

# Electroplating

## RHODUNA® ALLOY BLACK 1 RHODIUM-RUTHENIUM-ELECTROLYTE



#### Bring the day the elegance of night

Attractive, appealing and elegant. This ia as true for the night as well as for precious metals. Surface finishing with RHODUNA®-Alloy Black 1 allows you to transfer this elegance to your products - also at daytime.

The electrolyte deposits a dark precious metal alloy of rhodium and ruthenium with a noble anthracite hue - without color shift. The coatings produced are extremely resistant to abrasion and offer a price advantage of almost 50 percent (August 2019).

RHODUNA®-Alloy Black 1 finally makes your customers' desire for dark precious metal surfaces a reality.



### Advantages

- Very dark anthracite with high color constancy
- Adjustable degree of blackness
- Gloss-preserving
- Uniform layer thickness
- Up to 0.5 µm crack-free
- · Extremely abrasion resistant
- Large applicable current range
- Simple bath management
- Significantly cheaper than pure rhodium layers
- Base for deep black layers (RHODUNA® 471 Black)

#### Applications

- Accessories
- Jewelry
- Watches
- Eyeglasses
- Fittings
- Automobile interior
- Writing implements
- Contacts

### RHODUNA®-ALLOY BLACK 1 RHODIUM-RUTHENIUM-ELECTROLYTE

### **TECHNICAL SPECIFICATIONS**

Electrolyte characteristics		
Electrolyte type	acidic	
Metal content	1.0 (0.8 - 1.2) g/l Rh 1.0 (0.8 - 1.2) g/l Ru	
Operating temperature	45 (40 - 50) °C	
Current density range	2.0 (0.5 - 5.0) A/dm <sup>2</sup>	
Plating speed	Approx. 0.04 µm/min at 2.0 A/dm²	

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Rhodium Blackening	Agent 1
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Coating characteristics		
Coating	Rhodium-Ruthenium	
Alloy composition	50 % Rh 50 % Ru	
Colour of deposit	Anthracite	
Max. coating thickness	0.5 µm	
Coating density	Approx. 12.4 g/cm <sup>3</sup>	
Hardness of deposit HV 0.015 (Vickers) approx. values	600 - 900 HV	

### Abrasion Test (Bosch-Weinmann)





### **RHODUNA®-ALLOY BLACK 1 RHODIUM-RUTHENIUM-ELECTROLYTE**



L\*a\*b\* color values (as a function of current)



### **YOUR CONTACT**

Do you have a specific question or would you like a no-obligation quote calculation? Our specialist will be happy to help you with any technical questions you might have.



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