MIXED METAL OXIDE ANODES

Impressed current anodes corrode at a very low rate and one of the most common impressed current cathodic protection (ICCP) dimensionally stable anode is Mixed Metal Oxide Anodes (MMO). Mixed metal oxide anodes are first introduced to cathodic protection in 1980s. Anode inactive substrate metal is titanium and active surface consists rare metal oxide such as iridium, tantalum and titanium oxides. Active surface thickness of anode shall be designed according to recommended environment, current density and design life. The breakdown voltage of MMO anodes depend on the environment, in fresh water with low chloride concentration breakdown voltage may be greater than 60 V however in high chloride environments such as sea water maximum applied voltage to MMO anode shall not be more than 8 V.

MMO anodes are suitable to use in carbonaceous or calcined petroleum backfillto minimise its ohmic resistance to ground and extend the anode surface area. They are available in a number of different sizes and shapes including tubes, wires, rods, meshes and strips.

General applications with MMO anodes are;

• Marine Structures,
• SeawaterIntakes,
• DeepwellGroundbeds,
• HorizontalGroundbeds,
• Distributed Anodes,
• Tank Internals& Tank Bottoms

Different shapes and types are available in KORTEK standard stock as below;

MMO TUBULAR ANODE:
• 16mmdia.X500mm
• 16mmdia.X1000mm
• 25mmdia.X500mm
• 25mmdia.X1000mm

MMO RIBBON ANODE:
• Width: 6.35mm
• Thickness: 0.635mm
• Standard coilLength: 152 meter
• Shippingcoilweight: 2.8kgs

TITANIUM CONDUCTOR BAR:
• Width: 12.7mm
• Thickness: 0.90mm
• Standard coilLength: 152meter
• Shippingcoilweight: 7.8kgs

Tubular anodes are supplied with the specified cable connected to anode mid-length by in-house developed internal connection to minimise anode to cable resistance and not to lower anode surface area.

KORTEK also supply MMO anodes pre-backfilled with coke breeze or carbonaceous backfill in a canister according to client requirements.