陕西旭博钛金属科技有限公司

Shaanxi Xubo Titanium Metal Technology Co.,ltd

Catalog

As a profesional manufacturer of titanium electrodes ,we have been adopting advance coated technology to ensure our porducts with higher cost performance.we can make different sizes and shapes according to designed drawings by clients so as to obtain the best effects.

RuO2 IrO2 coated titanium anodes are used in chlor-alkali,sodium hypochlorite,sewage treatment,sea water desalinization,etc.

IrO2 Ta2O5 coated titanium anodes are widely used in the production of electrolytic copper foil, al foil ,organic electrolyte, cathodic protection,etc.

RuO2 coated titanium anodes are used in caustic potash(KOH),sodium hypoclorite etc.

Pt coated titanium anodes are used in electrolytic deposition,water treatment ,etc.

titanium anode coating,which consists of mixed metal oxide(MMO) such as RuO2,IrO2 ,TiO2,Ta2O5,can distinctly reduce cell voltage during the electrolysis of chlorine evolution & oxygen evolution and have remarkable energy -saving effect & longer lifetime.the substrate can be reused and re-coated titanium anode is also called as DSA titanium anode or insoluble titanium anode due to its dimension stability and high corrosion resistivity.with high corrosion resistivity,titanium anode can ensure them won‘t pollute electrolysis system and increase final products purity so as to reduce maintenance cost of the equipment.

Application fields:

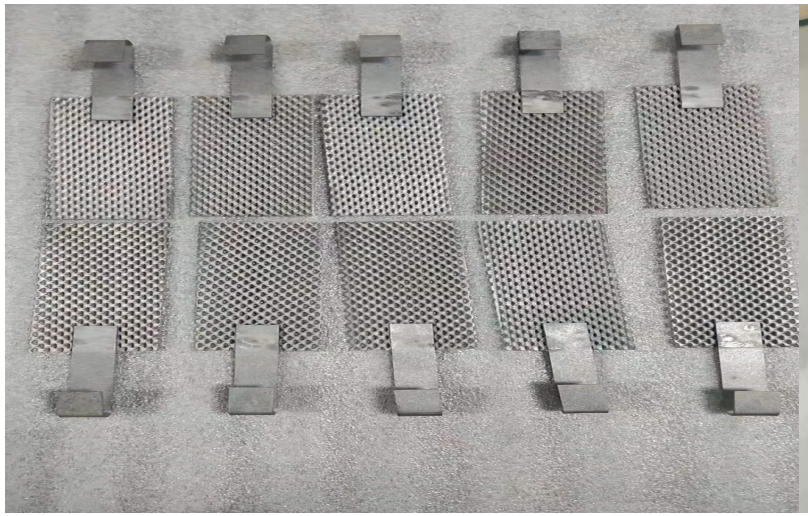
copper recovery in etching liquid	electrodialysis industry	MMO cathodic protection
sewage treatment	swimming pool disinfection	Electrolysis of seawater
sodium hypochlorite generator	Chlor-alkali industry	water heater anticorrosion
Ionized water electrolysis	Electoroplating	Hydrometallurgy

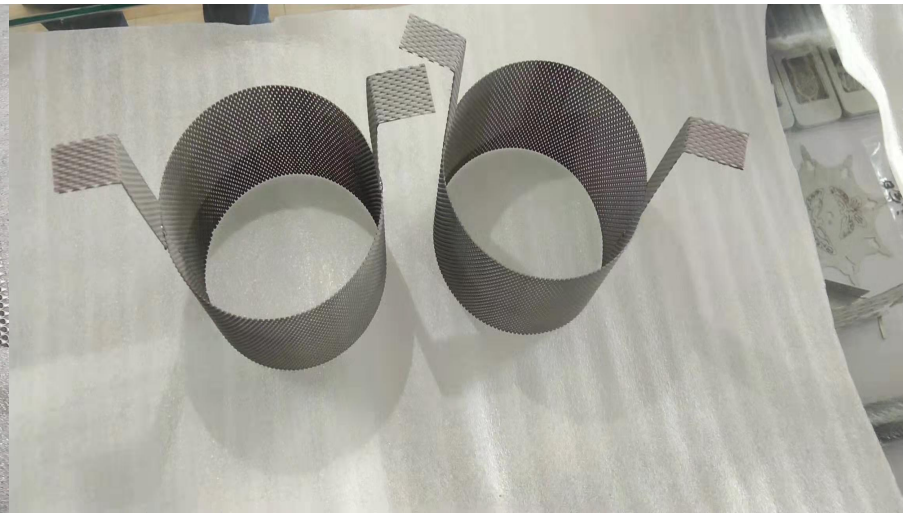
Available Shapes:

sheet,wire,mesh,tube,ring,strip and mesh basket types,etc.

Pt COATING SERIES TITANIUM ANODE

Substrate： pure titanium (Gr1)	Coating:Pt
Current Density:≤10000A/㎡	coating content:≥0.2μm
Coating thickness:0.2~10μm	oxygen evolution potential:1.68V(Relative to calomel electrode)
Features: 1.High anti-corrosion and high catalytic activity 2.with high oxygen evolution potential,low hydrogen volution potential,it can be used as anode or cathode. 3.High current efficiency, anti-corrosion and polarity reversal. 4.Good ductility of Pt coating,excellet binding of substrate and coating. 5.Long working life,substrate could be reused.	
Applications:lonized water electrolysis,electroplating,electrolyzed oxidizing water,hho Generator.	





IRDIUM COATING SERIES TITANIUM ANODE

The oxygen evolution electrode is mainly used in the electrolysis of aqueous sulfuric acid system. IrO2 is an excellent oxygen evolution catalyst that can remain stable in acidic solutions. The iridium-coated titanium electrode is the most promising coated electrode in the field of oxygen evolution.

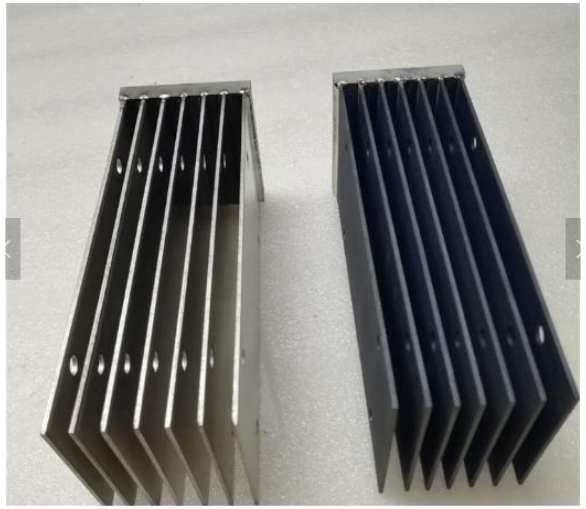
The simple IrO2 coating is easy to fall off, the electrode life is short, and the price is expensive. It is necessary to add some noble or non-precious metals with good catalytic activity to increase the stability of the IrO2 coating. Among them, the Ir-Ta coated electrode is currently used in analysis. One of the best electrodes for oxygen reaction. In addition, the multi-element platinum group metal oxide coating formed by adding other metal oxides to the Ir-Ta coating system helps to improve the application effect of electrodes in various industries.

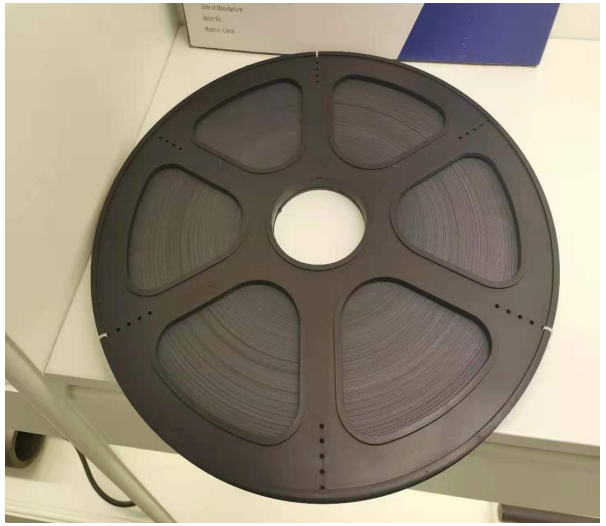
IRDIUM COATING SERIES TITANIUM ANODE

Substrate： pure titanium (Gr1)	Coating:IrO2+X
Current Density:≤20000A/㎡	coating content:≥5g/㎡
Coating thickness:≥10μm	oxygen evolution potential:1.5V(Relative to calomel electrode)

Features:
1.High anti-corrosion characteristic
2.High current efficiency, oxygen evolution overpotential ≤1.5V.
3.Long working life ,high electric catalytic oxidation activity.
4.Substrate could be reused.
5.High current density,high poduction efficiency.
6.Light weight.

Substrate





IRDIUM COATING SERIES TITANIUM ANODE

Project for annual output with 100 thousands of tons electrolytic manganese

Anode type	current density A/㎡	Consumption of per ton KWh	production kg/pc	Life
Lead oxide anode	370-420	5800-6000	3.5--3.8	18month
MMO anode	370-420	5400-5600	3.7--4.0	36month

Project for annual output with 50 thousands of tons electrolytic manganese

Anode type	current density A/㎡	Cell voltage V	current effiency	Life
Lead oxide anode	100-230	3.9-4.0	89%-91%	18month
MMO anode	100-230	3.6-3.7	93%-95%	> 36month

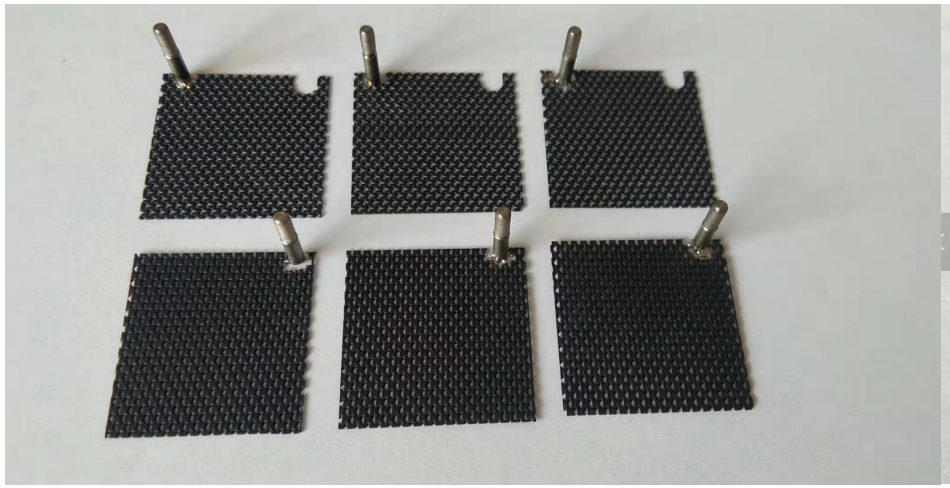
RUTHENIUM COATING SERIES TITANIUM ANODE

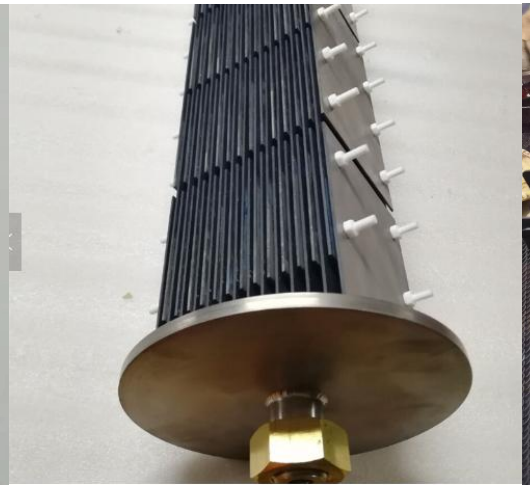
The ruthenium-titanium coated electrode (Ti /Ru O2-Ti O2) is the earliest ruthenium-based coated electrode. It was invented by the scientist Henri. Bernard. Beer in 1965, and in 1968 by the chlor-alkali plant of De Nora, Italy. Used in industrial production, the ruthenium-titanium coated electrode has been industrialized. The invention of ruthenium-titanium oxide-coated titanium electrodes greatly promoted the development of the electrochemical industry. As the chlorine evolution overpotential and oxygen evolution overpotential of RuO2 are very low, it becomes one of the best catalysts for the chlorine evolution reaction and the oxygen evolution reaction.

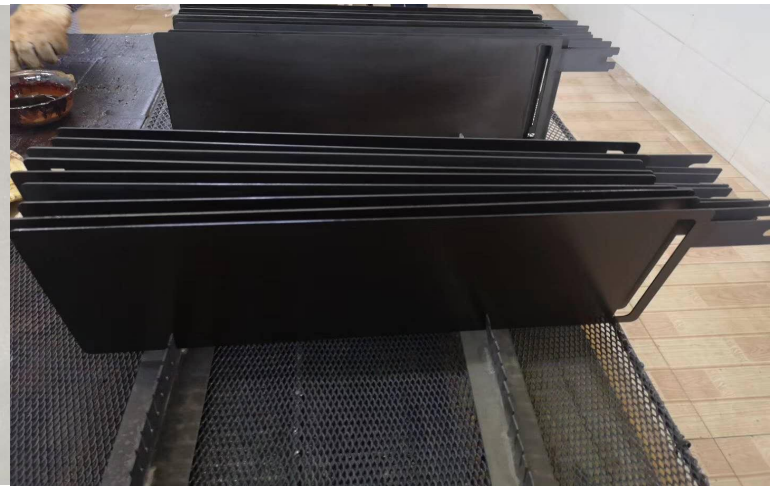
With the continuous research and development of chlorine evolution electrodes, ternary, quaternary and even pentad coating systems such as RuSnTi, RuIrTi, RuIrTa, RuTiIrSn, RuIrTiSnCo have been developed.

RUTHENIUM COATING SERIES TITANIUM ANODE

Substrate： pure titanium (Gr1)	Coating:Ru2+X
Current Density:≤10000A/㎡	coating content:10g/㎡
Coating thickness:≥10μm	oxygen evolution potential:1.13V(Relative to calomel electrode)
Features: 1.Good corrosion resistance and pole recversal performace. 2.High current efficiency and energy consumption. 3.Long working life ,can use more than 8 years in chlor-alkali industry. 4.Substrate could be reused.	Test data in chlor-alkali industry: 1.chlorine evolution potential≥1.13V 2.chlorine evolution polarizability:≤40MV 3.strengthening life test :≥3000min Current density:≤10000A/㎡ 4.strengthening weight lessness： ≤10mg







CHLORINE PRODUCTION OF SODIUM HYPOCHLORITE GENERATOR

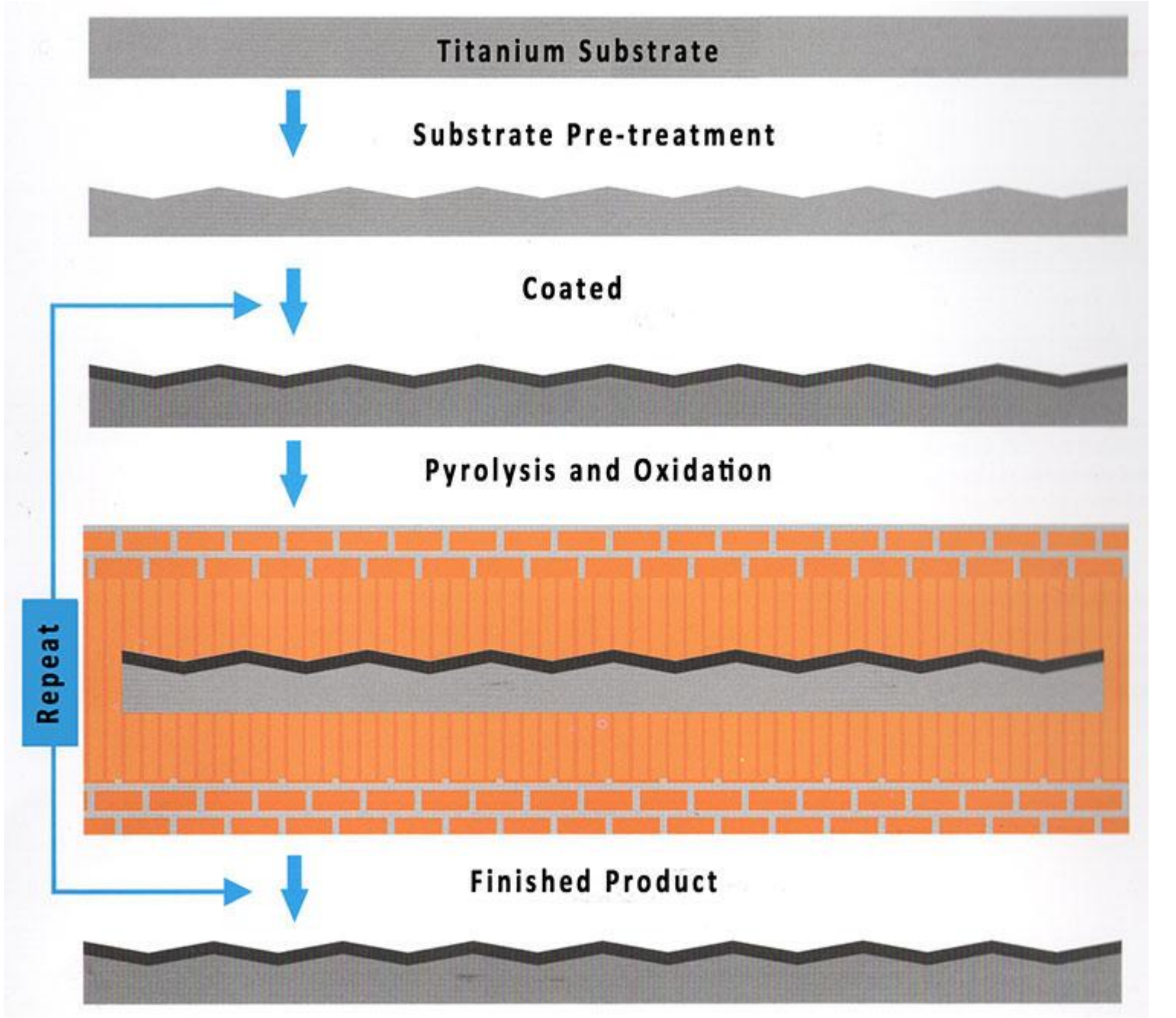
Current density A/㎡	chlorine ion content ppm	chlorine production g/h ㎡
300-500	3000-5000	850-1050

Sodium hypochlorite generator

XUBO Titanium Anode Sodium Hypochlorite Details

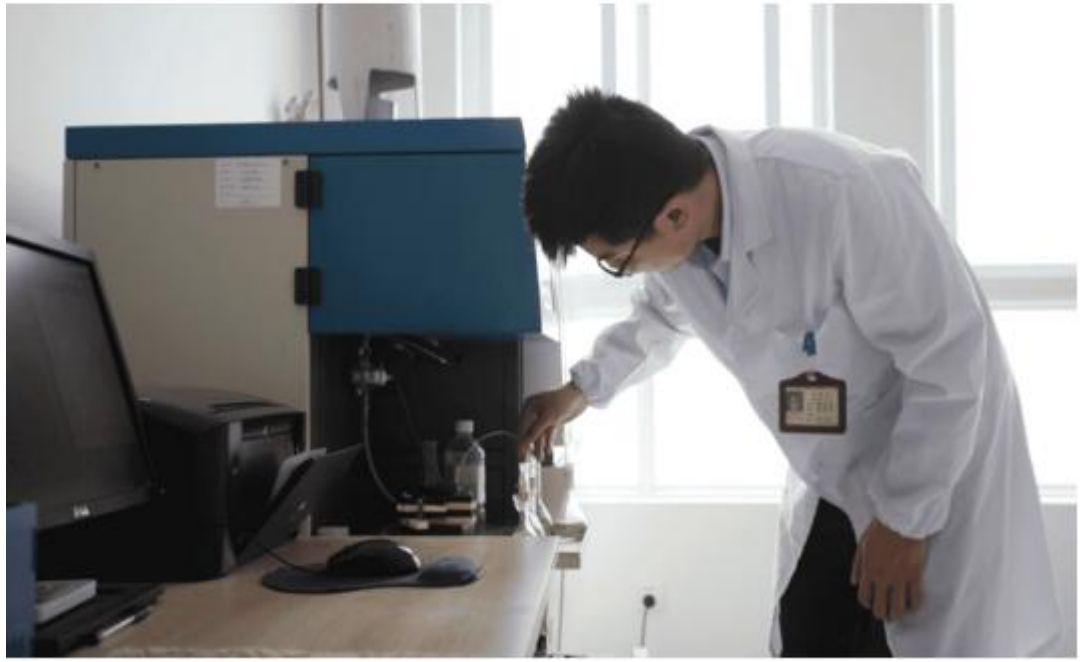
Yield	current	Voltage	water intake	Flange OD	shell diameter	system total length	Inlet and Outlet Diameter
50g/h	30-40A	7-8V	7-10L/h	140mm	80mm	420mm	32.3mm
100g/h	30-40A	14-16V	12-20L/h	140mm	80mm	670mm	32.3mm
200g/h	60-80A	14-16V	25-40L/h	170mm	110mm	670mm	32.3mm
300g/h	90-120A	14-16V	45-70L/h	200mm	130mm	670mm	32.3mm
500g/h	90-130A	21-24V	62-100L/h	200mm	140mm	760mm	32.3mm
800g/h	120-160A	28-32V	100-160L/h	240mm	160mm	970mm	63.3mm
1000g/h	135-180A	28-32V	125-200L/h	240mm	160mm	970mm	63.3mm
1500g/h	280-360A	21-24V	160-260L/h	240mm	160mm	1390mm	63.3mm
2000g/h	340-410A	21-24V	250-400L/h	240mm	190mm	1390mm	63.3mm
3000g/h	520-600A	21-24V	450-600L/h	240mm	230mm	1750mm	63.3mm
4000g/h	680-750A	21-24V	500-800L/h	310mm	230mm	1750mm	110.6mm
5000g/h	700-800A	28-32V	650-1000L/h	310mm	230mm	2250mm	110.6mm

Processing Flow



JOINTING R&D

Improving current efficiency and prolonging service life are the core technical indicators of DSA titanium electrodes. Different industries have different requirements for the performance of titanium electrodes. Even if the same industry uses the same system of electrocatalytic coatings for different electrolytes, it may not be possible. Bring the ideal use effect. Based on years of accumulated R&D and production experience and a high-level technical team, the company can tailor a coating system that meets its own production environment for target customers to meet the differentiated needs of different industries or different customers in the same industry.



Development of electrode materials for high chlorine evolution efficiency and long life.
Development of electrode materials for high acidity and long life oxygen evolution.
Development of new electrode materials for mixed acid systems.

Development of high-oxygen ultra-base metal electrode materials Development of electrode materials in special fields