



MIXED METAL OXIDE COATED TITANIUM PLATE ELECTRODE FOR ELECTROREFINING

PRODUCT DATA SHEET

Mixed Metal Oxide Coated Titanium Plate Electrode For Electrorefining

Electrometallurgy is an important method used in metallurgy for extraction of metals from aqueous solutions by electrolysis. It is usually the final stage in metal production, and therefore is preceded by pyrometallurgical or hydrometallurgical operations. This electro-extraction (EE) process can be used in winning of metals from molten-salt solution (leaching) and purification of crude metals obtained via the hydrometallurgical routes. To meet the requirements of energy efficiency, economic viability and environmental sustainability, electrometallurgy is recognized as an attractive way in industrial community. However, a clean and efficient electrolysis process relies mostly on a reliable inert anode. Thanks to its low oxygen overvoltage and superior structural integrity, YUXI's titanium-based anodes present optimal performance in sulfate electrolytes and good resistance to the chemical effects of oxygen liberated on the anode surface.

QUALITY SUBSTRATE MATERIAL

Our electrodes are manufactured from high-tensile titanium, which meets commercially 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.
Single Impurity(Each)	0.10% max.	0.10% max.
Other Impurities(Total)	0.40% max.	0.40% max.
Titanium(Ti)	Remainder	Remainder



LONG SERVICE COATING

Using state-of-the-art technology, the titanium base is taken to a high temperature ($\geq 1200^{\circ}\text{C}$) in a vacuum sintering furnace ensuring total adhesion of the coating. Thus, the coating consumption rate is extremely low and uniform, measured in milligrams per ampere-year.

Technical Measurement	Performance
Coating Element	Iridium Oxide (IrO_2), Ruthenium Oxide (RuO_2)
Coating Thickness	6~12 μm
Coating Uniformity	85% min.

WORKING ENVIRONMENT

Technical Measurement	Performance
Current Density	$\leq 5000 \text{ A/m}^2$
Operating Voltage	$\leq 24\text{V}$
pH Range	1~14
Temperature	$< 80^{\circ}\text{C}$
Fluoride Ion Content	$< 50 \text{ mg/L}$





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 sheeps 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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