

TECHNICAL DATA SHEET

Acid Copper Process (EB-500-02)

Acid copper plating process (EB-500-02) which produce low stressed highly ductile and uniform leveling. It also provide good throwing power, so complex shaped parts can also be plated easily, gives high corrosion resistance and suitable ABS plating.

Make Up Method:

- Fill a separate tank 2/3rd with distilled water.
- Add required quantity of copper sulfate.
- Add activated carbon 2 gm/ltr and stir for two hours and allow solution to settle down overnight.
- Decant and filter the solution.
- Now add required quantity of concentrated sulfuric acid and level tank solution with more distilled water.
- Add required quantity of hydrochloric acid and mix well.
- Cool the solution to operating temperature
- And add the required quantity of Acid copper brightener EB-500, Acid copper leveler EB-501 and acid copper make-up EB-502.

Solution Composition:

CHEMICALS	RANGE	OPTIMUM
Copper Sulfate (EP grad)	200-220 g/l	200 g/l
Sulfuric Acid (Pure Grad)	60-70 gm/l	65 gm/l
Chloride ions	50-100 mg/l	80 mg/l
Acid copper Make-up EB-502 C	6-8 ml/l	6 ml/l
Acid copper Leveler EB-501 B	0.5-0.7 ml/l	0.6 ml/l
Acid copper Brightener EB-500 A	0.5-0.7 ml/l	0.6 ml/l

Operating Conditions:

Parameters	RANGE	Optimum
Copper Metal	50-60 gm/litter	55 gm/litter
Cathode current density	2-6 A/dm ²	3 A/dm ²
Anode current density	1-3 A/dm ²	2.0 A/dm ²
Temperature	18-30°C	25°C
Agitation	Mechanical/Air Agitation	Mechanical/Air Agitation
Anode	Phosphorus Copper	Phosphorus Copper

Functions of Bath Constituents

Copper Sulphate:

Copper sulphate provides the metal which is plated out on the cathode low concentration leads to cause of a burning at high current density area and higher concentrations cause of dullness at low current density area.

Sulfuric Acid:

The role of sulfuric acid is to be increase the solution conductivity excess sulfuric acid concentration will reduce the current limit and also reduce the leveling ability of the process.

Chloride Ions:

For best results the chloride ions has to be maintained at optimum level. Low chloride ions result in poor brightness and high concentration of chloride ions reduce the leveling and low current density brightness and increase the consumption of brightener.

Consumption :

- Acid Copper Brightener EB-500 A : 0.5ltr (0.25-1 ltr) for 10,000 A.H
- Acid Copper Leveler EB-501 B : 0.5 ltr (0.25-1 ltr for 10,000 A.H
- Acid Copper Make-up EB-502 C : 1.0 ltr (01-02 ltr) for 10,000 A.H

Equipment's:

- A PVC, PP or similar materials is suitable to contain the Acid zinc solution.
- PP, PVC lined filters having capacity of 2-3 turnover per hour is recommended.

Cautions:

- Must wear rubber gloves, shoes and apron
- Care should be taken while adding acid