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# RHODUNA<sup>®</sup> 470 BLACK

## RHODIUM ELECTROLYTE



### Abrasion-Resistant and Crack-Free Dark Coatings

RHODUNA<sup>®</sup> 470 Black adds a superior final layer to jewellery with a thickness up to 0.3  $\mu\text{m}$ . The layer persuades with good corrosion resistance. The electrolyte is perfectly suited for applications where black ruthenium cannot fulfill the requested abrasion requirements.

The black rhodium electrolyte produces crack-free coatings, even at high layer thickness. The darkness can be adjusted. On the basic substrate, pre-gold plating or a pre-plating with rhodium is recommended.

It is absolutely essential to post-treat black rhodium-plated goods in RHODUNA<sup>®</sup> 470 Black Post Treatment for proper wear resistance and achieving a tarnish free surface.



### Advantages

- Perfect electrolyte for dark to black decorative layers
- High abrasion resistance
- Layer thickness up to 0.3  $\mu\text{m}$  possible
- Suitable for rack

### Applications

- Jewellery
- Watches
- Spectacle frames
- Writing instruments
- Accessories

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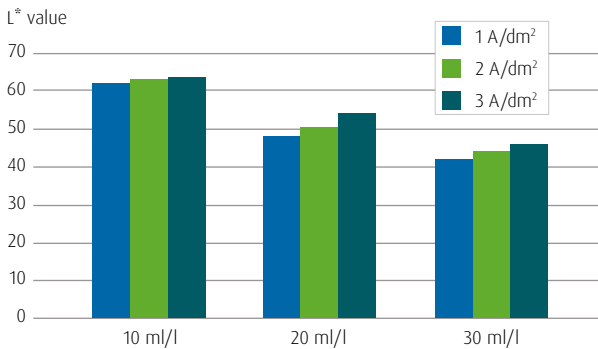


### TECHNICAL SPECIFICATIONS

Electrolyte characteristics	
Electrolyte type	Acidic
Metal content	2 (1.8 - 2.2) g/l Rh
pH value	< 1
Operating temperature	35 (30 - 40) °C
Current density range	2 (1 - 3) A/dm <sup>2</sup>
Plating speed	0.045 µm/min at 2 A/dm <sup>2</sup>
Anode material	Pt-Ti (type PLATINODE <sup>®</sup> Pt/Ti)

Coating characteristics	
Coating	Rhodium
Colour range of deposit	L* = approx. 63 (Anthracite) to L* = approx. 50 (Black) to L* = approx. 45 (Deep Black)
Abrasiveness	Depending on degree of blackening excellent to fair
Max. coating thickness	Approx. 0.3 µm

#### Variation of Blackening Degree



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