of the underlaying surface.

It is surface tolerant, easy and rapid to install, requiring basic surface preparation (wire brushing and surface degreasing), when compared with the requirements of grit blasting, associated with traditional organic based coating systems.

It is naturally solvent and smell free and can be successfully applied to structures within populated areas, confined spaces, or other high-risk hazardous areas.

Durable and effective, offering the following corrosion protection lives for atmospheric exposure as per BS EN ISO 12944 ‘Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 2: Classification of environments’.

- > 40 years for environmental classification C3 (Medium - Urban and industrial atmospheres and coastal areas)
- 20 - 40 years for environmental classification C4 (High - Industrial and coastal areas)
- 10 - 20 years for environmental classification C5I & C5M (Very High - Industrial and coastal areas with aggressive atmosphere or high salinity)

Simple Sustainable Solutions for Durability Enhancement and Life Extension

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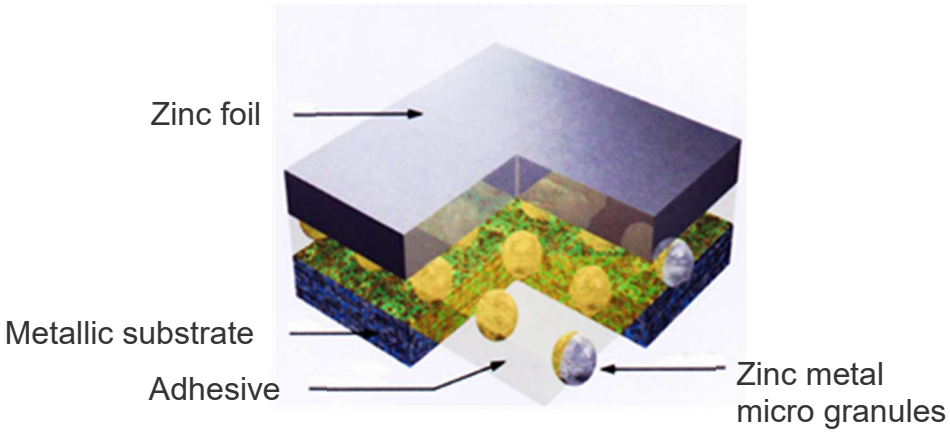
PRODUCT DESCRIPTION

GalvaWrap consists of a high purity zinc (> 99.95% Zn), 80µm (0.08mm) thick foil, supplied with a an electrically conductive adhesive layer, which can operate continuously at temperatures of up to 60°C.

The adhesive incorporates zinc metal micro granules within the adhesive layer, which provides electrical continuity between the zinc foil and the surface of the structure.

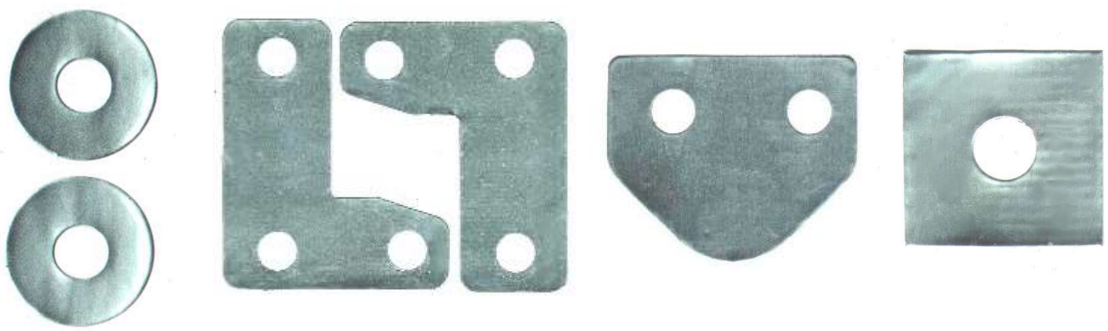


The tape is supplied with a siliconized paper, covering the adhesive layer, which facilitates installation and protects the adhesive from getting damaged or polluted.

The product is available in roll form, based on the following dimensions:

Width	mm	10	20	30	40	50	60	70	80	90	100	200	300
Length	m	50											

The product is also available as pre-cut shapes, based on the project and client specific requirements.



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Technical

Zinc is naturally more corrosion resistant than iron or steel and zinc corrosion products are white, compared to the red rust of iron and steel alloys.
Zinc is anodic to iron, steel, galvanised steel, stainless steel and aluminium, which leads to the preferential consumption of the zinc, when connected to these alloys.

When coupled with iron, steel, galvanised steel, stainless steel and aluminium structures, GalvaWrap provides Active and Passive corrosion protection, thereby preventing corrosion, deterioration and loss of structural integrity.

Active Corrosion Protection

By providing a direct electrical connection between the zinc foil and the structure surface, (through the electro-conductive adhesive), the zinc can act as a galvanic anode and provide cathodic protection to the substrate during wet conditions.

When the surfaces are wet, for example following a rain shower or surface condensation, the zinc will provide cathodic protection to the structure surface at holes or defects within the zinc foil and prevent corrosion of the exposed structure surface.

Due to this effect, GalvaWrap effectively prevents localised pitting or crevice corrosion at holes within the foil and provides a specific advantage, when compared with traditional organic type coatings systems, which are prone to pitting and crevice corrosion at coating defects.

Passive Corrosion Protection

The rate of zinc corrosion is much lower than steel in similar exposure conditions.

Zinc foil is impermeable to moisture or gasses and provides a direct barrier between the environment and the structure surface (when no holes are present).

The zinc micro granules within the adhesive, provide additional barrier effects, which enhances the natural barrier effects of the foil and provides a degree of protection when the zinc foil is completely consumed.

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Uses

GalvaWrap is suitable for providing corrosion and durability enhancement for all new and existing metallic structures, with the exception of magnesium and magnesium alloys.

It is suitable as an alternative to conventional protective coating systems or hot dip galvanising, used for corrosion protection.

Used to rehabilitate existing galvanised steel elements, where the zinc has been consumed and are showing signs of ferrous corrosion or where the galvanising is damaged during welding or cutting operations.

Over existing coating systems, as an overall containment and durability enhancement system, without the need to removed sound un-damaged coatings.

To protect contact surfaces and crevice areas, between mating surfaces or bolted connections, which are prone to wetting and localised corrosion and to prevent bi-metallic corrosion between dissimilar metal contacts.

When incorporated between mating surfaces, GalvaWrap will corrode and provide galvanic cathodic protection to the metallic mating surfaces, preventing crevice and bi-metallic corrosion of the structural components.

GalvaWrap is suitable for atmospherically exposed components, however it is not recommended for buried and immersed applications where traditional cathodic protection is more suitable.

It can be overcoated with traditional coating systems suitable for coating galvanised surfaces, to provide enhanced durability, operational life and for improved aesthetics.

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Description	Unit	Value
Zinc Foil		
Composition	% Zinc	99.95
Thickness	mm	0.080 ± 0.01
Weight	g/m2	560 ± 60
Adhesive		
Thickness	mm	0,025 min
Weight	g/m2	50 ± 10%
Backing Paper		
Thickness	mm	77 ± 5
Weight	g/m2	90 ± 5%
Performance characteristics		
Adhesion on steel - 10 hours after application	N/cm	4 min
Adhesion on steel - 48 hours after application	N/cm	6.5 min
Minimum application temperature	°C	+ 3
Minimum operational temperature	°C	–10
Maximum operational temperature	°C	60
Durability characteristics		
BS EN ISO 12944 - C3 (Medium - Urban and industrial atmospheres and coastal areas)	Years	> 40
BS EN ISO 12944 - C4 (High - Industrial and coastal areas)	Years	20 – 40 *
BS EN ISO 12944 - C5I & C5M (Very High - Industrial and coastal areas with aggressive atmosphere or high salinity)	Years	10 – 20 *
* Overcoating is recommended for applications which expose the zinc surface to intermittent or continuous salt spray.		

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Contact Us
www.acpmaterials.com
info@acpmaterials.com
Telephone : 01952 741566
Mobile : 07483 162872

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