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CATEGORY	ELECTRIC ISOLATED ANCHORS
VERSION	EN-1.0

[MKEi] ELECTRIC ISOLATED MK4 Anchors

Why

The high-strength steels used in the posttensioning tendons are more susceptible to corrosion than normal reinforcing steel and are quite more brittle too. The traditional corrugated metallic ducts, in some hard environments, do not present an appropriate barrier against ingress of chlorides contained in the water. To fulfill this exceptional cases Industry, designers and owners were thus looking for a more durable solution, quite appropriate for specific situations like marine environments, rail and tramway projects, structures exposed to electrical stray currents, etc.

Product Description

MK4Ei Electrically insulated anchorages range is based on the ETA013 approved MKA system. MK4Ei are used where protection of pre-stressing cables from corrosive agents is highly required. The tendon is enveloped completely in a protective plastic sheathing from the outside agents at the starting of anchoring blocks. A dielectric material made of high-density polyethylene is used for a complete encapsulation of the posttensioning tendons.

Therefore, the electrically isolated post-tensioning tendons is providing a reliably protection even in the environment with a high occurrence of stray currents.

The technology used it is based on a high density polyethylene duct that fully encapsulates all the high-strength steels (wedges, plate, trumpet and strand), grouting that creates a protective alkaline environment for the steel strands and an anchor head that is isolated from the ground and the normal reinforcement of the structure.

The system is also thought to be airtight and watertight to avoid the potential ingress of moisture and chlorides.

The range of products for the MK4 Electric isolated anchors (MKEi) goes from 4 strands to 37 strands (4/06" to 37/06").

Uses

- In structures exposed to electrical current
- Railways
- Tramways
- Ground Anchors
- Marine environments (C5-M)

Advantages

- Electrical insulation of the cable from the surrounding environment – protection against corrosion caused by electromechanical phenomena.
- Impermeability of the duct – protection against corrosion caused by oxidation and chlorides attack.
- The system offers the possibility to monitor the quality of installed tendons through measurement of electrical resistance (impedance) between strands and rebar reinforcement of the load bearing structure.
- The monitoring of corrosion protection integrity through this method can be conducted anytime during the life cycle of the structure (long-term monitoring and inspection).
- Very high durability



Design Standard Following FIB Report 33 and Bulletin75
PL3 Corrosion Protection Level

- Components**
- PP Protection cap
 - Anchor plate
 - Epoxy coated trumpet
 - Inner plastic sleeve of the trumpet
 - Isolator ring
 - HDPE duct

Sketch



Examples



TORREJON – AVE SPAIN



TRAMWAY IN ORAN(ALGERIA)



