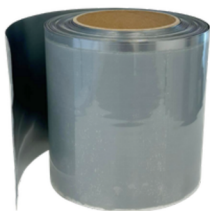


Technical Data Sheet

Zinc Layer Anode (ZLA®)

Zinc sacrificial anode for corrosion control of steel in concrete



Description

Zinc Layer Anode (ZLA®) is a zinc foil coated with an ionically conductive adhesive. The adhesive is covered with a liner to help protect it from contamination. Before application, the protective liner is removed from the adhesive and the Zinc Layer Anode is adhered to the clean, bare concrete surface. The ionically conductive adhesive enables the anode to adhere securely to the concrete surface.

Application

ZLA® is a sacrificial zinc anode designed to protect reinforcing steel in concrete from corrosion. ZLA® provides galvanic cathodic protection to reinforcing steel in concrete, helping to reduce corrosion activity.

The current required for cathodic protection is generated by the galvanic connection between the steel reinforcement and the zinc layer of the ZLA®. No external power supply is required. The ZLA® acts as an additional sacrificial anode, providing protective current to the electrically connected reinforcement. The zinc layer is electrically connected to the steel reinforcement.

This completes the galvanic circuit, allowing ionic current to flow through the conductive adhesive and the concrete, which act as electrolytes.

Since zinc has a more negative electrochemical potential than the steel reinforcement, the zinc acts as the anode and the reinforcement acts as the cathode. The zinc therefore corrodes preferentially, supplying protective current to the reinforcement and helping to reduce corrosion-related cracking and future spalling of the concrete.

Features of application

- in combination with concrete patch repair
- bridge deck or beam supports and columns
- balcony facings and concrete facades
- concrete slabs
- large surface areas

Typical features

Galvanic corrosion occurs when two different metals are electrically connected in the presence of an electrolyte.

The metal with the more negative electrochemical potential will corrode preferentially, thereby helping to protect the metal with the more positive potential.

The protective current generated by ZLA® is distributed through the surrounding concrete to the electrically connected reinforcement. This ability to provide protection beyond the immediate anode area is commonly referred to as “throwing power”. The effective protection area depends on factors such as concrete resistivity, reinforcement geometry and environmental conditions.

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COMPOSITION	WEIGHT (G/M ²)	THICKNESS MICRON
ZINC SHEET 250	1750	250
IONICALLY CONDUCTIVE ADHESIVE	1200	900 (+/- 100)
TOP LINER	200	PET FILM
TOTAL	3150 +/- 5%	
ZINC SHEET 450	3150	450
IONICALLY CONDUCTIVE ADHESIVE	1200	900 ± 100
TOP LINER	200	PET FILM
TOTAL	4550 +/- 5%	
ADHESIVE ON CONCRETE*		
10 HOURS AFTER APPLICATION	> 0.120 MPA	> 0.120 MPA
48 HOURS AFTER APPLICATION	> 0.140 MPA	> 0.140 MPA
ELECTRICAL CONDUCTIVITY		
	VOLUME RESISTIVITY	< 10 KΩ·CM
MINIMUM APPLICATION TEMPERATURE		4 °C
OPERATING TEMPERATURE		-4 TO +50 °C

*This test was done on clean and dry concrete.

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Dimensions and storage

ROLL WIDTH	25 CM
ROLL LENGTH	20 M (250 & 450 MICRON ZINC SHEET)
SHELF LIFE	APPROX. SIX MONTHS FROM THE DATE OF RECEIPT BY THE CUSTOMER WHEN STORED IN THE ORIGINAL PACKAGING AT < 22 °C AND 50% RH.



Performance characteristics

Depolarization of reinforcing steel in accordance with EN ISO 12696, "Cathodic protection of steel in concrete".

*The zinc may show signs of surface oxidation over time, such as discoloration or white deposits. Due to the purity of the zinc, this is considered normal and does not affect product performance.



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ZINC LAYER ANODE	ISO 12696:2011 § 6.2.6.2: Adhesive zinc-sheet anode	CE 0100
BASIC CHARACTERISTICS	PERFORMANCE	HARMONISED TECHNICAL SPECIFICATION
PERFORMANCE CRITERIA	A) INSTANT-OFF POTENTIAL MORE NEGATIVE THAN -720 MV AG/AGCL, 0.5 M KCL B) INSTANT OFF DECAY ≥ 100 MV WITHIN A 24-HOUR PERIOD C) INSTANT OFF DECAY ≥ 150 MV FOR PERIODS GREATER THAN 24 HOURS	ISO 12696:2011 • PROVIDED THAT §4.2 IS RESPECTED • CRITERIA AS PER §8.6 A, B OR C • REFERENCE TO §8.5 NOTE 2 AND §8.6 NOTE 8, NOTE 10.
ANODE CURRENT OUTPUT	A) OPEN CIRCUIT POTENTIAL OF ZLA $\geq N1000$ MV AG/AGCL 0,5M KCL. B) ANODE CURRENT > 1 MA/M² OF ZLA®	EN 1504-9 PRINCIPLE 10 METHOD 10.1
OH ⁻ FORMATION AT STEEL	MAX. 0.0373 MMOL OH ⁻ /MA	EN 1504-9 PRINCIPLE 7, METHOD 7.3 & 7.5
INCREASING RESISTIVITY	LIMITING MOISTURE CONTENT BY SURFACE TREATMENTS, COATINGS OR SHELTERING	EN 1504-9 PRINCIPLE 8 METHOD 8.1
CONTROL OF ANODIC AREAS	LIMITING OXYGEN CONTENT (AT THE CATHODE) BY SURFACE COATING	EN 1504-9 PRINCIPLE 9 METHOD 9.1

All technical data stated in this Technical Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control. The information, and, in particular, the recommendations relating to the application and end-use of CorrPRE's products, are given in good faith based on CorrPRE's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with CorrPRE's recommendations.

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Approved by: R. Giorgini