

MasterShield CP 8065/8105/8160

Embedded galvanic anode for the protection of reinforcing steel

Material Description

MasterShield CP 8065/8105/8160 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.

Areas of Application

- Where reinforced concrete or masonry structures will be repaired (Interior or exterior).
- Where chlorides are present in the structure.
- Wherever corrosion of reinforcing steel is possible in post-tensioned, pre-stressed, or conventionally reinforced structures.

Characteristics and Benefits

- Chelation Driven System - prevents re-passivation of the zinc, optimizes service life
- Lower pH mortar - non-caustic. Safe to handle
- High grade ASTM B418 type II zinc alloy - prolonged shelf life; Reduced tendency toward degradation.
- Pre-twisted tie wires - proper stand-off from reinforcing steel. Ensures optimal current throw. Fast, easy installation.
- Increased zinc surface area - optimizes anode performance. Extends service life; up to 50% more efficient than other anodes of same zinc weight.
- Generates small current as it deteriorates, to protect reinforcing steel - extends service life and reduces maintenance costs.
- Enhanced elimination of reaction by products - anode reactivates after wet/dry cycles. Longer service life.
- Not affected by carbonation or auto-corrosion - greater shelf life.

Application

Surface Preparation

All loose and spalled concrete should be removed in accordance with conventional repair guidelines. **MasterShield CP 8065/8105/8160** Anode positioning should be considered when removing the existing concrete.

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 repair mortar once the repair is complete.

Preparation

For correct electrical connection and anode function, only structures using uncoated reinforcing steel are suitable; the surface of the reinforcing steel should be untreated and cleaned to a bright surface condition in areas designated for the connection of **MasterShield CP 8065/8105/8160** Anodes. No other pre-treatment or post treatment of the steel is necessary or permitted.

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 welded bonds. Also, pre-wetting of **MasterShield CP 8065/8105/8160** Anodes in clean water prior to encasement is recommended for optimum adhesion of the encasement material.

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. 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.

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Verification

Verify sound electrical connection of the anodes to the reinforcing steel by checking for a DC resistance $\leq 1\Omega$. Repair mortar for bedding the anode: MasterCrete CI 5200, MasterShield CP 816 or a suitable MasterCrete CI 822 grade should be used. Corrosion protection is enhanced with low resistance mixes $\leq 20,000\Omega \cdot \text{cm}$, but mixes should not be selected that exceed $50,000\Omega \cdot \text{cm}$. High polymer content and silica fume should not be used. Place repair mortars in accordance with datasheet instructions to assure good consolidation.

Estimating Data

Consult **MasterShield CP 8065/8105/8160** Installation Guide.

Packaging

30 units per box for the 65 and 24 units for the 105 and 160 gram units.

Storage & Shelf Life

MasterShield CP 8065/8105/8160 Anodes has a shelf life of 36 months. Store out of direct sunlight, clear of the ground on pallets protected from rainfall.

Properties

Property	MasterShield CP 8065	MasterShield CP 8105	MasterShield CP 8160
Colour	Green	Blue	Orange
Packaging(anodes/box)	30	24	24
Total anode weight	240g	340 g	370g
Zinc alloy	ASTM B418, Type II	ASTM B418, Type II	ASTM B418, Type II
Zinc content	65g	105g	160g
Zinc surface area	133cm ²	258cm ²	279cm ²
External surface area	219 cm ²	258 cm ²	258 cm ²
External dimensions	115 mm w x 70 mm h x 20 mm thick	116 mm w x 70 mm h x 26 mm thick	116 mm w x 71 mm h x 26 mm thick
Auto corrosion	< 0.01 mm/yr	< 0.01 mm/yr	< 0.01 mm/yr
Tie wire composition	Galvanized, 16 gauge steel	Galvanized, 16 gauge steel	Galvanized, 16 gauge steel

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Disclaimer

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