Acid Bright Zinc Bath ZincoBright, PC-480

Introduction

- PC-480 M & R is a new bright chloride zinc process designed on present day needs.
- PC-480 process produces bright ductile deposits over wide current density range.
- The system can be used for both rack and barrel operations.
- Other advantages are high cathode efficiency, economy of operation, and ease of waste treatment.
- The new process offers the maximum benefits to the user and displays special properties otherwise unobtainable in both vat and barrel operations**.**
- Besides producing bright level zinc deposits, the PC-480 M & R process offers the following outstanding features**:**

* PC-480 M & R additives and brighteners have unsurpassed solution solubility and no oil out problems, even at higher temperatures.

* PC-480 M & R process has outstanding brilliant, level, ductile zinc deposits.

* This process has an improved yellow chromate adhesion due to excellent solubility of additives and brightener in the bath.

* PC-480 M & R bath readily plates over substrates such as malleable iron, castings, heat treated and carbo-nitrided steels.

* Due to the wide density current range the process can plate easily complex shapes with both high and low current density areas on vats and also in barrels.

* The process has an excellent low c.d brightness and hence proved to be an ideal process for barrel plating.

BATH MAKE-UP

	Range	Optimum
ZINC CHLORIDE	50-70 gm /ltr.	60 gm/ltr
POTTASIUM CHLORIDE	200-250 gm/ltr	225 gm/ltr
BORIC ACID	20-30 gm/ltr	25 gm/ltr
PC-480 M	30-40 ml/ltr	30 ml/ ltr
PC-480 R	0.8 – 1.2ml/ltr	1.0ml/ltr

OPERATING PARAMETER.

Cathode Current density	0.5-5 A/sq.dm(VAT & BARREL)
Anode current density	1-3 A/sq. dm
Voltage	4-9 volts (Barrel)
	1-4 volts (Vat)
pH(Electrometric)	4.2-5.0
Agitation	Air agitation recommended
Filtration	Continuous
Anodes	Pure zinc 99.99%
Temperature	20-450C

Note : Before addition of brightner (R) and carrier (M), the base solution should be treated with zinc dust through filter unit

MAINTAINANCE

PC-480 M (make-up)

PC-480 M & R are normally consumed by drag-out, the addition should be made based upon the Hull-cell test. Low concentration of PC-480 M & can cause dark film on the plated components, dull plating in high current density areas, and may result in clouding of the plating solution. Higher concentration of PC-480 M may reduce the overall brightness and thus increase the consumption of PC-480 R to get the results.

PC-480 R

This is mainly responsible for getting the overall brightness and this gives the desired results in combination with PC-480 M . Addition of brightener is normally controlled by the Hull- cell test. PC-480 R is consumed by electrolysis and drag out. Additions can be made based on ampere hours once a consistent routine has been established. The bath can be maintained by adding regularly 125 - 175 ml of PC-480 R and 50 - 75 ml of PC-480 M .

The consumption rate given above should be taken as a rough guide for maintaining the brightener balance in the bath. However, the consumption of the PC-480 M & R depends upon the degree of brightness required, type of base metal and its operating conditions such as pH, temperature, operating current density and the drag out losses.

Guarantee

Our guarantee extends to the continuous quality of our products as they leave our factory and not to their usage in the field. Our technical service will be pleased to answer any question you may have concerning operation and use of our products:

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