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TECHNICAL DATA SHEET

Nickel Brightner-172 & Nickel Additive-179 is improved formula use Vat and Barrel Nickel Plating.it produce semi bright, bright, lustrous, uniform finishing plating on all types of metal like copper, brass, M.S., marebell.

It has wide range of application in plating industries like Dye gold jewellery, Auto parts industries, Electronics parts, hardware items.

1) NICKEL BRIGHTNER -172:

- It produces bright nickel plating with uniform grain structure.
- It has high efficiency power at low and high current density
- It is more tolerant to high temperature and concentration of bath.
- It is suitable for vat and barrel plating.

2) NICKEL ADDITIVE -179:

- It produces extra ordinary white and smooth surface deposit.
- Is has excellent efficiency to produce fine grain structure.
- It is suitable for vat and barrel plating .

3) NICKLE LEVELLER-111:

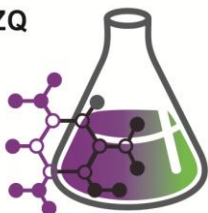
- It has excellent Levelling property and high throwing power .
- It gives uniform covering surface.
- It removes metallic impurities like zinc, copper, iron .

A) BATH SOLUTION COMPOSTION :

- NICKEL SULPHATE :250-300 GM/L
- NICKEL CHLORIDE : 50-60 GM/L
- BORIC ACID : 35-40 GM/L
- NICKEL BRIGHTNER-172 : 0.4 – 0.8 ML/L
- NICKEL ADDITIVE-179 : 8-20 ML/L
- NICKEL LEVELLER -111 : 0.2-0.6 ML/L

B) OPERATING CONDITION:

- TEMPERATURE : 50-65 'C
- PH : 4- 4.6
- VOLTAGE : 10-16 (BARREL), 6-10 (VAT)
- ANODE CURRENT : 3-6 AMP/DM2
- CATHODE CURRENT : 1-3 AMP/DM2
- AGIATION : AIR (CATHODE)



C) CONSUMPTION FOR 1000 AMP./ HRS:

- NICKEL BRIGHTNER -172 : 100-125 ML/L
- NICKEL ADDITIVE- 179 : 150-250 ML/L
- NICKEL LEVELLER -111 : 50- 60 ML/L

NICKLE BATH ANALYTICAL TEST

A) Nickel :

Pipette 2.0 ml cooled sample of Nickel bath into 250ml Erlenmayer flask and add 100ml D.M./distilled water. Add 10ml concentrated Ammonia, a pinch of murexide indicator and titrate immediately with standard 0.0575(M) EDTA solution and observe colour changes from light brown to violet at the end point.

Nickel (as metal) (gm/L) = ml. of 0.0575(M) EDTA X 1.688.

B) Nickel Chloride :

Pipette 5 ml cooled solution, dilute with 75 ml D.M./distilled water, add 1.0 gm. Calcium Carbonate and 5 ml 0.1(N) Potassium Chromate indicator. Titrate with 0.1(N) Silver Nitrate to a buff colour from yellow turbidity.

Nickel Chloride (Hexahydrate) (g/L) = ml of 0.1 (N) Silver Nitrate X 2.3780.

C) Nickel Sulphate (6H₂)(g/L)

4.48 {Nickel Metal/I-0.247 (gm Nickel Chloride 6H₂O/I)}

D) Boric Acid :

Pipette 10 ml cooled bath solution into 250 ml. Erlenmeyer flask. Add about 10gms of Mannitol to form a slurry. Titrate with 1.0(N) Sodium Hydroxide solution using 1ml bromocresol purple indicator from green to blue end point.

Boric Acid (g/L) = ml of 1.0 (N) Sodium Hydroxide X 6.23