



CUZON

BRASS SALTS

INTRODUCTION

Cuzon brass salts is a cyanide based brass electrodeposit that produces a rich golden yellow colour. It is usually applied to bright nickel or bright copper. It is easy to control and is suitable for rack or barrel applications.

BENEFITS

- Easy to control
- Use for rack or barrel
- Rich golden yellow colour

SOLUTION MAKE -UP

Cuzon Brass Salts	80- 140g/l
Ammonia solution (S.G 0.88)	5ml/L

OPERATING DATA

Rack Operation	90 – 110g/L
Barrel Operation	100 – 120g/L
pH	10.5 – 11.4
Free Sodium Cyanide	4.1 to 7.2g/L
Copper	7.8 to 10.5g/L
Zinc	2.9 to 4.6g/L
Temperature	40 – 60°C
Time	30 – 90 sec
Agitation	Gentle solution movement
Current Density	0.5 to 1 amp/dm ²
Extraction	Recommended

EQUIPMENT

Tanks	Welded Steel tank
Heaters	PTFE heaters with thermostatic control.
Anodes	Brass anodes of a composition 60% copper and 40% zinc



INSTALLATION

Clean the plating tank.

If in any doubt as to the cleaning procedure contact PMD Technical Department.

1. Fill the tank to 2/3 volume with deionised water.
2. Add the Cuzon Brass Salts and mix until completely dissolved
3. Make up to final volume with deionised water turn on air to mix.
4. Check and adjust pH as required.
5. Heat to operating temperature.
6. Add Ammonia solution and mix

PROCESS SEQUENCE

1. Nickel plate
2. or Copper plate
3. Rinse.
4. Cuzon Brass salts
5. Rinse.
6. Sealer (Optional).
7. Dry.

MAINTENANCE AND CONTROL

The solution should be analysed regularly to determine zinc content and free cyanide content. Additions of Cuzon Brass salts should be made to maintain the optimum metal content.

The Ammonia has the largest effect on colour. Adjust the pH with ammonia solution. To lower pH raise the temperature drive off excess ammonia.

ANALYSIS METHOD

1. Zinc Analysis

Reagents

0.02M EDTA

Buffer Solution (54g ammonium chloride and 350ml ammonia solution diluted to 1 litre)

Erio T indicator 1:400

30% Formaldehyde solution

Method

2. Pipette 2ml of the plating solution into a 400ml conical flask.
3. Add 100ml of deionised water.
4. Add 20ml of buffer solution.
5. Add 0.5g of Erio T indicator.
6. Titrate with 0.02M EDTA solution until colour turns blue.

- Add 2 drops of formaldehyde solution and if the colour becomes purple again, titrate until blue.
- Record the titre = t mls.

Calculation

$t \times 0.653 = A \text{ g/L of zinc}$

2. Sodium Cyanide Analysis

Reagents

20% Sodium Hydroxide
 10% Potassium Iodide
 0.1N Silver Nitrate

Method

- Pipette 10 ml of the plating solution in a 400ml conical flask.
- Add 100ml of deionised water.
- Add 25ml of Sodium Hydroxide 20%.
- Add 2ml of Potassium Iodide.
- Titrate with Silver nitrate until a definite cloudy appearance is obtained.
- Record the titre = tmls

Calculation

$t \times 0.98 = B \text{ g/L sodium cyanide (free and combined with zinc)}$
 $B-3A = \text{g/L Free Sodium Cyanide.}$

REPLENISHMENT

3.43g/L of Cuzon Brass salts added will increase 1g/L Sodium Cyanide and 0.116g/L Zinc.

DISPOSAL

Dispose of in accordance with local authority requirements.

PRODUCT FAMILIES

The following products are referred to in this data sheet.

PRODUCT NAME	PRODUCT NUMBER
Cuzon Brass salts	259001

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