

[Umicore Metal Deposition Solutions presents successor to PLATUNA® N1](#)

UMICORE'S PURE PLATINUM ELECTROLYTE PLATUNA® PT AS A BENCHMARK FOR TECHNICAL COATINGS

Umicore Metal Deposition Solutions, a business unit of the Umicore Group, has developed a new, innovative electrolyte for electroplating with pure platinum: PLATUNA® PT. The electrolyte enables the deposition of exceptionally thick, homogeneous and crack-free platinum layers, which are particularly convincing in various technical applications.

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PLATINUM AS A HIGH-GRADE COATING MATERIAL

Platinum is a precious metal with outstanding properties such as high corrosion and abrasion resistance, excellent electrical conductivity, biocompatibility and catalytic activity. Platinum coatings can therefore improve the performance, durability, efficiency and effectiveness of technical applications or increase the sensitivity and accuracy of measurements. In addition, platinum is a highly recyclable metal that contributes to the circular economy.

PLATUNA® PT SETS NEW STANDARDS IN PLATINUM PLATING

The PLATUNA® PT electrolyte is the result of many years of research and development at Umicore. The electrolyte is highly acidic and has a low sulphuric acid content, making it less aggressive towards the substrate to be coated. Furthermore, it has a deposition speed of approx. 0.13 µm/min at 5 A/dm², independent of the current intensity. The very long shelf life compared to many conventional platinum electrolytes (no precipitation) and the ease of transportation and storage (no cooling required) enable large storage quantities and thus a forward-looking cost calculation. PLATUNA® PT consists of 99.9 % pure platinum and proves its high coating quality through the following properties:

- crack-free layers up to 5 µm
- very uniform layer thickness distribution with a density of 21.4 g/cm³
- hardness of approx. 350 HV
- absolutely fog-free, without color cast, very bright (L* value: 87) and glossy
- high abrasion resistance
- excellent corrosion resistance
- very good tarnish resistance

WIDE RANGE OF TECHNICAL APPLICATIONS FOR PLATUNA® PT

PLATUNA® PT coatings are suitable for a wide range of technical applications, e.g. as a catalyst in electrolyzers for hydrogen production: Platinum accelerates the hydrogen evolution reaction at the cathode and reduces the amount of energy required for the reaction. PLATUNA® PT can be deposited directly onto the carrier material (ideally titanium or nickel) and produces a very thin and homogeneous platinum layer.

Platinum is also ideally suited as a surface material in medical sensors, as it is biocompatible, corrosion-resistant and electrically conductive. PLATUNA® PT coatings are therefore used on electrodes, catalysts or receptors in various sensors such as ECG, glucose, oxygen or pH sensors.

Electrical contact surfaces, for example in connectors, also benefit from this. The platinum layer reduces the contact resistance between the contacts and increases corrosion and abrasion resistance. PLATUNA® PT can thus improve the performance and service life of electronic, industrial and automotive plug contacts.

In addition, platinum coatings are used in a variety of other technical applications or industries - water treatment or process control are just a few examples. Here too, PLATUNA® PT can improve performance,

durability, efficiency and effectiveness or increase the sensitivity and accuracy of measurements.

COMPREHENSIVE ADVICE ENABLES PERFECT USE

In some technical applications, even very thin layers can be sufficient. This is why Umicore offers its customers interested in PLATUNA® PT comprehensive advice and, if required, on-site technical service. In this way, the company can contribute to significant cost optimization on the basis of empirical values and the analysis of possible test layers. Of course, this also applies to applications such as jewelry, watches, Writing implements, spectacle frames and fittings, as the new PLATUNA® PT platinum electrolyte is also suitable for decorative coatings.

SOURCES AND MORE INFORMATION ONLINE:

<https://mds.umicore.com/platuna-pt-technical>

IMAGES

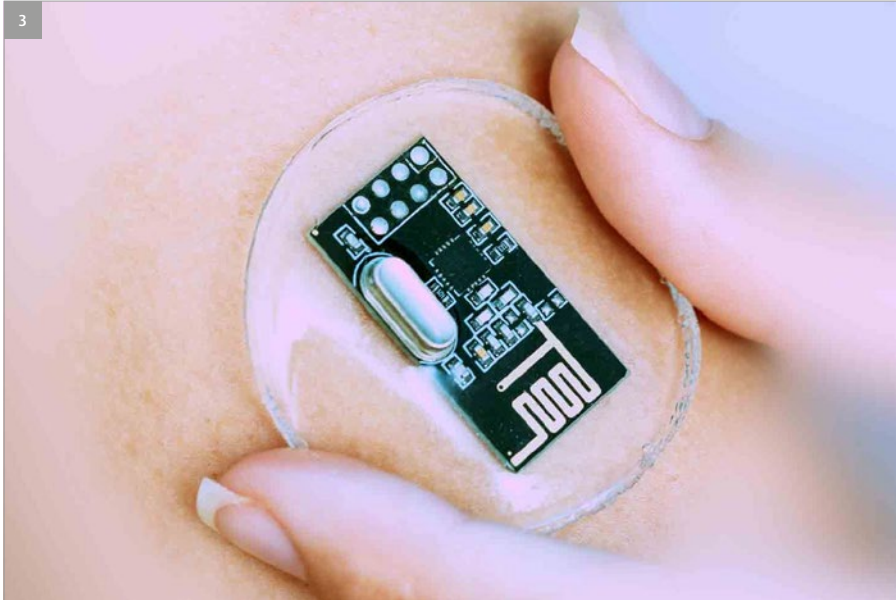


PLATUNA® PT coatings are suitable for a wide range of technical applications.



PLATUNA® PT was developed to accelerate the hydrogen evolution reaction at the cathode in electrolyzers for hydrogen production and thus reduce the amount of energy required for the reaction.

IMAGES



PLATUNA® PT is also ideal as a surface material in medical sensors, as it is biocompatible, corrosion-resistant and electrically conductive.



PLATUNA® PT can improve the performance and service life of electronic, industrial and automotive plug contacts.

IMAGES

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Logo Business Unit

Bildunterschrift

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ABOUT UMICORE METAL DEPOSITION SOLUTIONS

Within the Umicore Group, the Metal Deposition Solutions (MDS) business unit is the business headquarters for the two established business lines Electroplating and Thin Film Products. Metal Deposition Solutions is one of the world's leading suppliers of products for the (precious) metal-based coating of surfaces in the nanometer and micrometer range - with the expertise of the two divisions we combine the two highest-quality processes: Electroplating and PVD coatings.

The business unit's solutions are used in many everyday products or make their production possible in the first place. Almost all well-known manufacturers in the electronics, automotive, optics and jewelry industries source components coated with our Umicore products either directly or indirectly.

In addition to development and production, Metal Deposition Solutions offers a comprehensive service for their products. This includes, for example, recycling or precious metal management in addition to consulting and on-site technical support.

Further information: mds.umicore.com

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