CATHODIC PROTECTION

Lexi-Hybrid Impressed Current Cathodic Protection

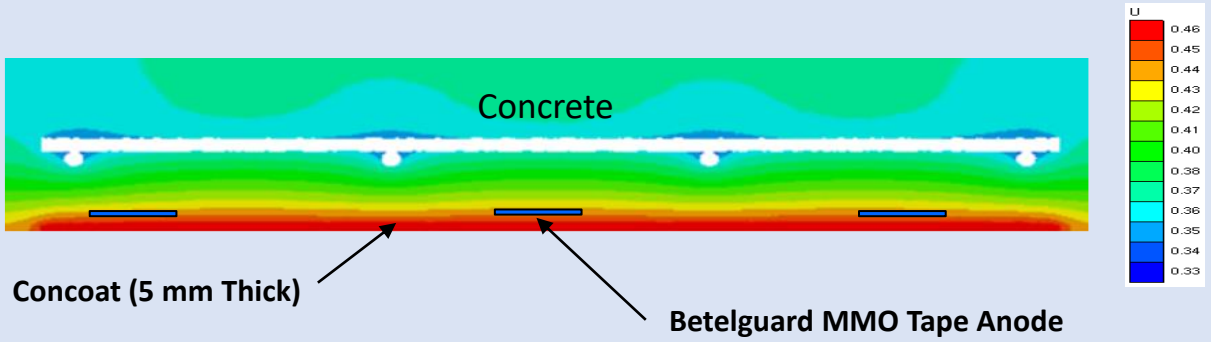
Concrete Structures

Lexi-Hybrid Impressed Current Cathodic Protection (ICCP) System is the most advanced system for concrete structures to control rebar corrosion by chlorides or carbonation. This CP system includes both features of expanded titanium mesh with concrete overlay ("surface anode") and slotted ribbon mesh ("line anode").

Betelguard MMO Titanium Tape Anode is a key component for **Lexi-Hybrid**

Impressed Current Cathodic Protection (ICCP) System for reinforced concrete structures. It is composed of a precious metal oxide catalyst sintered to specially designed thin titanium tape substrate.

Concoat is the semi-conductive concrete mortar which is applied over the Betelguard MMO Titanium Tape Anode system to spread the CP current to the entire concrete surface uniformly. Since the semi-conductive nature, the risk of electrical short circuits is eliminated.



Computer Modelling on CP Current Distribution

Features

- Highly cost effective
- Simple installation without the extensive experiences by a contractor
- Quick and low cost installation – no need for cutting or drilling concrete
- No risk of electrical short circuit, causing the malfunction of CP system
- High performance due to the uniform CP current distribution to the entire structure
- Developed high bonding strength in a short period of time (Min. 1 MPa)

Applications

- Marine structures (jetties, wharves, seawall, caisson, etc.)
- Buildings, balconies • Bridges • Cooling towers • Intake structures
- Viaducts • Box culverts • Parking garages
- Concrete structures not exposed to rain or water splash
  (tunnels, deck soffits, indoor, etc.)

Anode Material Specifications

Betel Guard Titanium MMO Tape Anode

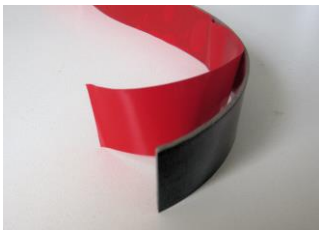
Width:	20 mm
Thickness:	0.05 or 0.07 mm
MMO type:	Iridium Oxide Base
Substrate:	Grate 1 Titanium (ASTM B265)
Electrical resistance (100 m):	0.04 & 0.07 ohm
Expected life (NACE Standard TM02944-94):	Min. 50 years at 150 mA/m^2
Max. anode current rating at 150 mA/m^2:	3 mA/m
Short term limited anode current density:	220 mA/m^2
Pressure sensitive adhesive (option):	Acrylic Foam

Titanium Conductor Tape

Width:	20 mm
Thickness:	0.07 mm
Material:	Grate 1 Titanium (ASTM B265)

Concoat

Shrinkage:	0.015% at 28 days
Electrical resistivity:	100 to 1,000 ohm-cm
Application thickness:	5 mm (nominal)
Expected life:	Min. 40 years (20 mA/m^2 on concrete)



Betelguard Titanium Tape Anode with
Pressure sensitive adhesive

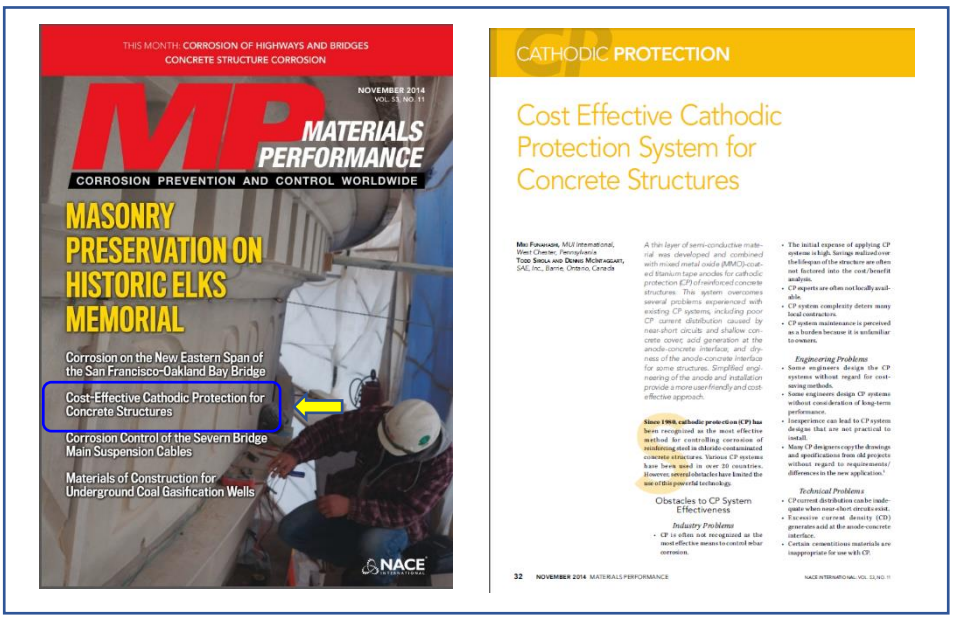
Installation Procedure

1. Surface preparation by high pressure water

2. Attachment of Betel Guard MMO Titanium Tape

3. Connecting all MMO tape anodes to titanium conductor tape using spot welding.

4. Appling Concoat to finish the CP anode system. (right: hand truanting, right: spray)



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