

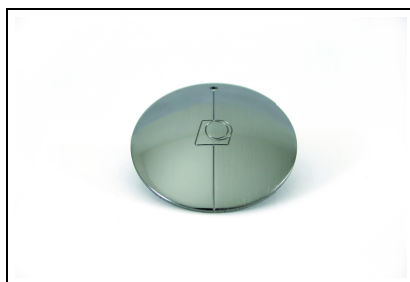
Technical data sheet and product guideline

RH2BK1

Black rhodium for bath plating 2 g/l ready-to-use



Color coordinates



L	60.7
a	0.1
b	-0.6
c	0.6

Product form

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

Operating data

	Range	Optimal
Voltage (V)	5-9	6.5
Current density (A/dm ²)	1.5-2.5	2
Working temperature (°C)	45-55	50
Exposure time (sec)	120-240	180
Cathode efficiency (mg/Amin)	3-5	4
Anode/cathode ratio	1:1-4:1	2:1
Anode type	Plattonized titanium	
Agitation	Moderate	

Metal concentration

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

Deposit data

Hardness (HV 0,01)	700
Density (g/cm ³)	11.2
Thickness (um)	0.02-0.4
Appearance	Shiny
Color	Black

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Preparation

RH2BK1 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.

Bath maintenance

Small-sized RH2BK1 (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.

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).

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.

Additional hints

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Temperature

"Ultrablack Rhodium RH2BK1" gives excellent performance for standard flash treatments at 50°C.

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.