



## AM2BW

## Technical Chart

Aussiemet AM2BW Superbright deposits brilliant-white coatings of previously unattained lightness and brilliance. It is additionally characterized by high covering speed and excellent throwing power.

This process is specifically designed to plate jewellery items when an extra white colour for diamond setting is required. The characteristic as follows:

- Excellent Covering and Distribution Ability
- Exceptionally brilliant white deposits
- For rack and barrel plating
- Suitable for Flash and High Thickness
- Abrasion resistant rhodium layers
- Exceptional coating
- Process Working, when needed, at Room Temperature

### Technical Specification

Parameter	Unit	Range	Optimum
Rhodium Concentration	g/l	0.5-4	2
Sulphuric Acid Concentration	cc/l	0-50	20
Temperature	°C	18-60	40-50
pH			< 1
Current Density	A/dm <sup>2</sup>	0.5-10	3
Voltage	V	2-6	4
Cathodic Efficiency at 3A/dm <sup>2</sup>	mg/Amin'	3-12	6
Anodes			Platinum or Ti/Pt
Agitation		none	moderate moderate
Anode /Cathode Ratio	1:1	4:1	2:1
Parameter		Unit	Range
Purity		%	> 99.9
Deposit Density		g/cc	12.4
Hardness HV		(10 g)	800-900
Colour			Silvery White
Aspect			Brilliant

## DEPOSITION SPEED

At 3.0 A/ dm<sup>2</sup> , with a Rh concentration of 2.0 g/l a Cathode Efficiency of 6 mg / Ampere minutes is achieved. This gives a deposition speed of 0.145 micron per minute.

## Equipment

For small installations (within 5 liters), heat resistant glass vessels are satisfactory. For larger installations, Polypropylene or PTFE lined tanks are suitable and must have the following:

Rectifier with an Ampere meter and Volt meter producing a DC output with less than 5% ripple. Ampere minute meter  
Platinised (2.5.micron Pt) titanium anodes  
Filter pump with 5 – 15 micron polypropylene cartridge

**Note:** In order to avoid organic pollution it is recommended to wash and boil the cartridge before using.

## Additional Information

### PRETREATMENT

- Electroclean and ultrasonic clean parts to ensure they are free from grease.
- Rinse with deionised water.
- Activate parts in 10% v/v Sulphuric Acid for about 10 - 20 secs.
- Rinse with deionised water.
- Dry.

### RHODIUM CONCENTRATION

For usual applications the Rhodium concentration will be determined primarily based upon thickness requirements. For thickness below 0.5 microns a 2.0 g/l Rhodium concentration is recommended. For higher thickness, in order to speed up the deposition speed, a 4.0 g/l Rhodium concentration is suggested. For plating particular items producing an important drug-out (like hollow jewels) or for barrel application, please take into consideration that the process Aussimet White is able to plate with 0.5 - 1.0 g/l Rhodium concentration even is with lower cathodic efficiency and deposition speed.

## **pH**

Normally pH adjustment is not necessary because the addition of Rhodium concentrate is normally sufficient to maintain the optimal value.

## **DEIONISED WATER**

In order to avoid the above mentioned pollution of the plating solution it is strongly recommended to use high quality deionized or distilled water for bath preparation and replenishment.

## **AGITATION**

For the best colour and performance, agitation is supplied by the filter pump to give a gentle to moderate rate of agitation.

For smaller installations the gentle movement of the parts by hand is sufficient.

## **TEMPERATURE**

For normal flash deposition the process works at room temperature with optimal performances. In case it is necessary to increase whiteness and deposition speed the temperature can be raised to 40 - 50 °C.

Note:

Aussiemet always recommends:

1. Before handling any ordered product please carefully read the relevant MSDS.
2. Please treat spent solutions in accordance with the in place regulations.



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