

BRIGHT NICKEL PLATING INSTRUCTIONS

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Function - To deposit a layer of nickel in varying thicknesses upon normally a base metal product. Nickel is unique in the ability to brighten and level dull surfaces to a high degree or lustre. Virtually all base metal jewellery and watch bracelets were nickel plated prior to a precious metal finish but this is now illegal as skin contact with nickel can cause an allergic reaction.

Nickel can be used on products with no normal close contact with skin and for many industrial applications.

There are many types of nickel solutions available, from simple matt deposit types up to modern self levelling/ brightening types. The early matt types are not normally used today in production but are still available for specialist applications from leading suppliers.

It is generally felt that it is impractical to operate a production nickel solution under a size of 50 litres. This is due to the difficulty in keeping a complex solution in balance when of a small size. Small solutions are possible to operate for small bath or research purposes on a "use to exhaustion" and replace basis.

- Container - Polypropylene, PVC, Glass or Rubber line steel tanks.
- Anodes - Pure Nickel in sheet or oval anode form, in larger installations over 150 litres, the use of Titanium baskets filled with nickel squares or pellets is recommended on a cost basis. All types of anodes must be inside, polypropylene cloth. bags to stop small particles shedding from the anodes and contaminating the solution. Connect anodes to the positive output of the DC supply.
- Temperature- 60°C Time 1 – 20 minutes.
- DC Voltage - 3 – 4 volts. DC Amperage– 0.03 – 0.05 amps per cm² (0.2 – 0.3 amps/inch²).
- Agitation - Horizontal movement 250 – 350 cm per minutes or air or by pump circulation.
- Filtration - Continuous on solutions over 50 litres. Occasional through filter papers for small solutions.
- Make up - Usually supplied ready made, but it is possible to make up from salts and liquid brighteners.
- Operation - Suspend and clean work in the normal way. If products are steel, lead based or have been soft soldered, it is strongly recommended to use a thin copper deposit before nickel plating. Plate for desired time to achieve finish required. After plating swill thoroughly in clean water and then go to final finishes as quickly as possible.

Nickel plated products that have been in storage or have been delayed after plating may exhibit the problem of passivity, this shows by streaking and non-uniform appearances after final finish. This can be cured by re-electrolytically cleaning for 15 seconds, or using a dilute (10%) Sulphuric Acid and water mix, merely immersing the nickel plated goods for 10 seconds, washing in water and then going to final finish.

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.