Precious Metal Services Technical Data

Electroplating

1. CLEANING PROCESS

THE CLEANING PROCESS IS STEP 1 IN A 3 STEP PROCESS. PAYING CLOSE ATTENTION TO EACH STEP IS CRITICAL FOR PRODUCING HIGH QUALITY PLATING FINISHES.

Electro Cleaner

Prepare your electrocleaning solution by taking 750ml of hot Demineralised Water and while stirring add 50 – 60gr of **Electro Cleaner** salts, now add more Demineralised Water to make up to 1 litre.

Recommended Equipment

Tank:	Polypropylene or PVC
Heater:	Stainless Steel or Carbon Steel
Anodes:	Stainless Steel

Process

1. The piece to be plated should have a bright clean polished surface and be free from inclusions, scratches and porosity
2. Clean the piece in an ultrasonic cleaner to remove all traces of grease, oils and polishing compounds
3. Rinse in cold tap water
4. Clean the piece with **Electro Cleaner**. Clean for 1 minute using 5 – 6 volts in a bath temperature of 50°C.
5. Rinse in cold tap water

* An MSDS (Material Safety Data Sheet) is available for each of the plating products upon request.

2. SURFACE PREPARATION

THE SURFACE PREPARATION PROCESS IS STEP 2 IN A 3 STEP PROCESS. PAYING CLOSE ATTENTION TO EACH STEP IS CRITICAL FOR PRODUCING HIGH QUALITY PLATING FINISHES.

Acid Dip

Prepare your surface activator solution by taking 750ml of hot Demineralised Water and while stirring add 50 – 60gr of **Acid Dip** salts, now add more Demineralised Water to make up to 1 litre.

Recommended Equipment

Tank: Polypropylene, PVC or hard rubber lined steel
Heater: Not applicable
Anodes: Not applicable

Process

1. Neutralise and activate the surface of the piece by immersing in **Acid Dip** for 30 seconds at room temperature without current
2. Rinse in cold tap water
3. Rinse in Demineralised Water. It is important to check that the piece is completely wet, no droplets should be visible. If droplets have formed you must repeat the process from point 1 of the *electro cleaner* section. If there is no change, it may be necessary to replace the cleaning products with fresh solutions
4. The piece is ready for plating

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3. PLATING PROCESS

Rhodium Plating

RPS – White Rhodium 2.00gr Rh/litre

Prepare your solution by taking 500ml of Demineralised Water and while stirring add the 100ml bottle of **Rhodium Plating Concentrate**, now add more Demineralised Water to make up to 1 litre.

Recommended Equipment

Tank:	Polypropylene or Teflon
Heater:	Porcelain or PTFE
Anodes:	Platinised Titanium – the area of the anode should be at least twice the size of the piece to be plated

Process

1. Heat the solution to 40 - 45°C. Too high a temperature may result in a matt finish and too low a temperature will give poor plating efficiency
2. Immerse the piece for between 15 – 60 seconds (generally 30 seconds) at 4 – 4.5 volts. Moving the piece is recommended
3. Rinse and dry

* An MSDS (Material Safety Data Sheet) is available for each of the plating products upon request.

3. PLATING PROCESS CONT.

Rhodium Plating

BRS – Black Rhodium 2.00gr Rh/litre

Prepare your solution by taking 500ml of Demineralised Water and while stirring add the 100ml bottle of **Black Rhodium Plating Concentrate**, now add more Demineralised Water to make up to 1 litre (leave at 500ml for darker colour)

Recommended Equipment

Tank:	Polypropylene or Teflon
Heater:	Porcelain or PTFE
Anodes:	Platinised Titanium – the area of the anode should be at least twice the size of the piece to be plated

Process

4. Heat the solution to 25°C. Too high a temperature may result in a matt finish and too low a temperature will give poor plating efficiency
5. Immerse the piece for between 3 – 5 minutes at 2 volts. Moving the piece is recommended
6. Rinse and dry

* An MSDS (Material Safety Data Sheet) is available for each of the plating products upon request.

3. PLATING PROCESS CONT.

Gold Plating

GPS2N - 18 Carat Yellow Colour, 0.40gr Au/litre (Flash Coating)

Recommended Equipment

Tank:	Polypropylene or rubber lined steel able to withstand up to 70°C
Heater:	Porcelain or Stainless Steel
Anodes:	Electropolished Stainless Steel 18/8 – the area of the anode should be at least twice the size of the piece to be plated

Process

1. Heat the ready to use **Gold Plating Solution** to 60°C. Too high a temperature may result in a dark yellow deposit and too low a temperature may give a hazy deposit
2. Immerse the piece for between 30 – 60 seconds (generally 30 seconds) at 5 volts. Setting the voltage too high may result in a too pink deposit and setting it too low may result in a too yellow deposit. Moving the piece is not necessary but can be beneficial
3. Rinse and dry

* An MSDS (Material Safety Data Sheet) is available for each of the plating products upon request.

3. PLATING PROCESS CONT.

GPSHG - 23 Carat Yellow Colour, 4.0gr Au/litre (Hard Gold Plate)

Recommended Equipment

Tank:	Polypropylene or PVC
Heater:	Porcelain or PTFE
Anodes:	Platinised Titanium – the area of the anode should be at least twice the size of the piece to be plated

Process

1. Heat the ready to use **Gold Plating Solution** to 40°C. Too high a temperature may result in dullness of the deposit and too low a temperature may leave a greyish deposit
2. Immerse the piece for 4 minutes at 2.7 volts. Moving the piece is recommended
3. Rinse and dry

* An MSDS (Material Safety Data Sheet) is available for each of the plating products upon request. You will find more information on Electroplating on page 130 of the Peter W Beck Precious Metal Services Catalogue.

PETER W BECK PTY LTD

14 Duncan Court, Ottoway Park, South Australia 5013 Telephone +61 8 8440 3399 Toll Free 1800 888 590 Fax +61 8 8447 1144

Email preciousmetals@pwbeck.com.au www.pwbeck.com.au

A.B.N 37 008 011 550