



COPPER CORED MMO WIRE ANODES

PRODUCT DATA SHEET

COPPER CORED MMO WIRE ANODES

Our wire anodes are composed of titanium clad copper wire which is bonded to mixed metal oxide coating. Capable of superior operating performance, it can be used in both soil and aqueous environment, such as fresh, brackish or saltwater.

QUALITY SUBSTRATE MATERIAL

Our highly-conductive copper core are surrounded by high-tensile titanium, which meets commercially ASTM B348 Grade I/II standards.

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.
Titanium	(Ti)	Remainder	Remainder

NOBEL METAL OXIDE COATING

Whether operating in soil, mud, fresh water or seawater, mixed metal oxide coatings demonstrate high chemical stability, even in environments with low pH values. Depend on the form of usage, the coatings can be mixed of two or more metal oxides such as iridium oxides (IrO_2), tantalum oxides (Ta_2O_5) and ruthenium oxides (RuO_2).

We can produce anodes with different nobel metal oxide ratios and differing coating thickness. Based upon accelerated life testing conducted by an independent laboratory, our MMO coating has been proven to be superior to other similar products in the market.

■ Ir-Ta Mixed Metal Oxide Catalyst

The iridium-tantalum mixed metal oxide catalyst is recommended for use in soil or fresh water, where there is either no chloride ions or low chloride ions present.

■ Ir-Ru Mixed Metal Oxide Catalyst

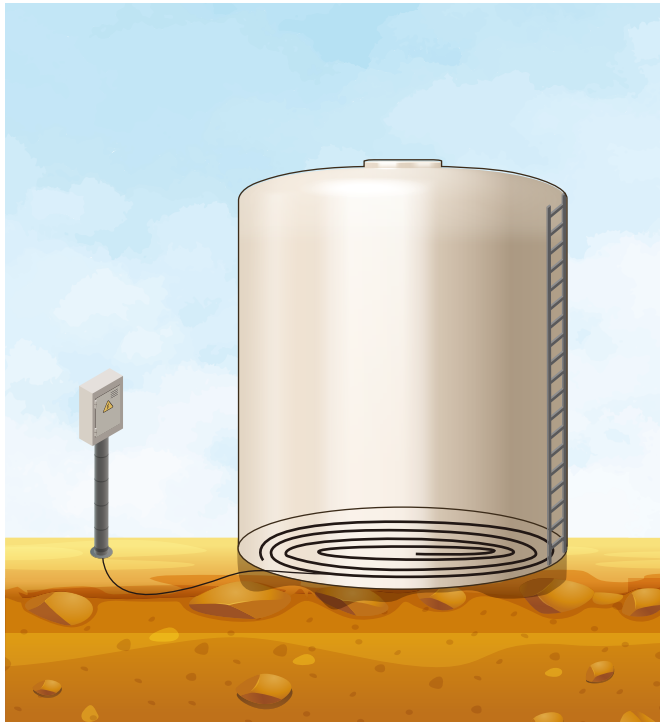
The iridium-ruthenium mixed metal oxide catalyst can be used in seawater, brackish water, mud, concrete and any other severe environment conditions including high acidity or in the presence of chlorine or oxygen.



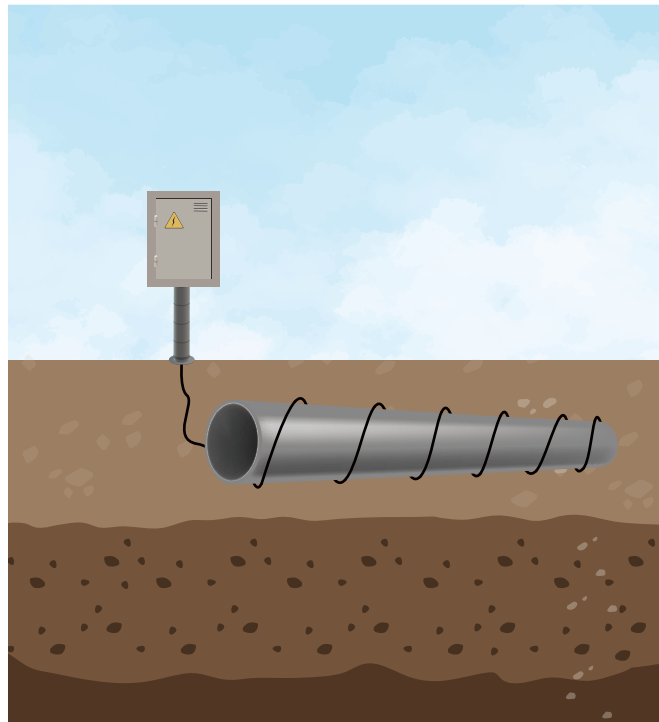
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PRACTICAL APPLICATION

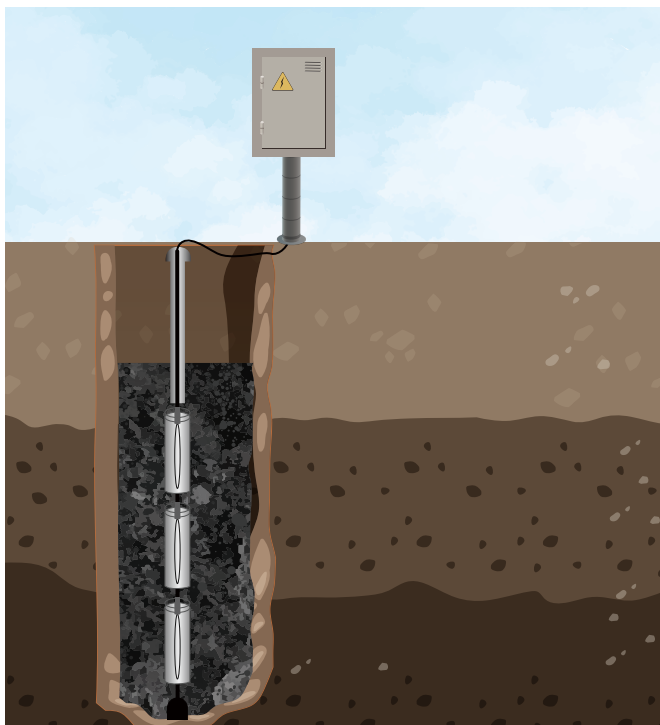
Our wire anode can be used in numerous geometries, suitable for direct burial in fine sand, carbonaceous backfill or immersion in fresh or saline waters.



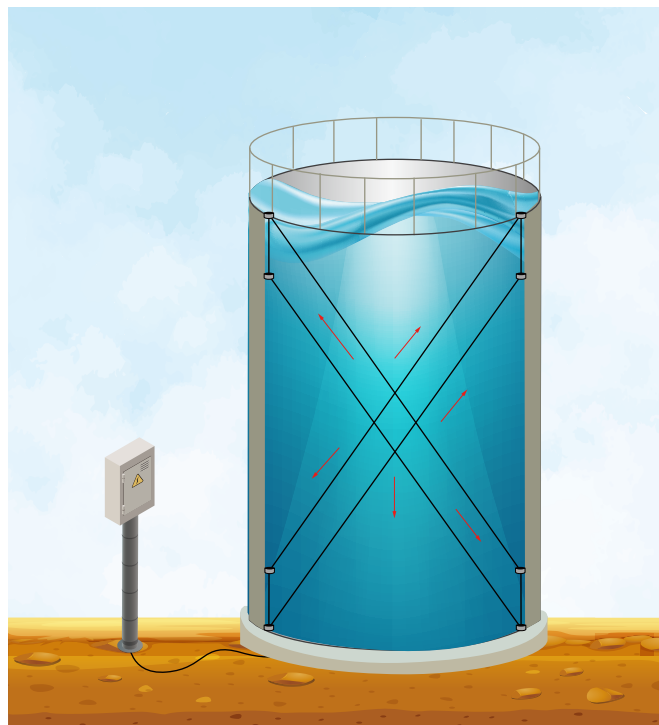
It can be connected to a feed cable at one end or 'piggybacked' to form a continuous anode suitable for installation under storage tanks.



It can twist around the pipelines to provide continuous close protection.



It can be prepacked with coke breeze in canister for deep well installation.



It is often suspended by rope in configurations that follow the circumference of the water tank structure.



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ELECTROCHEMICAL PROPERTIES

The current output of the anode varies in different applications from soil to seawater. Longer working life can be achieved by increasing the coating thickness or reducing the operating current density.

■ In Soil

Wire Diameter	For 20 yrs	For 30 yrs.	For 50 yrs.
1.5 mm (0.06")	240 mA/m (74 mA/ft.)	160 mA/m (49 mA/ft.)	96 mA/m (29 mA/ft.)
3.0 mm (0.12")	480 mA/m (147 mA/ft.)	320 mA/m (98 mA/ft.)	192 mA/m (59 mA/ft.)

■ In Freshwater / Coke Breeze

Wire Diameter	For 20 yrs	For 30 yrs.	For 50 yrs.
1.5 mm (0.06")	480 mA/m (146 mA/ft.)	320 mA/m (97 mA/ft.)	192 mA/m (58 mA/ft.)
3.0 mm (0.12")	960 mA/m (291 mA/ft.)	640 mA/m (194 mA/ft.)	384 mA/m (116 mA/ft.)

■ In Brackish Water

Wire Diameter	For 20 yrs	For 30 yrs.	For 50 yrs.
1.5 mm (0.06")	1440 mA/m (438 mA/ft.)	960 mA/m (292 mA/ft.)	576 mA/m (175 mA/ft.)
3.0 mm (0.12")	2880 mA/m (876 mA/ft.)	1920 mA/m (584 mA/ft.)	1152 mA/m (350 mA/ft.)

■ In Seawater

Wire Diameter	For 20 yrs	For 30 yrs.	For 50 yrs.
1.5 mm (0.06")	2880 mA/m (876 mA/ft.)	1920 mA/m (584 mA/ft.)	1152 mA/m (350 mA/ft.)
3.0 mm (0.12")	5760 mA/m (1752 mA/ft.)	3840 mA/m (1168 mA/ft.)	2304 mA/m (701 mA/ft.)

SPECIFICATIONS

■ Ir-Ta MMO Coating

Item No.	Diameter	Linear Resistance	Surface Area	Length(per roll)	Weight	Lifetime
YX-CTM-LW1.5	1.5mm (0.06")	0.017 Ω /m (0.005 Ω /ft.)	4.75 $\times 10^{-3}$ m ² /m (0.017 ft ² /ft)	152m (500 ft.)	12.2 g/m (0.008 lbs/ft)	20 yrs.
YX-CTM-LW3.0	3.0mm (0.12")	0.003 Ω /m (0.001 Ω /ft.)	9.5 $\times 10^{-3}$ m ² /m (0.033 ft ² /ft)	152m (500 ft.)	62.5 g/m (0.042 lbs/ft)	20 yrs.

■ Ir-Ru MMO Coating

Item No.	Diameter	Linear Resistance	Surface Area	Length(per roll)	Weight	Lifetime
YX-CTM-SW1.5	1.5mm (0.06")	0.017 Ω /m (0.005 Ω /ft.)	4.75 $\times 10^{-3}$ m ² /m (0.017 ft ² /ft)	152m (500 ft.)	12.2 g/m (0.008 lbs/ft)	20 yrs.
YX-CTM-SW3.0	3.0mm (0.12")	0.003 Ω /m (0.001 Ω /ft.)	9.5 $\times 10^{-3}$ m ² /m (0.033 ft ² /ft)	152m (500 ft.)	62.5 g/m (0.042 lbs/ft)	20 yrs.

Note: All dimensions and weights shown above are nominal. The information provided is subject to change without notice.





Industrial Corrosion Control Solutions Provider

Established in 2003, YUXI has over a 20-year heritage of innovation in corrosion control science and technology. We're a spirited team of ambitious thinkers and pioneer sheep with a common goal in mind: protect our clients' assets from corrosion with cost-saving measures.

We have the most comprehensive catalog of cathodic protection materials including anodes, transformer rectifiers, backfills, coatings, etc. Our anodes and supplies are manufactured to strict quality standards through an ISO 9001 quality management system and are guaranteed to offer excellent performance in the industry.



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