RH2XL is a ready-to-use white rhodium for bath plating. The excessive throwing power of this rhodium plating electrolyte allows for easy distribution in difficult to reach places making it ideal for substrates with a lot of detail. This formulation has been developed specifically for items with a lot of stones as in micro-pave or in the case where the stones have been wax-set prior to casting. The chemical make-up of this rhodium enables the metal to penetrate below the stone producing a compact white deposit. This deposit grants the stone a more luminous base which allows the stone to appear more brilliant and visually appealing.

**GENERAL INFORMATION**

### 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: Shiny
- Purity (%): 99.9
- Hardness [HV 0.01]: 800-900
- Density [g/cm³]: 12.4
- Plating solution color: White
- Thickness range [µm]: 0.02 - 0.50

### Operating data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>RANGE</th>
<th>OPTIMAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>&lt; 1</td>
<td>0.5</td>
</tr>
<tr>
<td>Voltage [V]</td>
<td>2-6</td>
<td>3.5</td>
</tr>
<tr>
<td>Current density [A/dm²]</td>
<td>0.5-10</td>
<td>1.5</td>
</tr>
<tr>
<td>Working temperature [°C]</td>
<td>20-65</td>
<td>40 - 60</td>
</tr>
<tr>
<td>Exposure time (sec)</td>
<td>15 - 120</td>
<td>50.0</td>
</tr>
<tr>
<td>Cathode efficiency [mg/Amin]</td>
<td>4-12</td>
<td>8.0</td>
</tr>
<tr>
<td>Anode-cathode ratio</td>
<td>1:1-4:1</td>
<td>2:1</td>
</tr>
<tr>
<td>Anode type</td>
<td>Platonized titanium</td>
<td></td>
</tr>
<tr>
<td>Agitation</td>
<td>Moderate</td>
<td></td>
</tr>
</tbody>
</table>

### Metal concentration

<table>
<thead>
<tr>
<th>Metal</th>
<th>RANGE (g/l)</th>
<th>OPTIMAL (g/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rhodium</td>
<td>0.6 - 5.0</td>
<td>2.0</td>
</tr>
</tbody>
</table>

### Color coordinates

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>L*</td>
<td>90.5</td>
</tr>
<tr>
<td>a*</td>
<td>0.8</td>
</tr>
<tr>
<td>b*</td>
<td>1.5</td>
</tr>
<tr>
<td>c*</td>
<td>1.6</td>
</tr>
</tbody>
</table>
**PREPARATION**

**RH2XL** is a ready-to-use galvanic bath at the concentration of 2 g/l. No preparation is required.

**EQUIPMENT**

- Power supply: DC current rectifier with low residual AC (<5%).
- Heating element.
- Anode Type: Platinitized 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**

**RH2XL** 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 replenishing operations, use demineralized water with a conductivity of less than 3µS/cm (containing no traces of organic compounds, Chlorine, Silicon, or Boron).

**BATH MAINTENANCE**

Small-sized **RH2XL** (until 5 liters) can be used until the rhodium solution is completely exhausted without adding any rhodium concentrate replenisher solution. For larger volumes add **RH5RXL** 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 ampereminute. Given the cost of rhodium and to have a precise evaluation of the metal consumption it is advisable to perform periodic analytical checks.

**SUPPLEMENTARY INFORMATION**

For maximum performances, particularly in terms of color, do not use excessive agitation. Gentle agitation will be sufficient to remove the gaseous hydrogen developed closed to the pieces to be plated. So that, for processes which involve large volumes, agitation of the solution using a magnetic filter pump with not too high capacity is recommended; while for smaller tanks a moderate agitation of the pieces is adequate. Higher current density and voltage is advantageous to achieve the best brightness and luminosity. For excellent results with a very short plating time we recommend the following operating data:
- **VOLTAGE:** 4 V
- **TEMPERATURE:** 60°C
- **PLATING TIME:** 15 - 20 seconds.

**CORRELATED PRODUCTS:**

- **RH2FXL:** Rhodium for plating solution concentrate 2g/250ml (For ready to use solution: dilute RH2FXL in 750ml of demineralized water)
- **RH5RXL:** Rhodium XL replenisher 5g/100ml (addition of 20ml of RH5RXL restores 1g of rhodium)
- **RH2RXL-C:** Correction replenisher per Rhodium XL 2g/100ml (addition of 50ml of RH5RXL 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 of 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.