



Rh

Ru

Version: 14. August 2026

RHODUNA[®]-Alloy 1

Rhodium-Ruthenium Electrolyte



The First Pure White Electrolytic Rhodium Alloy

RHODUNA[®]-Alloy is the first alloy electrolyte in the world combining the high-quality metals rhodium and ruthenium. The basic materials of the new coating are truly royal: A mixture of rhodium, one of the world's most valuable precious metal, and the platinum group metal ruthenium.

Its white colour is absolutely equivalent to that of a pure rhodium layer. The electrolyte has all the quality characteristics of high-grade rhodium coatings and surpasses them in durability and uniformity. Its good throwing power even permits the plating of parts with complex geometries. It can be directly deposited on nickel, palladium, silver and gold.

At the same time, the „Bright Queen“ is considerably less expensive than pure rhodium layers.



Advantages

- Very light, white and ultra-bright coatings
- More uniform layer thickness
- Crack-free up to 1 µm
- Wide current density range
- Extremely abrasion-resistant
- Less expensive than pure rhodium layers
- Ideal for parts with complex geometries, e.g. chains
- Suitable for rack and barrel

Applications

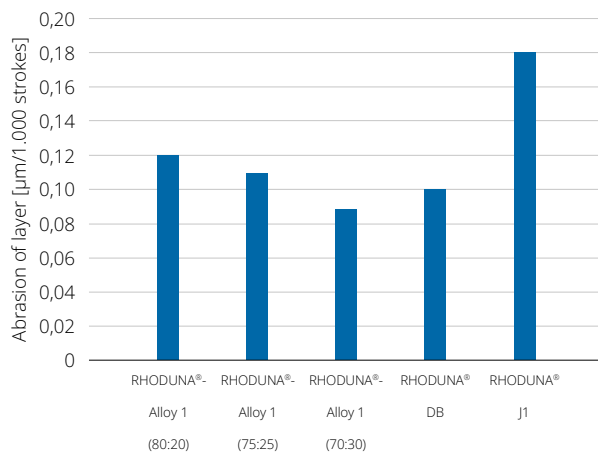
- Spectacle frames
- Writing implements
- Jewellery
- Watches

Technical Specifications

Electrolyte characteristics	
Electrolyte type	Strongly acidic
Metal content	1.6 (0.8 - 1.8) g/l Rh 0.4 (0.2 - 0.5) g/l Ru
pH value	< 1
Operating temperature	45 (40 - 50) °C
Current density range	4.0 (3.0 - 5.0) A/dm ²
Plating speed	Approx. 0.2 µm/min at 4.0 A/dm ²
Anode material	MMO (type PLATINODE® 187 SO)

Coating characteristics	
Coating	Rhodium-ruthenium
Alloy composition	75 wt. % Rh 25 % Ru
Colour of deposit	White
Brightness	Bright
Hardness of deposit HV 0.015 (Vickers) approx. values	600 - 900 HV

Abrasion Test (Bosch-Weinmann)



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.



Markus Legeler
Manager Sales International

Mail: markus.legeler@eu.umicore.com
Phone: +49 (0) 7171 607 - 204

