AUROMEX®

TECHNICAL INSTRUCTIONS

DATA SHEETS

SILVAMEX AG100

HIGH EFFICIENCY ELECTROFORMING SILVER PLATING PROCESS

INTRODUCTION

The AUROMEX SILVAMEX AG100 is a high efficiency neutral silver process, specially designed to give a ductile and fine grained deposits at thickness in excess of 1.25mm (0.050 inches). This process is advantageous to may application and ideal for electroforming purpose, for building p thick deposits where subsequent finish is not required.

FEATURES

* Semi-bright finish deposits.
* Deposits are highly ductile.
* Non-critical, in operation and control.
* No accumulation of deleterious brightener decomposition products.
* Exceptional throwing and covering power.
* High electrical conductivity.
* Easy bath maintenance.

AUROMEX ® *CHEMICALS CORPORATION*
UNIT NO. 2, 4/F., INTERNATIONAL PLAZA, 20 SHEUNG YUET ROAD, KOWLOON BAY, KOWLOON, H.K.
TEL: 2796 7238 FAX: 852-2796 7117

PLATING BATH PREPARATION

AUROMEX SILVAMEX AG100 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 AG100 Make Up Salt	2.6 kgs.
AUROMEX SILVAMEX AG100 Make Up Brightener	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 AG100 Make Up Salt, 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 AG100 Make Up Brightener.
5) Dilute the solution to 10 litres with demineralised or distilled water, the solution is then ready to use.

OPERATING CONDITION

	UNIT	RANGE	OPTIMUM
Silver metal	g/l	50-70	60
pH	℃	8.0-9.0	8.5
Temperature		50-70	60
Cathode Current Density	A/dm²	20-120	
Deposition rate	min/u	approx 1.2 microns/second at 100 A/dm²	
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. Analyze silver content and replenish potassium silver cyanide is necessary, add SILVAMEX AG100 replenisher with a ratio of 1 cc. per 2 gms silver metal. To increase pH, use 20% potassium hydroxide. To decrease pH use SILVAMEX AG100 Acid

ORDER ITEMS

SILVAMEX	**AG100**	Make Up Salt (Code S-2000)	2.6 kgs./unit/10 litres
SILVAMEX	**AG100**	Make Up Brightener (Code S-2001)	100 mls./unit
SILVAMEX	**AG100**	Replenisher Brightener (Code S-2002)	1,2 or 5 litres/bot.
SILVAMEX	**AG100**	Acid (Code S-2005)	1,2 or 5 litres/bot.
SILVAMEX	**AG100**	Conducting Salt (Code 2003)	1,2 or 10 kgs./pack