Cathodic Protection leading provider in China
Specialized in Cathodic Protection products, installation and services

Email: corrtech2008@hotmail.com *Tel: 86-0546-7773100*

Mixed Metal Oxide Anode

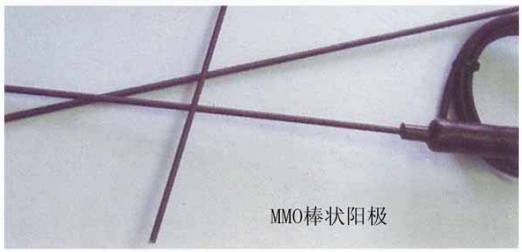
The mixed metal oxide anode has an extremely low consumption rate, measured in terms of milligrams for ampere-year. Whether operating in soil, fresh water, and or sea water, mixed metal oxide coatings demonstrate very high chemical stability, even in environments with very low pH values.

CORRTECH supplies high performance MMO anodes suitable for soil, sea mud, seawater and fresh water environment. In seawater, the suggested working current density is 600 A/m^2, and in fresh water is 100A/m.

Products Forms of MMO Anode

- **MMO Solid Rod Anode**
- **MMO Tubular Anode**
- **MMO Ribbon Anode**
- **MMO Mesh Anode**

MMO Solid Rod Anode



CORRTECH Solid Rod Anodes are comprised of a titanium substrate with a mixed metal oxide coating. The mixed metal oxide is a crystalline, electrically-conductive coating that activates the titanium and enables it to function as an anode.

We produce Solid Rod Anodes ASTM standard B348 grade 1 or grade 2.

General Specification

Diameter (mm)	Length (mm)	Output Current(A/m)	Expected Life(a)
3.2	1000	1	20
6.4	1000	2	20
12.7	1000	4	20
19	1000	6	20
25	1000	7.8	20

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Applications

Process Vessels
Water Condenser Boxes
Heat Exchangers
Water Intake Structures

Features

High Current Output
Low Coating Wear Rate
Five Year Product Warranty
Also available as Rod Anode Assemblies

Advantages

- **Lower Cost Per Ampere Year**
- **Constant Electrical Resistance**
- **No Hassles**

MMO Tubular Anode

CORRTECH Tubular Anodes are titanium tubules with a mixed metal oxide coating.

The mixed metal oxide is a crystalline, electrically conductive coating that activates the titanium and enables it to function as an anode.

The mixed metal oxide anode has an extremely low consumption rate, measured in terms of milligrams per ampere-year. As a result of this low consumption rate, the tubular dimensions remain nearly constant during the life of the anode - providing a consistently low resistance anode.

Whether operating in soil, freshwater, mud, or seawater, CORRTECH mixed metal oxide coatings demonstrate very high chemical stability -even in environments with very low pH values. Unlike other impressed current anodes, the CORRTECH coatings are not affected by the generation of chlorine.

We produce tubular anodes according to ASTM standard B338.

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Features

- Multi-anode conductor
- Lightweight / durable
- High current output
- Patented crimp connections
- Dimensionally stable

Benefits

- Dramatically reduces cable costs
- Reduced handling and installation costs
- Lower cost per ampere
- Guaranteed electrical contract and moisture seal integrity
- Consistently low resistance anode

General specification:

Outer diameter(mm)	Length(mm)	Output current(A/m)	Expected life (a)
19	1200	7.2	20
25	500	4	20
25	1000	8	20
25	1200	10	20
25	1500	12	20
32	1200	12	20

The dimension and parameter can be changed according to customer's request.

Link-type anode

The tubular anode can be supplied in string to be used in deep well to protect the underground pipe or other steel structures.

Ordering information

When ordering tubular anodes, please specify the followings:

◆Anode size

◆Number of anodes per string

◆Center-to-center spacing between anodes along the cable

◆Number of tails (1 or 2)

◆Cable tail length (above the top anode)

◆Total cable length (sum of lengths of anodes, spaces and tail)

◆Current output

◆Number of centralizers required and hole size

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MMO Ribbon Anode

CORRTECH's MMO ribbon anodes are designed for use on both newly constructed aboveground storage tanks，and existing tanks utilizing double-bottom construction.
Unlike other impressed-current tank bottom anodes，CORRTECH's ribbon anodes does not require coke breeze. The anodes are composed of a titanium ribbon substrate coated with a mixed metal oxide catalyst and allows for a maximum current density of 17 mA/m. They can be used in sands with various levels of moisture and salt contents，and can be designed to provide effective protection for 50 years and more. Titanium to ASTM 265, coated with IrO_2/Ta_2O_5.

General Specification

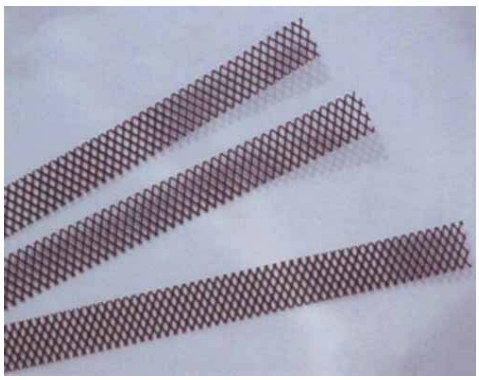
Width(mm)	Thickness(mm)	Length(m)	Current output(mA/m)	Expected life(a)
6.35	0.635	155	17	50
6.35	0.635	155	34	50
12.7	0.635	155	68	50

The dimension and parameter can be changed according to customer's request.

Application

- **Fine sand environments**
- **Working environment evolution of O_2, Cl_2 or a combination of both**
- **Usually used for above ground storage tank bottoms and reinforced concrete structures.**

MMO Mesh Anode



There are two kinds of MMO mesh anodes. One is designed especially for Cathodic protection systems in reinforced concrete structures. Another is designed for underground steel structures. The anodes will be packed in canister filled with calcined petroleum coke backfill. The substrate is expanded titanium grid. And the catalyst is Mixed Metal Oxide. Titanium expanded grid substrate coated with IrO_2/Ta_2O_5 and meet ASTM standard B265 grade 1 or grade 2.

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Specification

Size	Thickness (mm)	current rating	Mesh dimensions (mm)	Weight/roll	Surface area (m^2)
10mm x 76m	1.3	2.8mA/m	2.5 x 4.6 x 0.6	1.4kg（3.1 lbs）	1.85
13mm x 76m	1.3	3.5mA/m	2.5 x 4.6 x 0.6	1.8kg（4 lbs）	2.4
19mm x 76m	1.3	5.28mA/m	2.5 x 4.6 x 0.6	2.7kg（4 lbs）	3.6
1220mm x76m	1.98	37.8mA/m	25 x 50 x 0.89	43kg（95 lbs）	92.9
1220mm x 76m	1.98	24.4mA/m	34 x 76 x 0.89	33kg（95 lbs）	92.9

The dimension and parameter can be changed according to customers' request.

Parameter

The max working current (FHWA limits):110mA/m^2(10mA/ft^2)
The max working current (Short-term limit):220mA/m^2(20mA/ft^2)
Composite material：1 grade titanium，(ASTM B265)
Coefficient of heat expansion：8.7×10-5/^{o}k (0.0000048/in/in/^{o}k)
Thermal conductivity at 20 ： 15.6 W/(m • K)(9.0BTU/hr/ ft^2/^{o}F/ ft^2)
Resistivity：0.000056 ohm • cm（0.000022 ohm • in）
Elastic coefficient：105 GPa (14,900,000 PSI) Min
Tensile strength：240 MPa (35,000 PSI) Min
Yield strength：170 MPa (25,000 PSI) Min
Elongation：24%，Min
Expected life (a):75

Ordering Information

Please be noted: When you send us inquiry, please provide us:
a) The type and size of the anodes
b) Designed output current
c) The date of the actuating medium

Our engineers will send you useful suggestion, or select suitable anodes for you, according to the working environment.