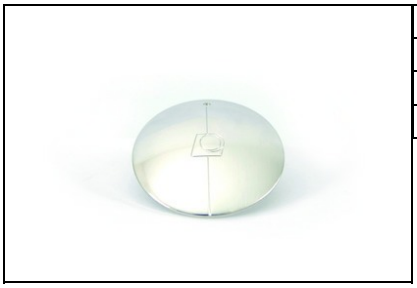
Technical data sheet and product guideline

RH2FXL

Technical and decorative white rhodium for bath plating 2g/250 ml make-up

BATH

Color coordinates



L	**90.5**
a	**0.8**
b	**1.5**
c	**1.6**

Product form

Metal concentration	**2 g/ 250 ml (Rh)**
Form	**Liquid**
Material color	**Orange**
Storage time	**2 years**
Volume	**250 ml**

Operating data

	Range	Optimal
Voltage (V)	**2-6**	**3-4**
Current density (A/dm2)	**0.5-10**	**1-2**
Working temperature (°C)	**20-65**	**40-60**
Exposure time (sec)	**15-120**	**30-60**
pH	**< 1**	**< 1**
Cathode efficiency (mg/Amin)	**4-12**	**8**
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**

Deposit data

Purity (%)	**99.9**
Hardness (HV 0,01)	**800-900**
Density (g/cm3)	**12.4**
Thickness (um)	**0.02-0.50**
Appearance	**Shiny**
Color	**White**

Preparation

RH2FXL is the concentrated version of the XL type white rhodium plating electrolyte. To prepare the ready-to-use product, simply pour the 250 ml bottle into 750 ml of pure deionized water.

LEGOR GROUP S.p.A. - Via del Lavoro,1 - 36050 Bressanvido (VI) Italy - tel. +39 0444 467911 - fax +39 0444 660677- info@legor.com - www.legorgroup.com

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Equipment

Working vessel: Pyrex glass / PVC / polypropylene.

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

Heating element.

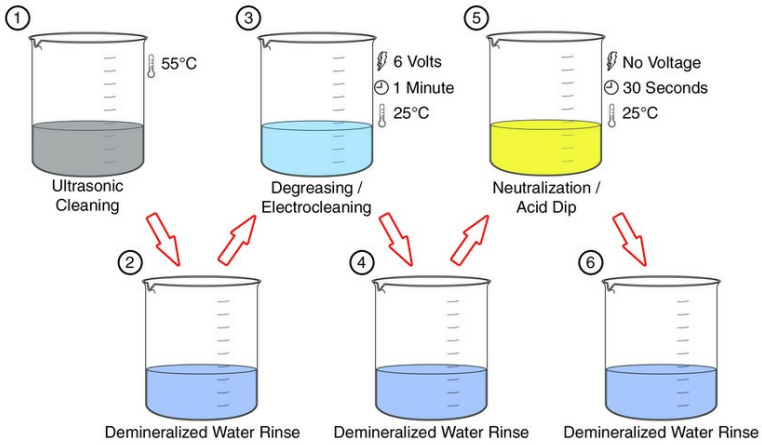
Anode Type Platinized Titanium [1.5-2.5 µm].

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 ampereminute. 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 µS/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

SYSTEM COMPONENTS

New System Make-up

- RH2FXL - Complete system make-up including metal (2 g/250 ml)

Standard Maintenance Products

- RODIOS * - Rh sulphate (100 g/l)
- BRIGHTXL - Brightner (1 L)
- RH5RXL * - Complete replenisher (5 g/100 ml)

System Recovery Products

- RH2XL-C * - Rhodium and wetting agent correction replenisher (2 g/100 ml)
- 3030005 * - Sulfuric acid (1 L)

* Substances which are subject to the international regulations concerning transportation of dangerous goods

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 soution 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 brghtness and luminosity. For excellent results with a very short plating time we recommend the following operating data:

- VOLTAGE: 4 V
- TEMEPRATURE: 60°C
- PLATING TIME: 15 - 20 seconds.

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Disclaimer

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Related products

RH2XL	Make-up concentrated solution 2 g/250 ml	**RH5RXL**	Replenisher

Packaging