

PRODUCT DATA

3 03 01 20 Maintenance of Concrete Reinforcing

# EMACO<sup>®</sup> CP INTACT GALVANIC ANODES

Embedded galvanic anode for the protection of reinforcing steel

## Description

Emaco<sup>®</sup> CP Intact Galvanic Anodes are engineered discrete zinc anodes encased in a proprietary mortar. Integral galvanized tie wires permit easy connection to concrete reinforcement. As a key component of a complete concrete repair strategy, the sacrificial zinc core generates a small electrical current as it is consumed, protecting the reinforcing steel from accelerated corrosion.

## Yield

Job-site dependent. Consult Emaco CP Intact Installation Guide.

## Packaging

Varies by size. See property chart.

## Color

Color coded for quick and easy identification. See property chart.

## Shelf Life

3 years when stored properly

## Storage

Store in clean, dry conditions

## Features

- Chelation Driven System
- Lower pH mortar
- High grade ASTM B418 type II zinc alloy
- Pre-twisted tie wires
- Increased zinc surface area
- Generates small current as it deteriorates, to protect reinforcing steel
- Enhanced transport of reaction by products
- Not affected by carbonation or auto-corrosion

## Benefits

- Prevents re-passivation of the zinc; Optimizes service life
- Non-caustic; Safe to handle
- Prolonged shelf life; Reduced tendency toward degradation
- Proper stand-off from reinforcing steel; Ensures optimal current throw; Fast, easy installation
- Optimizes anode performance; Extends service life; up to 50% more efficient than other anodes of same zinc weight
- Extends service life and reduces maintenance costs
- Anode reactivates after wet/dry cycles; Longer service life
- Greater shelf life

## Where to Use

### APPLICATION

- Where reinforced structures will be repaired
- Where chlorides are present in the structure
- Wherever corrosion of reinforcing steel is possible
- In post-tensioned, prestressed, or conventionally reinforced structures

### LOCATION

- Interior or exterior

### SUBSTRATE

- Concrete or masonry

## How to Apply

1. Demolition: All loose and spalled concrete should be removed in accordance with conventional repair guidelines. Emaco CP Intact Anode positioning should be considered when removing the existing concrete.
2. Positioning: In most applications, the anodes should be positioned at the perimeter of the repair and on plane with the reinforcing steel to provide a proper level of cover. Anodes must be positioned so that the entire anode and the wire connections to the reinforcing steel are totally covered by the encasement material once the repair is complete.
3. Preparation: For correct electrical connection and anode function, only structures using black bar reinforcing are suitable; the surface of the reinforcing steel should be untreated and cleaned to a near white surface condition in areas designated for the connection of Emaco CP Intact Anodes. No other pretreatment or post treatment of the steel is necessary or permitted.



## Technical Data

### Composition

Emaco CP Intact Anodes are engineered zinc-alloy anodes encased in a proprietary mortar, which connect to reinforcing steel using integral galvanized steel tie wires.

### Test Data

PROPERTY	EMACO CP INTACT 65G	EMACO CP INTACT 105G	EMACO CP INTACT 150G
<b>Color</b>	Green	Blue	Orange
<b>Packaging</b> (anodes/box)	30	24	24
<b>Total anode weight</b>	0.53 lb (0.24 kg)	0.75 lb (0.34 kg)	0.82 lb (0.37 kg)
<b>Zinc alloy</b>	ASTM B418, Type II	ASTM B418, Type II	ASTM B418, Type II
<b>Zinc content</b>	0.14 lb (65 g)	0.23 lb (105 g)	0.33 lb (150 g)
<b>Zinc surface area</b>	20.6 in <sup>2</sup> (133 cm <sup>2</sup> )	40 in <sup>2</sup> (258 cm <sup>2</sup> )	42 in <sup>2</sup> (279 cm <sup>2</sup> )
<b>External surface area</b>	34 in <sup>2</sup> (219 cm <sup>2</sup> )	40 in <sup>2</sup> (258 cm <sup>2</sup> )	40 in <sup>2</sup> (258 cm <sup>2</sup> )
<b>Auto-corrosion</b>	<0.0004 in/yr (<0.01 mm/yr)	<0.0004 in/yr (<0.01 mm/yr)	<0.0004 in/yr (<0.01 mm/yr)
<b>Tie wire composition</b>	Galvanized, 16 gauge steel	Galvanized, 16 gauge steel	Galvanized, 16 gauge steel

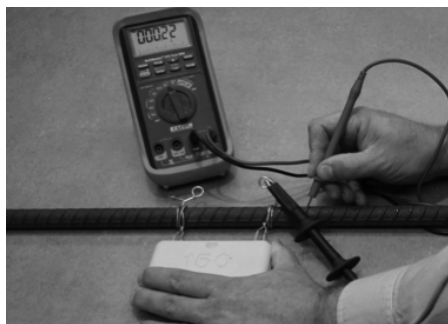
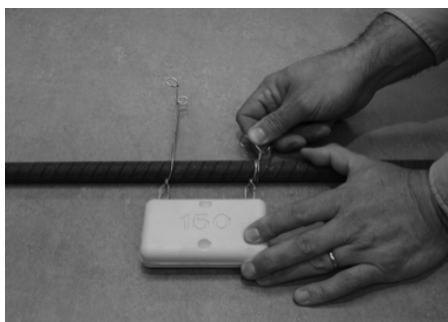
Note: Reinforcing steel should be tested for continuity; that is, assuring that the reinforcements are electrically connected by confirming that the DC resistance is  $\leq 1 \Omega$ . Connections to test continuity should be made using traditional techniques such as wire ties or welding bonds. Also, pre-wetting of Emaco CP Intact Anodes in clean water prior to encasement is recommended for optimum adhesion of the encasement material.

4. Attaching: Tighten the two pairs of pre-twisted wires by hand around the reinforcing steel in a double wrap pattern to achieve a sound electrical bond (see Photo 1). The pre-twisted wire connectors provide a sound bond, good electrical contact and proper spacing from the reinforcing steel to which the anode is attached. No additional form of attachment or electrical connection is necessary or permitted.

5. Verification: Verify sound electrical connection of the anodes to the reinforcing steel by checking for a DC resistance  $\leq 1 \Omega$  (see Photo 2).

6. Encasement Material: Conventional, commercially available encasement material should be used. Corrosion protection is enhanced with low resistance mixes  $\leq 20,000 \Omega$  - cm, but mixes should not be selected that exceed 50,000  $\Omega$  - cm.

High polymer content and silica fume should not be used. Place encasement materials in accordance with conventional techniques to assure good consolidation.



### For Best Performance

- When repairing concrete incorporating Emaco CP Intact anodes, make certain to use a compatible repair mortar. Suitable repair products have a resistivity of less than 20,000  $\Omega$  -cm. Higher resistivity repair materials can be used. Contact BASF Technical Services for additional information.
- Make certain that the most current versions of the product data sheet and MSDS are being used. Call Customer Service (1-800-433-9517) to verify the most current version.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

### BASF Construction Chemicals, LLC – Building Systems

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