

## Technical data sheet and product guideline

### RH2XL

Technical and decorative white rhodium for bath plating 2 g/l ready-to-use



#### Color coordinates



L	<b>90.5</b>
a	<b>0.8</b>
b	<b>1.5</b>
c	<b>1.6</b>

#### Product form

Metal concentration	<b>2 g/l (Rh)</b>
Form	<b>Liquid</b>
Material color	<b>Orange</b>
Storage time	<b>2 years</b>
Volume	<b>1 liter</b>

#### Operating data

	Range	Optimal
Voltage (V)	<b>2-6</b>	<b>3-4</b>
Current density (A/dm <sup>2</sup> )	<b>0.5-10</b>	<b>1-2</b>
Working temperature (°C)	<b>20-65</b>	<b>40-60</b>
Exposure time (sec)	<b>15-120</b>	<b>30-60</b>
pH	<b>&lt; 1</b>	<b>&lt; 1</b>
Cathode efficiency (mg/Amin)	<b>4-12</b>	<b>8</b>
Anode/cathode ratio	<b>1:1-4:1</b>	<b>2:1</b>
Anode type	<b>Plattonized titanium</b>	
Agitation	<b>Moderate</b>	

#### Metal concentration

Metal	Range (g/l)	Optimal (g/l)
Rhodium	<b>0.6 - 5.0</b>	<b>2.0</b>

#### Deposit data

Purity (%)	<b>99.9</b>
Hardness (HV 0,01)	<b>800-900</b>
Density (g/cm <sup>3</sup> )	<b>12.4</b>
Thickness (um)	<b>0.02-0.50</b>
Appearance	<b>Shiny</b>
Color	<b>White</b>

#### Preparation

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

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#### Equipment

Working vessel: Pyrex glass / PVC / polypropylene.

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

Heating element.

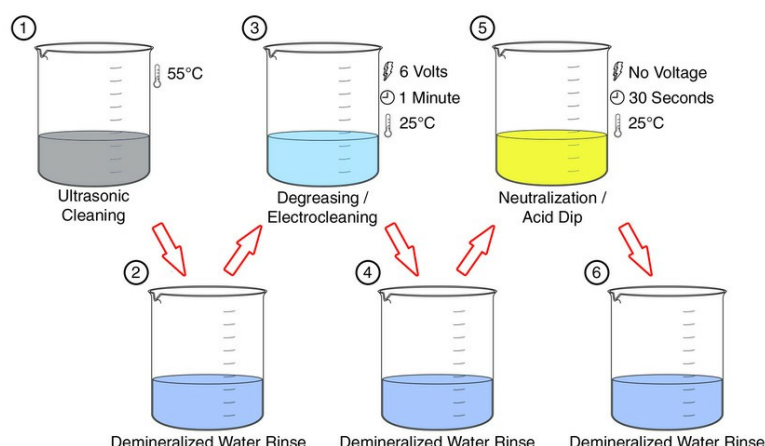
Anode Type Platinized Titanium [1.5-2.5 µm].

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 Cleansing procedure



#### 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 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.

#### 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.

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#### 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  $\mu$ S/cm (containing no traces of organic compounds, Chlorine, Silicon, or Boron).

#### 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.

#### Supplementary Information

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

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.

#### 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.*

#### Related products

<b>RH2FXL</b>	Make-up concentrated solution 2 g/250 ml	<b>RH5RXL</b>	Replenisher
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## Packaging

