



CORROSION CONTROL



Mapeshield E 25

“A SIMPLE CORROSION PREVENTION SOLUTION
FOR STEEL IN CONCRETE”

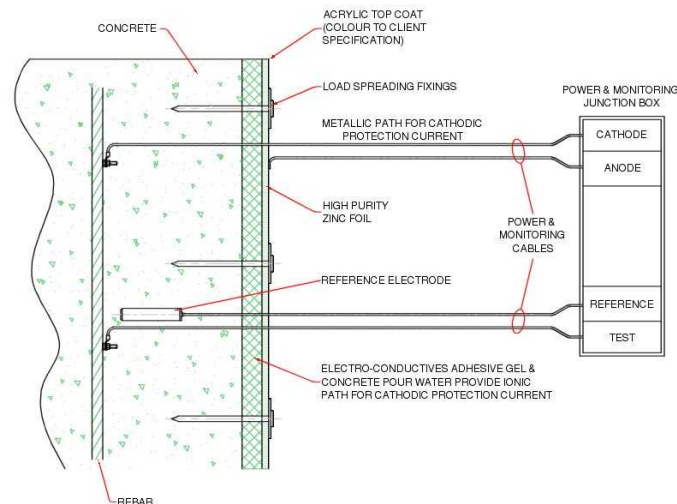
Overview

Mapeshield E25 has been specifically designed to reduce the deterioration of steel reinforced concrete structures due to the affects of corrosion of the embedded reinforcing steel. It provides galvanic cathodic protection when the zinc foil is connected to the reinforcement and the ionic-conductive gel is in contact with the concrete surface.

Mapeshield E25 can be used as a preventative system, installed in the early life of a structure or as a corrective system for older structures suffering from deterioration due to corrosion and is suitable for all atmospherically exposed reinforced concrete structures which are suffering from, or are susceptible to corrosion caused by chloride ingress and/or carbonation.

General Product Description

Mapeshield E25 consists of a 0.25mm thick high purity sheet of zinc foil, coated on one side with a 0.75mm thick low resistance ionic-conductive gel. The gel side of the foil is covered with a temporary non adhesive plastic protection liner which provides protection to the gel prior to installation.



Benefits

- More cost effective corrosion control solution for reinforced concrete structures compared with other current electro-chemical control methods.
- Offers a more uniform level of protection when compared with current existing galvanic protection systems for reinforced concrete structures.
- Suitable for protection of high strength pre and post tensioned systems with no risk of hydrogen damage.
- Proven to prevent incipient anode formation following patch repairs.
- Installation reduces structural interference and maintains existing structure integrity.
- Fixed to the concrete surface by means of mechanical fixings which provide better surface contact with no risk of disbonding of the foil from the concrete surface.
- Easy to install, is self regulating and requires no AC power for operation.
- Systems are relatively maintenance free and can provide protection for years depending on the type and location of the structure.
- Foil thickness can be increased to meet higher localised current demands or extended life requirements.

Mapeshield E25 is available in roll form in the following dimensions:

Roll Width (m)	Roll length (m)	Roll weight (kg)	Foil thickness (mm)	Weight (Kg/m ²)
0.25	25	20	0.25	3.15

An overlap of 2.5 cm is recommended.

Method of Fixing

Fixing of the **Mapeshield E25** to the concrete surface is achieved by mechanical fixing at a frequency of approximately 0.5m – 1m intervals. The ionic conductive gel will provide some temporary adhesion to the concrete surface during installation.

Method of Monitoring

During the installation phase permanent monitoring devices can be installed in the concrete structure to enable monitoring in accordance with BS EN 12696:2000.

Top Coating Mapeshield E25

To provide an additional environmental barrier and an aesthetically pleasing finish **Mapeshield E25** should be sealed with Mapelastic Smart and can be painted with a suitable organic coating following the fixing procedure if desired. This will provide an additional barrier protection to the concrete structure and ensure uniform consumption of the zinc at the zinc/gel/concrete interface.

Technical Data

Composition	Weight g/m ²	Thickness µm
Zinc Band	1750	250
Adhesive	1439	900 (+/- 200)
Paper	148	75 PET film
Total	3337	1225
Characteristics		
Zinc band	Unit	Value
Thickness	µm	250
Weight	g/m ²	1750
Purity	%	99.9
Ionic-Conductive Gel		
Thickness	µm	900 (+/- 200)
Weight	g/m ²	1439
Volume resistivity	Ohm.cm	< 10,000
Minimum application temperature	°C	4
Ideal application temperature	°C	>10
Minimum - Maximum temperature	°C	-10 - 60
Paper	material	PET
Weight	g	148
Thickness	µm	75
Maximum Electrical Capacity		
80 % efficiency	Amp / Year/ m ²	0.13
50 % efficiency	Amp / Year/ m ²	0.08





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