

## JETTY ANODES

NMT® Electrodes Jetty Anodes are designed for use in jetties and harbours where high current output and long design life is required in these installations. The jetty anode design integrates all the requirements for close surface fitting of plate anodes or offset cantilever fitting of tubular or rod anodes to tubular piling.

The anodes consist of a solid titanium plate, rod or tubular substrate coated with a Mixed Metal Oxide coating of IrO<sub>2</sub>/Ta<sub>2</sub>O<sub>5</sub> and is suitable for use in seawater.

The inert (dimensionally stable) MMO-coated titanium anodes possess a large current density, a low consumption rate, good conductivity, long life in extreme environments and have low cost. The MMO-coated titanium anode has conductive metal oxides which act as the catalysts, tailored to cater for the requirements of different working environments. In seawater, the chemical reactions taking place at the anode surface is primarily chlorine evolving. At high over-potentials an environment of low pH can be created around the anode, however, MMO coating is resistant to acid attack.

Platinised titanium jetty anodes are also available. Platinised anodes are also used in the application of cathodic protection of jetties and wharves. A thin layer of platinum is applied to the titanium metal substrate through a plating process. Platinised anodes perform extremely well in seawater environments exhibiting a large current density and an extremely low consumption rate; therefore, the substrate remains nearly constant throughout the design life of the anode. This provides a consistently low resistance anode.

A standard plate anode comprises of an MMO-coated titanium plate with exposed area that is 45 mm wide x 560 mm or 1130 mm long yielding a current output of 15 amps and 30 amps, respectively. The anode is mounted in an insulated assembly and is sealed with epoxy resin, while the cable connection is bolted directly to the plate to provide a watertight seal. The cable type, size and length is as per the customer's specifications. The standard cantilever-type anode is manufactured from MMO-coated titanium tubes with diameters 19 mm, 25 mm or 32 mm, or from platinum-coated 12 mm titanium rod.



Anode Type	Maximum Design Current Density	Maximum Voltage at Anode	Standard Anode Life	
MMO	600 A/m <sup>2</sup>	8 V	20 years	
Platinised Titanium	1000 A/m <sup>2</sup>	8V	20 years	

  

Environment	Anode Diameter (mm)	Anode Length (mm)	Current Output (amps)	Life (years)
Seawater Tubular MMO	19	1200	45	20
	25	500	25	20
	25	1000	50	20
	25	1200	60	20
	25	1500	75	20
Seawater Rod	32	1200	75	20
	12	250	9	20
	12	500	18	20
Platinised Titanium	12	750	27	20
	12	1000	36	20
	12	1250	45	20

  

Anode current rating (amps)	Anode Length (mm)	Anode Width (mm)	Overall Length (mm)	Overall Width (mm)
15	520	45	860	75
30	1130	45	1550	75