

شماره مدرک: 5-CP-03

شماره بازنگری: ۰۱

تاریخ بازنگری: ۹۴/۰۱/۲۶

MMO ANODES ITP



Item	Test Item	REF. Standard	Procedure	Requirements	Test frequency	Type of Inspection	
						1*	2*
1	Chemical composition of base metal	ASTM B265, B348, B338	Chemical analysis	Table 2. ASTM B265 Table 1. ASTM B348 and ASTM B338 (Grade 1 or Grade 2)	Tube: One sample per each 1600 m, Ribbon: One Sample per each coil, Wire: Two Samples per each coil	H	R
2	Weight and Dimensions	IGS-M-TP-22	Weight measurement with balance and dimensions measurement with Meter and caliper	According to purchasing data	10% per each batch	H	R
3	Coating quality	IGS-M-TP-22	Visual analysis	The anode shall be free of flows, cracks, blow holes and excessive porosity	10% per each batch	H	R
4	Coating type	IGS-M-TP-22	X-ray diffraction test	Combination of Iridium and Tantalum, Oxides	One sample per part	H	R
5	Coating adhesion 1	IGS-M-TP-22, ASTM D3359	Make to cuts in the film each about 40 mm with a smaller angel of between 30 and 45°. Place tape and Remove	Minimum 4A: Trace peeling or removal along incisions or at their intersection	One sample per part	H	R
6	Coating adhesion 2	IGS-M-TP-22	Bend at a radius of 20 cm and an angel of 180°	The anode shall not peel off	One sample per part	H	R
7	Corrosion resistance	IGS-M-TP-22	Immersing the anode in sulfuric acid 15% for 10 hours	No corrosion shall be observed	One sample per part	H	R
8	Galvanic Potential	ASTM G71	Potential measurement versus standard reference electrode or standard MMO Anode	Less than 500 mV	Two samples per part	H	R

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9	Life time	IGS-M-TP-22, NACE TM0108	The anode shall survive the accelerated total charge density that is equivalent to the total charge density for the anode design service requirements	According to purchasing data	Two samples per part	H	R
10	Moisture seal	IGS-M-TP-22	The moisture seal shall be tested with helium at 2 atm of pressure	No leakage	One sample per part	H	R
11	Mechanical resistance	IGS-M-TP-22	Applying uniaxial force to 5 times the mass of anode metal	No damage in cable or its connections	One sample per bath	H	R
12	Electrical resistance	IGS-M-TP-22, ASTM B539	Applying current and measurement Voltage	Less than 0.001 ohms	One sample per batch	H	R
13	Packing & Release Note	IGS-M-TP-22	Packing in Box	According to purchasing data	100% samples	H	W&R

*1.Manufacture, 2.Client & 3th Part Inspection, H: Hold, W: Witness, R: Review
Part: Total of order, Batch: Heat