MIXED METAL OXIDE (MMO) WIRE ANODES



50 YEARS EXPERIENCE IN CATHODIC PROTECTION

JENNINGS ANODES

MMO WIRE ANODES

DATA SHEET

Our MMO wire anode is manufactured using a high tensile solid titanium wire substrate coated with a multi-layer noble metal oxide catalyst. It is suitable for direct burial in fine sand, carbonaceous backfill and immersion in fresh or saline waters.

Quality Substrate Material

The titanium substrate of the anode is selected according to ASTM B348 Grade I/II standard requirements. The high purity titanium has proven excellent chemical corrosion resistance, low electrical resistance, and high mechanical integrity against damage.



Noble Metal Oxide Coating

The coating film of the anode used depends on the operating environment. In soil or fresh water where there is either no chloride ions or low chloride ions present, therefore the Ir–Ta mixed metal oxide catalyst is recommended. For brackish and seawater, the Ir-Ru mixed metal oxide catalyst is recommended.

Low Coating Wear Rate

Stringent quality control procedures are followed throughout the coating process to ensure appropriate thickness and adhesion. Each batch is subject to thorough testing including accelerated life testing and coating thickness verification with X-ray among other tests.



Flexibility of Use

The lightweight and malleability of MMO wire anodes allow for adaptability in creating more complex configurations. They provide high conductivity, resulting in better current distribution along the entire length of the wire.

APPLICATIONS

MMO wire anode can be connected to a feed cable at one end or 'piggybacked' to form a continuous anode for the cathodic protection of metallic structures.

- Internal surface of water tank or boiler
- Aboveground storage tank bottom
- External surface of underground storge tank
- Continuous close protection for pipelines
- Reinforced concrete structures
- Offshore constructions

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ELECTROCHEMICAL PROPERTIES

The working life of the anode varies depending on the operating current present with the desired application.

In Coke Breeze / Fresh Water

Item No.	Current Output
JA–MMO-SW1.0	25 mA/ft. (82 mA/m)
JA–MMO-SW1.5	100 mA/ft. (328 mA/m)
JA–MMO-SW3.0	300 mA/ft. (984 mA/m)
JA–MMO-SW3.0 Plus	400 mA/ft. (1312 mA/m)

In Seawater

Item No.	Current Output
JA–MMO-SW1.0	75 mA/ft. (246 mA/m)
JA–MMO-SW1.5	300 mA/ft. (984 mA/m)
JA–MMO-SW3.0	900 mA/ft. (2953 mA/m)
JA–MMO-SW3.0 Plus	1200 mA/ft. (3936 mA/m)

SPECIFICATIONS

Item No.	Wire Diameter	Coil Length	Weight	Design Life
JA–MMO-SW1.0	0.04” (1.0 mm)	500 ft. (152 m)	1.17 lbs (0.35 kg)	25 yrs.
JA–MMO-SW1.5	0.06” (1.5 mm)	500 ft. (152 m)	2.75 lbs (1.25 kg)	25 yrs.
JA–MMO-SW3.0	0.12” (3.0 mm)	500 ft. (152 m)	10.8 lbs (4.9 kg)	25 yrs.
JA–MMO-SW3.0 Plus	0.12” (3.0 mm)	500 ft. (152 m)	10.8 lbs (4.9 kg)	25 yrs.

Notes: All dimensions and weights are nominal. The parameter provided is subject to variation in material compositions and Jennings Anodes foundry tolerance.

TESTING DETAILS

We employ ISO 9001:2015 quality management system and rigorous internal testing standards to ensure the optimum lifespan and performance of our anodes. Each anode is labelled with a unique serial number for quality tracking.

Technical Measurement	Chemical Composition	Electrochemical Performance	Physical Properties
Testing Standard	ASTM E120	NACE TM0108 / ASTM D3359	Foundry ITP
Testing Content	Chemical Analysis	Current Output Anode Resistance Anode Life	Dimension & Weight Coating Thickness
Equipment	Optical Emission Spectrometer OBLF QSN 750	JCM-6000 Plus Scanning Electron Microscope / DWW-K-100 Galvanostat / VCC101A Multimeter	Calibrated Digital Measuring Devices

* Third party testing is conducted by customer’s special request at extra charge.

PACKAGING INFORMATION

We have strict packing protocols to guarantee safe delivery of our products. Clear shipping marks and documentation make delivery acceptance straightforward and simple.

Item No.	Coil Length	Coil Dimension	Weight	
			N.W.	G.W.
JA–MMO–SW1.0	500ft. (152m)	Φ 21" × 2" (Φ 530 × 50 mm)	1.17 lbs (0.35 kg)	1.76 lbs (0.8 kg)
JA–MMO–SW1.5	500ft. (152m)	Φ 21" × 2.35" (Φ 530 × 60 mm)	2.75 lbs (1.25 kg)	3.4 lbs (1.55 kg)
JA–MMO–SW3.0	500ft. (152m)	Φ 21" × 3.15" (Φ 530 × 80 mm)	10.8 lbs (4.9 kg)	11.5 lbs (5.2 kg)
JA–MMO–SW3.0 Plus	500ft. (152m)	Φ 21" × 3.15" (Φ 530 × 80 mm)	10.8 lbs (4.9 kg)	11.5 lbs (5.2 kg)





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Our worldwide network of sales and service centers can provide immediate advice and assistance on the complete range of products.

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