Advancements in Galvanic Cathodic Protection Jackets

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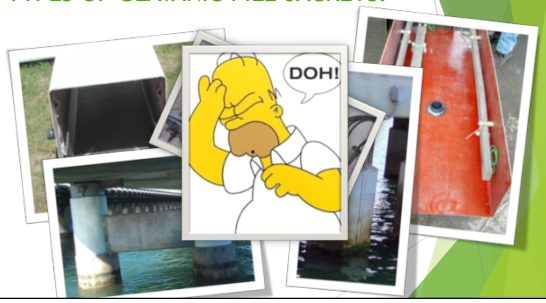
VECTOR CORROSION TECHNOLOGIES

WHY CP MARINE PILE JACKETS?

TYPES OF GLAVANIC PILE JACKETS?



WHAT TYPE OF JACKET TO SELECT?

Exposure conditions:

Saltwater
- Tidal
- Transitional
- Atmospheric

Brackish Water

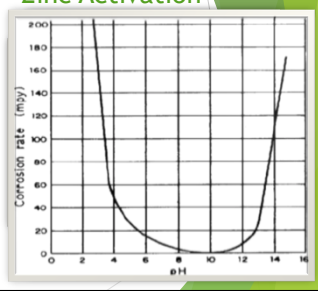
Freshwater

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

All conditions can be corrosive!

Splash Zone / Periodic

Tidal Zone / Regular

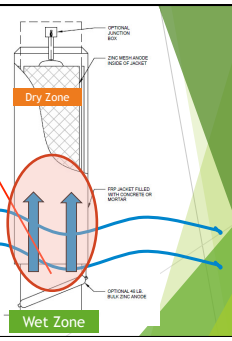
Underwater

Zinc Mesh Jacket

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

Zinc Mesh Jacket

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

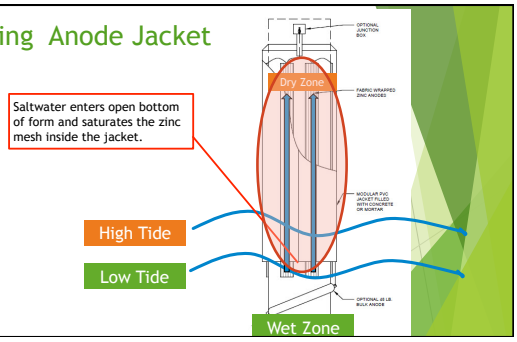


Zinc Mesh Jacket

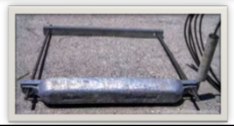
Zinc Fabric / Wicking Jacket

- 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



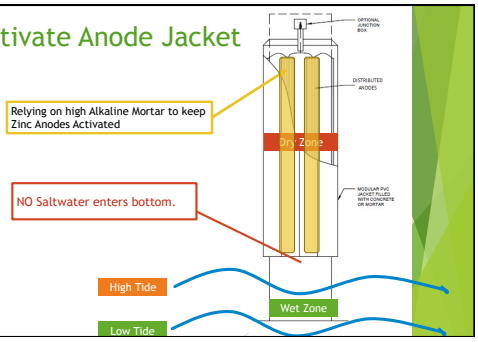
Wicking Anode Jacket



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.

Alkali Activate Anode Jacket



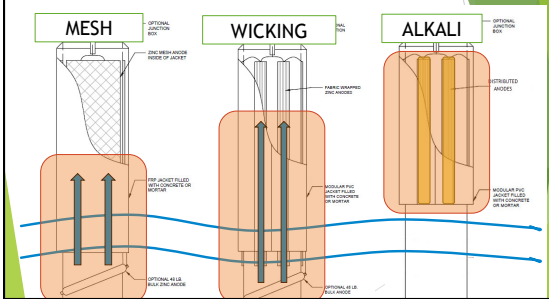
Alkali Activate Anode Jacket

Florida Keys Column Encasement

Alkali Activate Anode Jacket

Florida DOT - Dry / Atmospheric Exposure Condition

Jacket Comparison – Performance Areas

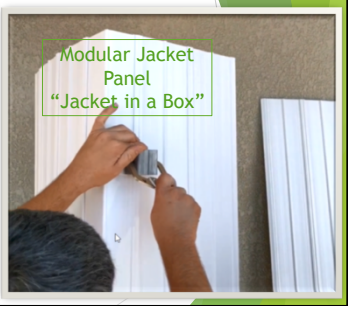


Stay-in-Place Forms - Options

Stay-in-Place Forms
2 Piece – Clam Shell

Preformed 1 or 2 Piece

Stay-in-Place Forms - Modular

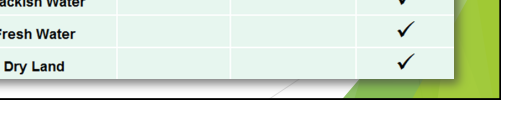


Galvanic Jacket System Overview
Models and Recommended Use

Galvanic Jacket System Overview

Models and Recommended Use

Exposure		MESH JACKET	WICKING JACKET	ALKALI JACKET
Saltwater	Tidal	✓	✓	✓
	Transitional		✓	✓
	Atmospheric			✓
Brackish Water				✓
Fresh Water				✓
Dry Land				✓



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