

MMO Linear Anode

MMO (Mixed Metal Oxide) linear anodes are advanced corrosion protection devices primarily used in cathodic protection systems

Constructed from a titanium substrate coated with a blend of precious metal oxides, MMO linear anodes are connected by copper cables and are encased in a high-wear, water-permeable cloth filled with high-conductivity coke dust.

Due to the excellent installation properties of MMO linear anodes, especially in narrow construction areas or along winding pipeline routes for cathodic protection, and their long service life, MMO linear anodes are often favored in engineering applications.



KEY FEATURES

- 1.High Corrosion Resistance
- 2.Easy Installation and Replacement
- 3.Min. Maintenance and Reliability
- 4.High Efficiency
- 5.Various Applications

PRODUCT COMPOSITION

- a) **Base Material:** Grade 1 titanium
- b) **Oxide Film:** $\text{IrO}_2/\text{Ta}_2\text{O}_5$ (Iridium Oxide/Tantalum Oxide)
- c) **Mixed Coating:** The coating and the base material should have good adhesion, be able to withstand high-temperature environments, maintain a stable crystal structure, possess catalytic properties, and exhibit good electrical conductivity.
- d) **Maximum Operating Current Density:** 100 A/m² (with fillers and in soil environments)
- e) **Performance in Chloride Environments:** The anode should be inert under chloride conditions.
- f) **Performance Specifications:** Refer to below table.

APPLICATIONS

- 1.Water Storage Tank Protection
- 2.Refinery Water Pipe Protection
- 3.Long Transmission Pipeline Protection
- 4.Oil and Gas Tank Protection

PRODUCT SPECIFICATIONS

MMO/Ti Linear Anode

Substrate: Titanium - ASTM B348 Grade 1

Titanium Wire: 1.0mm dia., 1.5mm dia., 3.0mm dia.

Dimension: Sock 38mm x 150m/Roll

Coating: $\geq 6\text{g/m}^2$

Rated Current Output:

1.0mm MMO wire - 314mA/m (coke environment)

1.5mm MMO wire - 471mA/m (coke environment)

3.0mm MMO wire - 942mA/m (coke environment)

Cable: Typical 1x16mm² PVDF/HMWPE

MMO Linear Anode Parameters

Item	Parameter	Test Standard
Substrate	Titanium Grade 1	ASTM B863-2010
Coating Thickness	$\geq 6\text{g/m}^2$	ASTM B568-2009
Life Testing	$\geq 25\text{years}$	NACE TM108-2008

Petroleum Coke Parameters

Item	Parameter	Test Standard
Carbon Content	98.5%	ASTM D5176
Particle Size	0.1mm~1.0mm	ISO 12984
Volume Resistivity	$\leq 0.05\Omega\cdot\text{m}$	ISO 10143