
AUROMEX®

TECHNICAL

INSTRUCTIONS

DATA SHEETS

SILVAMEX S-2000

HIGH SPEED SILVER PLATING PROCESS

INTRODUCTION

The **AUROMEX SILVAMEX S-2000** is a neutral type high speed silver plating process designed to produce semi-bright deposits with brightness between 0.4 – 0.6 under a much wider range of current densities. This process is advantageous to many applications in electronic industries such as semi conductor devices (ie. IC leadframes and transistors etc.). The deposit obtained from SILVAMEX S-2000 presents excellent solderability and non-corrosiveness. The process is particularly suitable for use in high speed equipment for selective silver plating.

FEATURES

- * Semi-bright finish deposits.
- * Wider operating current densities.
- * Non-critical, economical operation and control.
- * Stability in Brightness (between 0.4 – 0.6)
- * Excellent Solderability
- * High electrical conductivity.
- * Easy bath maintenance.

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AUROMEX®

CHEMICALS CORPORATION

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PLATING BATH PREPARATION

AUROMEX SILVAMEX S-2000 make up agent is supplied in unit form. Each unit contains all the products required to make 10 litres of solution. It does not contain silver.

The following instructions are for the preparation of 10 litres of solution.

Material required :

SILVER potassium cyanide (54%)	1.1 kgs.
AUROMEX SILVAMEX S-2000 Make Up Salt (Code S2000)	2.6 kgs.
AUROMEX SILVAMEX S-2000 Make Up Brightener (Code S2001)	100 mls.

Procedures :

- 1) Fill to a clean plating tank 2/3 of the required final volume with distilled or deionised water.
- 2) Add in 2.6 kgs. SILVAMEX S-2000 Make Up Salt (Code S2000), stir unit completely mixed.
- 3) Dissolve the silver Potassium Cyanide (54%) in a separate quantity of demineralised or distilled water and then add to the above solution.
- 4) Add in the SILVAMEX S-2000 Make Up Brightener (Code S2001).
- 5) Dilute the solution to 10 litres with demineralised or distilled water, the solution is then ready to use.

OPERATING CONDITION

	<u>UNIT</u>	<u>RANGE</u>	<u>OPTIMUM</u>
Silver metal	Gms./Litre	50-70	60
PH		8.0-9.0	8.5
Temperature	° C	50-70	60
Cathode Current Density	A/dm	20-120	
Deposition rate	min/ u	approx 1.2 microns/second at 100 A/dm	
Anode		PT/TI Anode	
Efficiency	mgm/A-min	60-75	68
Specific Gravity	° Be	17-25	20

EQUIPMENT

Tanks	Steel lined with suitable plastic material such as polyethylene, Tygon, Polyvinyl chloride, Koroseal and glass containers are recommended.
Heaters	Not normally required but a stainless steel immersion heater with thermostat control.
Filtration	Preferably continuous using filter paper stacks or woven nylon or polypropylene cartridges. (capacity of approx. 1-2 times tank volume per hour).
Recifier	Chopper system or ripple 45%.

SOLUTION MAINTENANCE

Silver Metal :

The silver content should not be allowed to drop below 50 gram per litre. Below this figure, because of lack of sufficient silver ions the tendency for dullness at the high current density areas will increase. Analyse silver content and replenish potassium silver cyanide is necessary, add SILVAMEX S-2000 replenisher with a ratio of 1 cc. per 2 gms silver metal. To increase pH, use 20% potassium hydroxide. To decrease pH use SILVAMEX S-2000 Acid (Code S-2005)

ORDER ITEMS

SILVAMEX	S-2000	Make Up Salt (Code S-2000)	2.6 kgs./unit/10 litres
SILVAMEX	S-2000	Make Up Brightener (Code S-2001)	100 mls./unit
SILVAMEX	S-2000	Replenisher Brightener (Code S-2002)	1,2 or 5 litres/bot.
SILVAMEX	S-2000	Acid (Code S-2005)	1,2 or 5 litres/bot.
SILVAMEX	S-2000	Conducting Salt (Code 2003)	1,2 or 10 kgs./pack