

Mapeshield I

Pure Zinc Galvanic Anode



DESCRIPTION

Mapeshield™ I is a pure zinc anode for cathodic protection of reinforcing steel against corrosion in new, reinforced structures as well as structures requiring repair.

FEATURES AND BENEFITS

- Available in lengths of 3.94" (10.0 cm) and 11.81" (30.0 cm)
- Available in five different weights of active zinc content
- Long-lasting delivery of protective current*
- Surrounded by a special conductive paste, *Mapeshield I* anodes provide sufficient current to be anodic to the reinforcing steel and lower in electric resistance than other anodes that have solid, thick cementitious shells.
- An optimized design that maximizes the available surface area of the zinc plates
- Compliance with international standard ISO 12696, "Cathodic Protection of Steel in Concrete"
- Quick and easy installation with no special tools needed
- Does not require a low-resistivity mortar packed around the anode when a high-resistivity repair mortar is utilized
- Can be used with concrete and concrete repair mortars with resistivities up to 100 k Ω , as specified by EN 12696 standards

** Protective current is influenced greatly by amount of chlorides in the existing concrete as well as rebar density in the structure.*

WHERE TO USE

- On new, steel-reinforced concrete structures and elements that will be affected by chloride ingress
- On existing, steel-reinforced concrete that exhibits corrosion from chlorides
- Can be installed in architectural precast before placement of concrete

SUITABLE SUBSTRATES

- Properly prepared reinforcing steel

Consult MAPEI's Technical Services Department for installation recommendations regarding substrates and conditions not listed.

SURFACE PREPARATION

- Ensure that the reinforcing steel is clean and free of any corrosion and prepared to a near white finish according to the Society for Protective Coatings (SSPC) Spec. SP-5-89 or NACE No. 1.
- Verify continuity of reinforcement rods with an appropriate ohmmeter before installing *Mapeshield I*. Resistance of up to 1 ohm is acceptable.
- If resistance is not acceptable or continuity is not established, tie all reinforcing bars with steel rebar ties to reestablish continuity and acceptable resistance.
- When *Mapeshield I* is being utilized in existing structures, ensure that the repair area is prepared per manufacturer's recommendations for the concrete repair mortar being used.
- Sufficient clearance of at least 3/4" (19 mm) should be provided between the anode and the concrete substrate, or 1/4" (6 mm) larger than the largest size aggregate in the repair material – whichever is greater.

PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

1. Ensure that anodes are positioned and fastened in place to the reinforcing steel so that they do not move during repair and casting operations.
2. Attach anodes to the reinforcement steel by welding, or by utilizing hose clamps or traditional steel rebar ties.
3. Place the anodes along the perimeter of the repair area, ensuring that enough space is provided to completely surround the anodes with the repair material. The location and spacing of the anodes should be as directed by the design professional. The maximum spacing recommendations below are provided for general guidance to design professionals, who must also consider the project's specific conditions that may affect performance.

LIMITATIONS

- Do not use an epoxy or polyurethane mortar for repair work.
- Store *Mapeshield I* in a dry, cool area in its sealed packaging.

Structures Requiring Repair – Maximum spacing***

(on center)

Density of Reinforcing Steel**	Mapeshield I 70	Mapeshield I 105	Mapeshield I 10	Mapeshield I 30
0.6	~24" (60.9 cm)	~24" (60.9 cm)	~24" (60.9 cm)	~32" (81.2 cm)
0.8	~20" (50.8 cm)	~20" (50.8 cm)	~20" (50.8 cm)	~28" (71.1 cm)
1.0	~16" (40.6 cm)	~16" (40.6 cm)	~16" (40.6 cm)	~24" (60.9 cm)
1.2	N/A	~12" (30 cm)	~12" (30 cm)	~20" (50.8 cm)
1.4	N/A	~8" (20 cm)	~8" (20 cm)	~16" (40.6 cm)

New Structures – Maximum spacing***

(on center)

Density of Reinforcing Steel**	Mapeshield I 70	Mapeshield I 105	Mapeshield I 10	Mapeshield I 30
0.6	~36" (91.4 cm)	~36" (91.4 cm)	~36" (91.4 cm)	~40" (101.6 cm)
0.8	~32" (81.2 cm)	~32" (81.2 cm)	~32" (81.2 cm)	~36" (91.4 cm)
1.0	~28" (71.1 cm)	~28" (71.1 cm)	~28" (71.1 cm)	~32" (81.2 cm)
1.2	N/A	~24" (60.9 cm)	~24" (60.9 cm)	~28" (71.1 cm)
1.4	N/A	~20" (50.8 cm)	~20" (50.8 cm)	~24" (60.9 cm)

** Actual surface area of reinforcing steel rods per square foot (0.09 m²) of concrete

*** Maximum spacing is based on typical conditions.

Product Performance Properties

	Mapeshield I 70	Mapeshield I 105	Mapeshield I 10/10	Mapeshield I 10/20	Mapeshield I 30/10	Mapeshield I 30/20
External surface (length x width)	3.94" x 1.97" (10.0 x 5.0 cm)	5.91" x 1.97" (15.0 x 5.0 cm)	3.94" x 1.97" (10.0 x 5.0 cm)	3.94" x 1.97" (10.0 x 5.0 cm)	11.81" x 1.97" (30.0 x 5.0 cm)	11.81" x 1.97" (30.0 x 5.0 cm)
Thickness	0.2" (5 mm)	0.2" (5 mm)	0.47" (12 mm)	0.59" (15 mm)	0.39" (10 mm)	0.47" (12 mm)
Mass of zinc	70 g	105 g	168 g	245 g	340 g	450 g

Shelf Life

Shelf life	2 years in original sealed, vacuum-packed packaging in a dry place
Storage conditions	Store at 40°F to 90°F (4°C to 32°C) and less than 50% relative humidity. Protect from freezing in storage and shipment.

Packaging

Size
<i>Mapeshield I 70</i> , 50 per carton
<i>Mapeshield I 105</i> , 50 per carton
<i>Mapeshield I 10/10</i> , 24 per carton
<i>Mapeshield I 10/20</i> , 24 per carton
<i>Mapeshield I 30/10</i> , 12 per carton
<i>Mapeshield I 30/20</i> , 12 per carton

ADDITIONAL INFORMATION

For information on MAPEI's commitment to sustainability and transparency, as well as how MAPEI products may contribute to green building standards and certification systems, contact sustainability_USA@mapei.com (USA).

WARNING

The test results shown in the TECHNICAL DATA table were obtained in compliance with test methods and curing cycles, if applicable, defined in the industry standards referenced on the Technical Data Sheet. Please note that the use of test procedures or methods other than those indicated in the table could lead to different values and that, in such cases, any liability of our company is excluded.

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Before using, the user must determine the suitability of our products for the intended use, and the user alone assumes all risks and liability. **ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN FIFTEEN (15) DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.**

CONTACT INFORMATION

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Customer Service

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For the most current product data and BEST-BACKEDSM warranty information,
visit www.mapei.com.
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