



Product Code	307-160
Colour	Silver White
Preparation	Product Ready to Use
Tanks	Polypropylene, Teflon or Glass
Anodes	Fine Silver electrolytic grade (min. 99.97%)
Heaters	Porcelain, PTFE or Stainless Steel
Agitation	Solution and/or work movement is recommended (2.5 - 7.5 m/min)

USAGE: Heat the ready-to-use solution to 26 - 28°C. Dipping the fine silver (+) anode into it. Put the material you want to plate into the solution with the help of a current-conducting (-) hanger (Platinex hanger is recommended). Perform the plating process by immersing it and applying 0.4V voltage and moving it for 60 -120 seconds. 1 micron coating is achieved with 3 minutes of application. Temperature is very important in silver plating. High temperature will cause a dull surface. Use ice in places with high room temperature.

IMPORTANT NOTE: The more accurate the pre-treatment processes before plating, the better the plating quality will be. Please contact our company regarding the pre-treatment preparation.



OPERATING CONDITIONS

Silver Content :	32 g/l (30 – 35 g/l)
Free Potassium Cyanide:	120 g/l (120 - 170 g/l)
Potassium Carbonate:	20 g/l (will increase with aging up to 100–120 g/l then need to be replaced)
Temperature:	26 – 28 °C (maks 30 °C)
pH:	12
Voltage:	0.4V
Cathodic Current Density:	0.4 - 0.6 A/dm ²
Anode-To-Cathode Ratio:	1 : 1 or higher
Plating Efficiency:	30 mg/A.min



Deposition Rate:	~1 μm 3 Minute
Plating Time:	67 mg/A.min



DEPOSITION CHARACTERISTICS

Purity:	> 99.9 %
Hardness:	110 - 130 HV
Density:	10.4 g/cm ³



MAINTENANCE RATE

Consumed 15.000 Amps Per Minute (=1000 gr Ag)

- 200 ml ALISTAR Replenisher

SOLUTION MAINTENANCE

To obtain a very nice deposit use only deionised water max 2 μS with 1 μ filter in PP bags. Use only special Silver anodes min. 99.97 %. Keep cyanide content at 120-150 g/l. The pump should filter the solution 4 - 5 times per hour. The deposit will be brighter when more replenisher is used.



EQUIPMENT REQUIRED

1. TANKS

Tanks should be made from Polypropylene. Prior to use, the tank should be leached with 5 % potassium hydroxide.

2. HEATERS

Heaters should be made from Porcelain, PTFE or Stainless Steel. Temperature should be maintained at optimum 28°C.



3. FILTRATION

To keep the solution free from suspended matters and anode sludge, continuous filtration is recommended. All parts of the filter unit in contact with the solution should be made from alkali resistant plastic. Filter capacity is to be such that the solution volume is filtered at least twice per hours. Filter cartridges should be made from Polypropylene. Particle retention should be 1 µm.

4. AGITATION

Moderate agitation is necessary to ensure even deposition and to allow optimal operating conditions. Work movement should be 3 - 7 m/min.

5. ANODES

Only fine Silver electrolytic grade (99.99%) anodes should be used. It is recommended that Polypropylene anode bags are used.



TROUBLE SHOOTING

CONSTITUENT	LOW	HIGH
Silver	Burning White	Burning brown. Add more KCN
Potassium Cyanide	Milky Deposit. Not Fully Bright	---
Potassium Carbonate	Not Fully Bright	No Known Problem. After 100 g/L = end of lifetime. Pitting
Replenisher	Dull deposit. Add 2 ml/L at a Time	---
Hardener K	Soft Deposit, Dullness	Brittle.
Temperature	< 22°C = burning at high CD	Dull Deposit. Oxidation of KCN to K ₂ CO ₃
Current Density	< 0.2 A/dm ² . Semi bright deposit	2 – 3 A/dm ² : Burning