

# JEWELRY PLATING

## RH2M

WHITE RHODIUM FOR BATH PLATING 2 G/L READY-TO-USE

### GENERAL INFORMATION

RH2M is a ready-to-use white rhodium for bath plating. The properties of the RH2M rhodium deposit grant a higher degree of whiteness due to a more compact deposition when compared to standard rhodium solutions following the same process cycle. These results have been obtained by improving working conditions: the applicable voltage range has been widened, making the process parameters more flexible to guarantee optimal results. This new anti-burn technology eliminates the most common errors such as: surface calculation inaccuracy, prolonged immersion times, bath overheating and excessive voltage. It is also possible to obtain thicknesses of 1.0 Micron. As a consequence of the more brilliant deposition, the average consumption of the rhodium suspended in the electrolyte inclines to be around 10% higher under the same working conditions.




#### Product form

Metal concentration	2 g/l (Rh)
Solution form	Liquid
Plating solution color	Orange
Storage time	2 years
Volume	1 liter

#### Deposit data

Solution appearance	Glossy
Purity (%)	99.9
Hardness [HV 0.01]	800-900
Density [g/cm <sup>3</sup> ]	12.4
Plating solution color	White
Thickness range [μm]	0,02 - 0.50

#### Operating data

	RANGE	OPTIMAL
pH	< 1	0.5
Voltage [V]	2-6	3.5
Current density [A/dm <sup>2</sup> ]	0.5-10	1.5
Working temperature [°C]	20-65	40 - 60
Exposure time (sec)	15 - 120	50.0
Cathode efficiency [mg/Amin]	4-12	8.0
Anode-cathode ratio	1:1-4:1	2:1
Anode type	Platonized titanium	
Agitation	Moderate	

#### Metal concentration

METAL	RANGE (g/l)	OPTIMAL (g/l)
Rhodium	0.6 - 5.0	2.0

#### Color coordinates

L*	90.5
a*	0.8
b*	1.4
c*	1.8

**PREPARATION**

RH2M is a ready-to-use galvanic bath at the concentration of 2 g/l. No preparation is required.

**EQUIPMENT**

Working vessel: Pyrex glass / PVC / polypropylene.

Power supply: DC current rectifier with low residual AC (<5%).

Heating element.

Anode Type Platinized Titanium [1.5-2.5 µm].

For larger bath volumes:

Magnetic driven filter pumps with 5-15 µm cartridge (before use, boil and wash the cartridges with demineralized water for 3 hours to prevent organic contamination).

Amp/min counter.

**PRE TREATMENT**

RH2M can be deposited directly onto Silver, Palladium, Gold, Nickel and its alloys. An intermediate deposit or precious metal plating strike is necessary before depositing onto Tin, Lead, Zinc, Cadmium, Aluminum and Iron.

**POST TREATMENT**

The electrolyte should be removed from the surface as quick as possible. Wash off the bath residual in a recovery rinse (still rinse). Rinse the parts in circulating deionized water and dry.

**WATER PURITY**

To prevent contamination of the bath both during its preparation and any subsequent replenishing operations, use demineralized water with a conductivity of less than 3 µS/cm (containing no traces of organic compounds, Chlorine, Silicon, or Boron).

**BATH MAINTENANCE**

Small-sized RH2M (until 5 liters) can be used until the rhodium solution is completely exhausted without adding any rhodium concentrate replenisher solution. For larger volumes add RH5RM replenisher solution to restore the optimal rhodium concentration. For perfect electrolyte performance it is advisable to maintain the rhodium concentration at values not lower than 80% of the initial concentration; for example, with a bath operating at a concentration of 2 g/l, additions should be done after a consumption of 0.4 g/l of rhodium. Keep in mind that at optimum conditions a bath working at 2 g/l deposits about 8-10 mg of Rh per ampere-minute. Given the cost of rhodium and to have a precise evaluation of the metal consumption it is advisable to perform periodic analytical checks.

ALWAYS USE RH5RM REPLENISHER SOLUTION TO RESTORE THE RHODIUM CONTENT.

The important organic components withdrawn from the rhodium electrolyte after an active carbon treatment or even after several drag-out steps can be easily restored by addition of RH2RM-C replenisher (see related technical chart).

**SUPPLEMENTARY INFORMATION**

An initial rhodium concentration of 2.5 g/l is recommended to get thickness higher than 0.4 microns.

**CORRELATED PRODUCTS:**

**RH2FM:** Rhodium for plating solution concentrate 2g/250ml

(For ready to use solution: dilute **RH2FM** in 750ml of demineralized water)

**RH5RM:** Rhodium XL replenisher 5g/100ml (addition of 20ml of **RH5RM** restores 1g of rhodium)

**RH2RM-C:** Correction replenisher per Rhodium M 2g/100ml (addition of 50ml of **RH5RM** restores 1g of rhodium)

**SAFETY INFORMATION**

Being an acidic solution, the electrolyte is corrosive therefore is an irritant to the skin, eyes and mucous membranes. Caution should be exercised when using the product, avoiding contact with the eyes and skin. Use gloves and safety goggles. Keep away from cyanide based chemicals. For further information please refer to the relative MSDS.

**DISCLAIMER**

All recommendations and suggestions in this bulletin concerning the use of our products are based upon tests and data believed to be reliable. Since the actual use by others is beyond our control, no guarantee expressed or implied, is made by Legor Group, its subsidiaries or distributors, as to the effects of such use or results to be obtained, nor is any information to be construed as a recommendation to infringe any patent.

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**RELATED PRODUCTS LIST****Prodotto Complementari**

RH5RM Rhodium M replenisher - 5 g/100 ml

**Prodotto Alternativi**

RH2FM White rhodium for bath plating 2 g/250 ml make-up