

RHODIUM READY TO USE PLATING BATH 2g/l BLACK COLOR

Colour **Black**

[L: 62,2 a: 0,2 b: 3,3 c: 3,3]

Product description

RH2B is a ready-to-use black rhodium bath (Rh = 2g/l), with superior characteristics. The properties of the deposit and the distinctive anthracite black hue on objects make this product particularly interesting for those who wish to have different choices in their production with new colour shades. The main characteristics of this electrolyte are:

- *Dark shiny deposits*
- *Active at room temperature*
- *Excellent resistance to wear and abrasion*
- *outstanding covering power*

Recommended applications

RH2B can be used for both flash plating and thickness plating. RH2B can be deposited directly on Silver, Palladium, Gold, Copper, Nickel and its alloys; an intermediate deposit of Nickel and Gold is necessary before it can be used to plate Tin, Lead, Zinc, Cadmium, Aluminium and Iron. RH2B stands out for its excellent deposition efficiency, even at room temperature, which leads to a reduction in treatment times, working temperature and materials and a consequent increase in productivity.

Deposit data

Density [g/cm ³]	11.2
Hardness [HV 0.01]	700
Thickness [μm]	0.02-0.4
Appearance	Shiny

Operating data

	Range	Optimum
Optimal working concentration [Rhodium, g/l]	1.6-2.4	2
Sulphuric acid concentration [ml/l]	15-35	22
Time of exposure [min]	1-3	2
Operating temperature [°C]	25-35	30
Current density [A/dm ²]	1-1.5	1.2
Voltage [V]	1.8-3	2.5
Cathode efficiency [mg/Amin"]	15	15
Anodes	---	Pt or Ti/Pt
Agitation	Null-moderate	Moderate
Anode/Catode surface ratio	1:1-4:1	2:1

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Additional informations

Packaging

The product comes in a high-density polyethylene bottle.

IMPORTANT: when you receive the product make sure that the packaging is intact. Once the package is opened the solution should be transferred to the container in which it is to be used; under no circumstances should the solution be stored inside its original packaging.

Equipment

It is more practical to use glass containers for quantities up to 5 litres, whereas for greater quantities it is best to install PTFE or polypropylene plants equipped with:

- a current rectifier with an ammeter and voltmeter, with low residual AC «5%).
- amp/min counter.
- platinum-coated titanium anodes, coated with 2.5 µ of platinum.
- magnetic drive filter pumps with 5-15 µ cartridge.

N.B. Before use boiling and washing of the cartridges with demineralized water is recommended to prevent organic contamination.

Choosing the concentration

A concentration of 2 g/l is recommended for thicknesses up to 0.2 µm. In the instance of greater thicknesses to speed up the electrolyte it is best to use a concentration of 4 g/l.

Demineralized water

To prevent contamination of the bath both during its preparation and any subsequent topping up operations, use demineralized water with a conductivity of less than 3 µS/cm (containing no traces of any organic compounds, Silicon or Boron). To achieve maximum deposit quality we recommend using high-grade purity WATER.

Agitation of the solution and/or pieces

For maximum performance, particularly in terms of colour, do not use excessively vigorous agitations. Gentle agitation will sufficient to remove the hydrogen from the pieces. So, for processing tanks containing considerably large volumes agitation of the solution using a magnetic drive filter pump of not too high a capacity is recommended, while for containers of modest size moderate agitation of the pieces is adequate.

Temperature

"**Ultrablack Rhodium RH2B**" gives excellent performance for standard flash treatments, even at room temperature. Should it be necessary to speed up the deposition process the temperature should not exceed 25°C, bearing in mind that raising the temperature over this value will also result in a poorer colour.

Additives

The additives responsible for the colour and brightness of the deposit are contained and correctly batched in the "Ultrablack Rhodium" product line, so standard strengthening additives will be enough to maintain optimum levels.

Analytical checks

The process in question is particularly easy to perform and does not require frequent analytical checks. However, our Technical Assistance Service is at hand to offer suggestions, advice and periodic analytical checks on all bath components.

Galvanic Bath Maintenance

The **RH2B** rhodium bath is produced from **RH2FB** formation solution. For following replenishing operations of the bath the **RH2RB** solution is used. Although it is an electrolytic bath which offers stable performance, continued use of the galvanic solution tends to lead to a build-up of pollutants a factor which, along with an increase in acidity, leads to a steady decrease in performance, therefore it is advisable to increase the treatment times to make up for the steady deterioration in the efficacy of the bath. As regards duration, the galvanic bath can be used until spent, but where considerable quantities of the product are involved treatment of the solution to restore it to its original working conditions may also be considered. Our technical assistance service is available for further information.

Safety Information

Caution: the ready-to-use solution **Ultrablack Rhodium RH2B** is irritating to 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. For further information please refer to the relative safety sheet.

Ultrablack Rhodium galvanic solution for bath	Code
"Ultrablack Rhodium™", ready-to-use solution (2g/l package)	RH2B
"Ultrablack Rhodium™", formation solution (2g/100ml package)	RH2FB
"Ultrablack Rhodium™", ready-to-use solution for pen plating (2g/100 ml package)	RH2PB
"Ultrablack Rhodium™", replenishing solution (2g/100ml package)	RH2RB