Advancements in Galvanic Cathodic Protection Jackets

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WHY CP MARINE PILE JACKETS?

TYPES OF GALVANIC PILE JACKETS?
WHAT TYPE OF JACKET TO SELECT?

Exposure conditions:
- Saltwater
- Tidal
- Transitional
- Atmospheric
- Brackish Water
- Freshwater
- Dryland

Exposure Conditions - Zinc Activation

What does exposure conditions have to do with jacket effectiveness?

- Zinc is stable at pH 6 to 12.5
- Activation increases zinc activity in concrete
- Saltwater activated
  - Chlorides are corrosive to zinc
    - Zinc Mesh Jackets
    - Zinc Fabric Anodes
- Alkali activated
  - High pH mortar (14+) is corrosive to zinc
  - Alkali activated anodes

Typical Pile Exposure

- Atmospheric Chlorides / Dry
- Splash Zone / Periodic
- Tidal Zone / Regular
- Underwater

All conditions can be corrosive!
Zinc Mesh Jacket

- Tidal zone protection
- Zinc mesh anode
- Open bottomed FRP Jacket
- Allows saltwater inside
- Bulk Anode for underwater protection

Saltwater enters open bottom of form and saturates the zinc mesh inside the jacket.
Zinc Fabric / Wicking Jacket

- Tidal / Splash zone protection
- Zinc Anodes wrapped in absorbent fabric
- Open bottomed Jacket
- Saltwater wicks upward
- Modular Forms
- Optional Bulk Anode for underwater protection

Wicking Anode Jacket

Saltwater enters open bottom of form and saturates the zinc mesh inside the jacket.

Wicking Anode Jacket

High Tide

Low Tide

Wet Zone
**Alkali Activated Anode Jacket**

- Saltwater NOT required!
- Alkali Activated Anodes used to protect piles and columns in:
  - Saltwater
  - Brackish water
  - Fresh water and
  - Dry land applications.
- Use appropriate bulk anode for underwater protection when required.

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**Florida Keys Column Encasement**

- Relying on high Alkaline Mortar to keep Zinc Anodes Activated
- NO Saltwater enters bottom.

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**Alkali Activate Anode Jacket**

- Florida Keys Column Encasement
Alkali Activate Anode Jacket
Florida DOT - Dry / Atmospheric Exposure Condition

Jacket Comparison - Performance Areas

Stay-in-Place Forms - Options

2 Piece Forms Modular
Stay-in-Place Forms
2 Piece - Clam Shell

Preformed 1 or 2 Piece

Stay-in-Place Forms - Modular

Modular Jacket Panel
“Jacket in a Box”

Galvanic Jacket System Overview
Models and Recommended Use

How to Pick the Correct Pile Jacket?
Galvanic Jacket System Overview
Models and Recommended Use

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