

SILVER PLATING INSTRUCTIONS (heavy deposits)

09/2024

- Function - To deposit a layer of silver on the surface of an article. Used extensively in the plate industry, deposition is normally on copper, brass or nickel plated bases. Much use is made of this solution in the jewellery industry as a final finish in Sterling Silver or costume jewellery. The major advantage of deposited silver is its strong whiteness, far superior to alloyed silvers, and where necessary, the ease of rouge polishing for very high lustre.
- Container - Polypropylene, PVC or Glass.
- Anodes - Silver. Silver anodes must be pure silver and not alloyed. Connect to positive output on DC supply.
- Temperature- 20°C (room temperature)
- DC Voltage - 0.5 – 3 volts
- DC Amperage- 0.01 – 0.03 amps per cm². (0.06 – 0.02 amp/inch²).
- Time - Approx 1 micron in 90 seconds, up to 20 microns.
- Agitation - Horizontal or rotary 150 – 300 cms per minute. Pump agitation with inductors.
- Make up - Ready mixed solution, pour into container and heat accordingly before use.
- Filtration - Continuous on solutions over 100 litres. Occasional on smaller solutions, using pumps or filter papers.
- Operation - Hang articles on copper or brass wires, jigs or racks. Clean through an ultrasonic cleaner if very dirty. Electrolytically clean articles as recommended, wash in water and process through light Silver strike deposit solution if the products are nickel plated or made of copper. Place in heavy silver bath and process as directed. For medium thicknesses, plate for 5 minutes. Finish using rouge and a soft polishing mop if necessary.
- Replenishment - Should be done by analysis only. Brightener is consumed primarily by drag out, and additions can be made to replace losses.
Maintenance Brightener— When the deposit goes milky, add in 0.5ml/l increments up to a maximum of 2.5ml/l.
Make up Additive - 20-25ml per litre of dragged out solution.
Brightener is available to purchase upon request.

CAUTION -SILVER SOLUTIONS CONTAIN CYANIDES AND ARE HIGHLY TOXIC. INGESTION WILL CAUSE DEATH.

Replenishment or “use and replace”

With small volume solutions many people prefer to use the solution to exhaustion and then replace it as the addition of chemical replenishment is difficult to do correctly. Larger solutions are less expensive to operate when using replenishment methods but this involves analysis to determine the correct additions required.

ASSOCIATED PRODUCTS THAT MAY BE OF INTEREST.



Red gold plating.
Up to 10 microns of
18K Red Gold, contains
25% copper to give an
authentic rose to red gold
colour



Platinum plating.
Deposits pure white
Platinum to give a even
colour and a clean look of
Platinum. Used for repairs
and new items



Black Ruthenium plating.
Plates a very dark black
deposit to give contrast to
stones and to produce
Gothic styles.



Pen plating products
Yellow Gold
Rose Gold
White & black Rhodium
Silver

Contact your normal supplier for details.

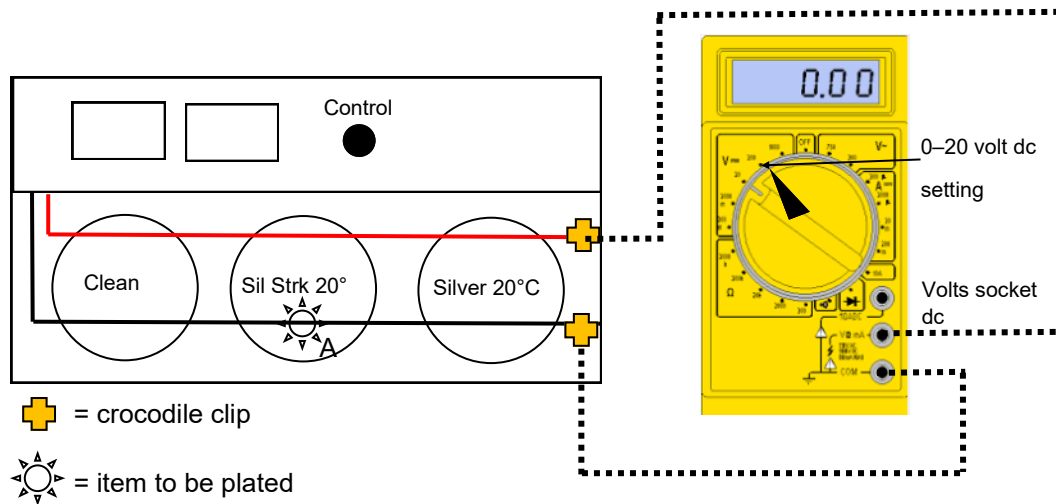
SILVER PLATING Additional information

CONTROL METHOD USING VOLTS.

If you experience dull or grey deposits it is often that an excessive voltage has been applied. Heavy deposit Silver solutions are the most conductive of all plating processes and as such only require very small voltage levels to give thick bright finishes. This is especially true with small items.

This is a low cost way of monitoring your voltage if you have only a analogue (Dial) meter on your power supply.

This method is less accurate than using the amp method and the control of thickness is less reliable but it is easier to use.



Make the connections as per drawing above, note that different types of multimeter have different configurations but they must have a 0 to at least 10 volt dc setting, 0—20 volts is fine also.

1. Attach the items to be plated onto the normal hooks or wires used.
2. Clean the item in the normal way, silver strike if Nickel or copper alloy products.
3. After rinsing, TURN the CONTROL to zero and place the items into the Gold tank.
4. Using the CONTROL, turn the power up carefully, reading the voltage from the MULTIMETER.
5. Start at a level of 0.5 volts and plate for 10 seconds, inspect the finish and if no silver is deposited, increase the voltage in 0.25 volt stages until you get a bright deposit.

It is necessary to agitate the items if the plating time exceeds 15 seconds

Only experience will give you the best power level to use.

Multimeter parts can be purchased locally or on the Internet.