ECOANODE

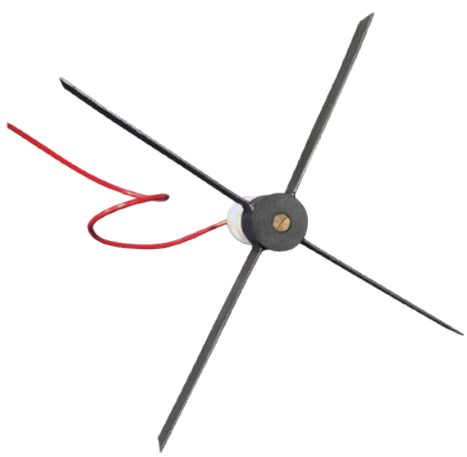
TECHNICAL DATA SHEET

MIXED METAL OXIDE (MMO) COATED VANE ANODE

ECOANODE's MMO coated vane anode is an impressed current cathodic protection anode specifically engineered for high-current demand and complex corrosive environments. It comprises a high-purity titanium substrate—selected for its excellent corrosion resistance and conductivity—coated with a dense, durable mixed metal oxide conductive film. Characterized by a vane-like overall shape, this design on one hand maximizes the contact area between the anode and the surrounding electrolyte, significantly enhancing current output efficiency to meet the rigorous requirements of high-current applications. On the other hand, the vane structure promotes electrolyte circulation around the anode surface ensuring stable performance over time. With strong adhesion between the MMO coating and titanium substrate, the anode boasts exceptional wear resistance and long-term reliability, making it ideal for protecting critical infrastructure in harsh settings such as marine, offshore, or industrial wastewater environments.

CHEMICAL COMPOSITION

Element	Grade I	Grade II
Iron (Fe)	0.20% max.	0.30% max.
Carbon (C)	0.08% max.	0.08% max.
Nitrogen (N)	0.03% max.	0.03% max.
Hydrogen (H)	0.015% max.	0.015% max.
Oxygen (O)	0.18% max.	0.25% max.
Single Impurity (Each)	0.10% max.	0.10% max.
Other Impurities (Total)	0.40% max.	0.40% max.
Titanium (Ti)	Remainder	Remainder



SURFACE COATING CHEMICAL COMPOSITION

Technical Measurement	Performance
Coating Element	IrO_2, Ta_2O_5
Coating Thickness	4~5 μm
Coating Uniformity	85% min.
Working Environment	Mud, Concrete, Seawater

APPLICATIONS

- Offshore platforms, sheet piling, jetty piles, and other marinestructures exposed to seawater environments.

ECOANODE SOLUTIONS SDN. BHD

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