



Version: 10 April 2017

# RHODUNA<sup>®</sup> DIAMOND BRIGHT

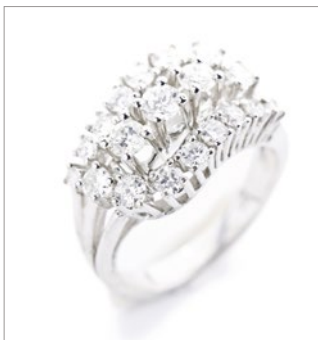
## RHODIUM ELECTROLYTE



### Brilliant-White and Ultra-Bright Rhodium Coatings

RHODUNA<sup>®</sup> Diamond Bright deposits brilliant-white, ultra-bright coatings of previously unattained lightness and brilliance. It is additionally characterized by high covering speed and excellent throwing power. Furthermore the RHODUNA<sup>®</sup> Diamond Bright layer thicknesses of up to 5  $\mu\text{m}$  can be deposited crack-free.

Rhodium can be directly deposited on silver, gold, copper and copper alloys, nickel and nickel alloys. The layers are extremely low-porous and therefore very corrosion resistant.



### Advantages

- Ultra-bright coatings with previously unattained lightness and brilliance
- Good covering speed
- Minor porosity
- Excellent throwing power
- Layer thicknesses of up to 5  $\mu\text{m}$  can be deposited
- For rack and barrel plating
- High abrasion resistance

### Applications

- Jewellery
- Watches
- Spectacle frames
- Writing implements
- Technical applications (reed contact)

# RHODUNA® DIAMOND BRIGHT

## RHODIUM ELECTROLYTE



### TECHNICAL SPECIFICATIONS

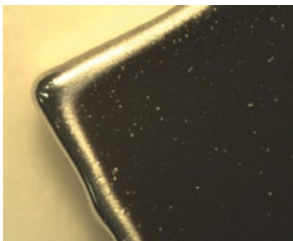
Electrolyte characteristics	
Electrolyte type	Strongly acidic
Metal content	2 (1.6 - 3.0) g/l Rh
pH value	< 1
Operating temperature	40 (RT - 65) °C
Current density range	1 - 2 (0.5 - 10) A/dm <sup>2</sup>
Plating speed	0.08 µm/min at 1 A/dm <sup>2</sup>
	0.10 µm/min at 2 A/dm <sup>2</sup>
Anode material	Pt-Ti (type PLATINODE® Pt/Ti) or MMO (type PLATINODE® 187)

Coating characteristics	
Coating	Rhodium
Purity	99.99 wt. % Rh
Colour of deposit	Brilliant-white
Brightness	Ultra-bright
Hardness of deposit HV 0.015 (Vickers) approx. values	Approx. 800 - 900 HV
Max. coating thickness	Approx. 3 - 5 µm
Density of the coating	Approx. 12.4 g/cm <sup>3</sup>

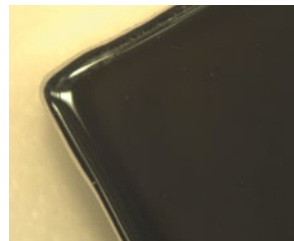
### Thick Layers

Commercially available technical rhodium electrolytes

RHODUNA® Diamond Bright

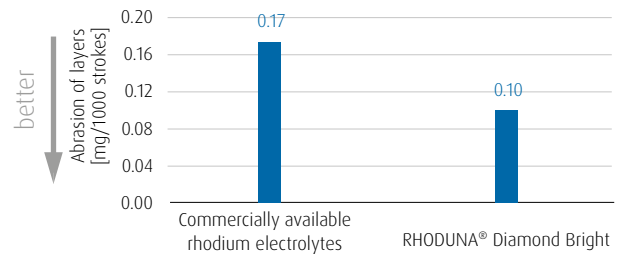


Layer thickness: ca. 4 µm  
Edge: ca. 6 µm  
Many pores.

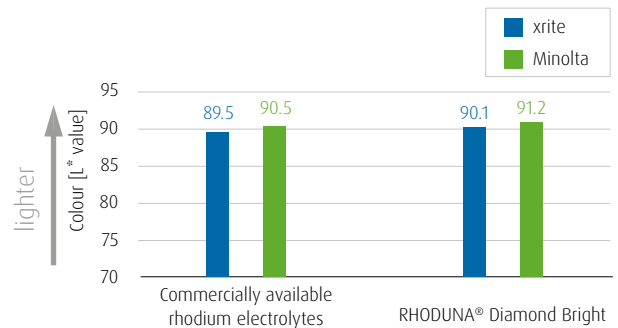


Layer thickness: ca. 4 µm  
Edge: ca. 6 µm  
Almost no pores.

### Abrasion According to Bosch-Weinmann



### Colour Measurement (CIE-L\*a\*b\*) Rhodium Electrolytes



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Electroplating

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