

 QC PLAN				
Magnesium Anode				
Client :		Doc No :		Date :
ITEM	TEST	REF. STANDARD	REQUIREMENTS	Test Frequency
1	Chemical composition	IPS-M-TP-750/3	Aluminum, max. 0.01% Manganese 0.9 - 1.2% Copper, max. 0.02% Iron, max. 0.03% Nickel, max. 0.001% Other elements, total, max. 0.3% Magnesium, Remainder	one samples per each 15 ton
2	Closed Circuit Potential (V) Open Circuit Potential (V) Electrochemical Capacity (A-h/kg) Consumption Rate (Kg/A-yr)	ASTM G97 ASTM G97 ASTM G97 ASTM G97	-1.65 (V) or more negative w.r.t CSE -1.70 (V) or more negative w.r.t CSE 1200 min (A-h/kg) 7.3 max (kg/A-yr)	one samples per each 15 ton
3	Insert material check	IPS-M-TP-750/3	The magnesium anode core shall be made from commercial hot dipped galvanized steel conforming to ASTM specification A 283, Grade C or equivalent standard. CE<0.45	10% per heat
4	Cast galvanic anode identification	IPS-M-TP-750/3	Each anode shall be cast or die-stamped with the following : 1-Manufactures symbol 2-Heat number	outer face of 10% of installed anodes
5	Insert dimensions and location	IPS-M-TP-750/3	- insert location within the anodes shall not deviate from nominal position shall be in $\pm 5\%$ of the nominal anode width and length and $\pm 10\%$ of the nominal anode depth _The core length shall be 75% of anode length.	10% of anodes



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6	Dimensions & Straightness of anode	IPS-M-TP-750/3	Measure the following items: - mean length of anode - mean width - mean thickness - strightness shall not deviate more than 3%	10% of all anodes
7	Surface irregulation	IPS-M-TP-750/3	inspect the following items: - shrinkage depression - nonmetallic inclusions depth - crack - surface slag shrinkage depression shall be accepted. shall not exceed 1/4 inch in depth	10% of anodes
8	Anode weight	IPS-M-TP-750/3	-The permissible variation in weight of each finished anode will be plus or minus 5% of the nominal weight. _The total contract weight shall be no more than 2% above and not below the nominal contract weight.	10% of all anodes
9	release note (include shipment)		-anodes shall be bundled.strapped placed on pallets by agreed procedure for minimize damage	