

PLATINODE® HC



Hard chrome plating without lead for sustainable processes.



www.platinode.com

Large amounts of lead are used in hard chrome plating. The metal itself and the waste products created during chrome plating are classified as hazardous to the environment and to human health*. The use of lead anodes will only continue to be possible under increasingly time-consuming and costly occupational health and environmental restrictions.

PLATINODE® HC IS YOUR SOLUTION

We help you use platinum-plated titanium anodes to make your hard chroming plating processes eco-friendly, high-quality and economical.


umicore
Electroplating

* GHS Einstufung der Vereinten Nationen. Einstufung der ECHA (EU Behörde) unter anderem als krebserregend und fortpflanzungsgefährdend.

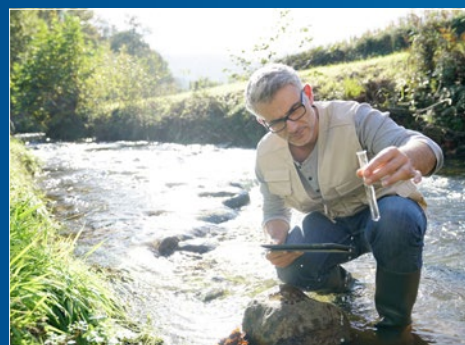
Lead-free means better process safety.

PLATINODE® HC is the relatively unknown answer to the wishes of many hard chrome platers. Platinum-plated titanium anodes are a sustainable alternative to production using standard lead anodes, and to an uncertain future. Avoid increasing regulation and don't miss your chance to make your production line more economical while increasing quality.

Pb

Lead and the waste substances created during hard chrome plating, such as lead chromate, are classified as 'severely hazardous to water' in Germany, for instance - the highest possible classification.

The procurement of lead, and the disposal of related waste products, are being increasingly strictly regulated by the authorities. The results are increasing costs and costly work practices for any galvanising business that uses lead.



Lead and lead chromate have been classified as hazardous to the environment and human health by the United Nations' GHS system.



Many lead anodes are required in hard chrome plating in order to separate thick layers. However, because lead is now considered the environmental toxin with the most devastating impact on the environment and on humans. Now lead anodes are being viewed in an entirely new light. The same goes for waste products such as lead chromate, which is also classified as a carcinogen and hazardous to reproduction by the European Chemical Agency, the ECHA.

Authorities in the USA and Europe see themselves as forced to act. This is leading to ever stricter

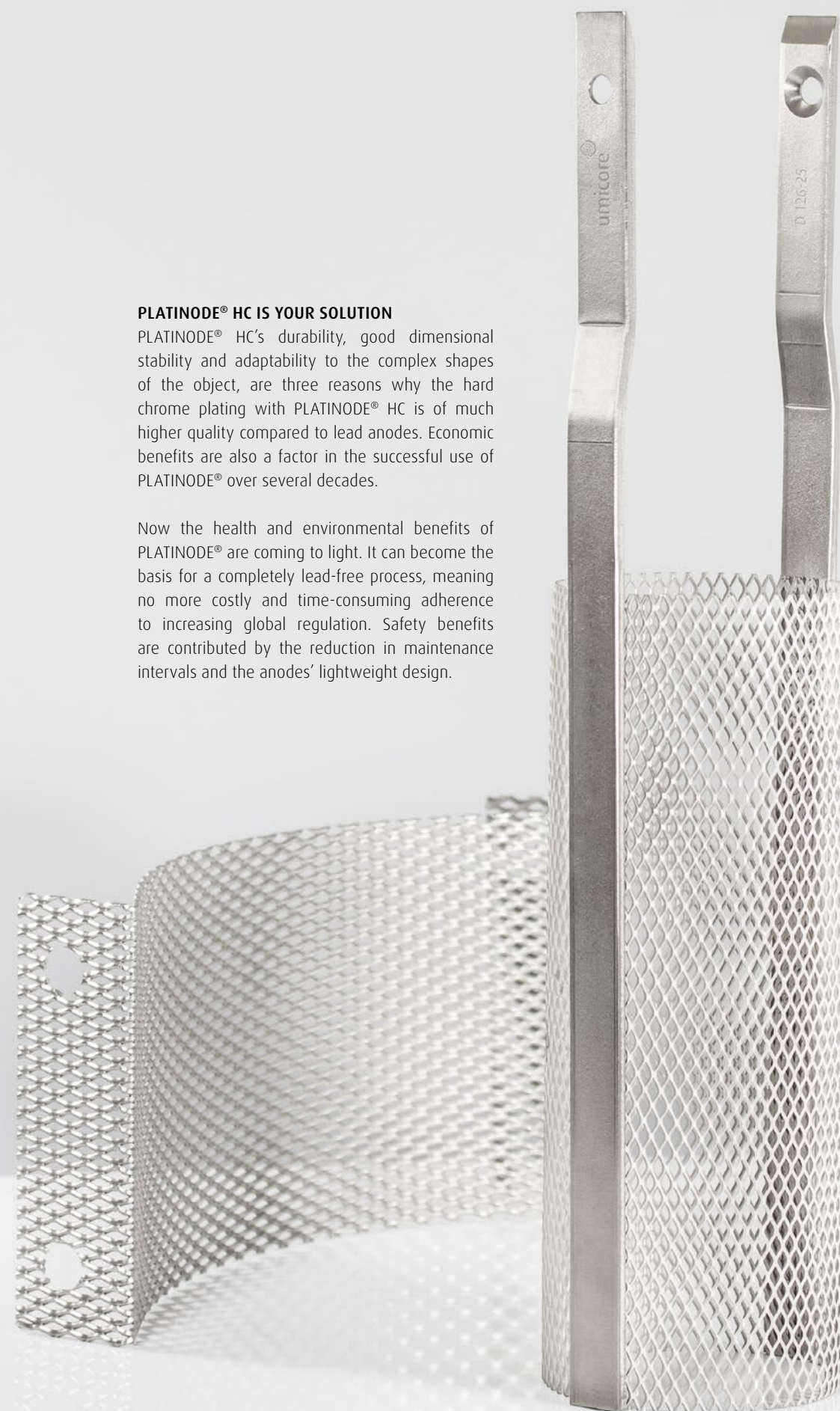
rules for lead-processing companies worldwide. There are time-consuming and costly hurdles in obtaining lead for processing, such as registration with the American Environmental Protection Agency (EPA) in the USA.

As well as the threat to the environment, the risk to humans is also leading to increasingly strict regulations concerning occupational safety, as can be seen in the negotiations with the OSHA in the US. The long-term goal of all measures is to push lead further out of industrial applications on a global level.

PLATINODE® HC IS YOUR SOLUTION

PLATINODE® HC's durability, good dimensional stability and adaptability to the complex shapes of the object, are three reasons why the hard chrome plating with PLATINODE® HC is of much higher quality compared to lead anodes. Economic benefits are also a factor in the successful use of PLATINODE® over several decades.

Now the health and environmental benefits of PLATINODE® are coming to light. It can become the basis for a completely lead-free process, meaning no more costly and time-consuming adherence to increasing global regulation. Safety benefits are contributed by the reduction in maintenance intervals and the anodes' lightweight design.





Frank Friebe (Sales Manager Electrochemical Electrodes) know how it comes to perfect surfaces.



SIMPLIFICATION OF THE ENTIRE PROCESS WITH ECOLOGICAL BENEFITS

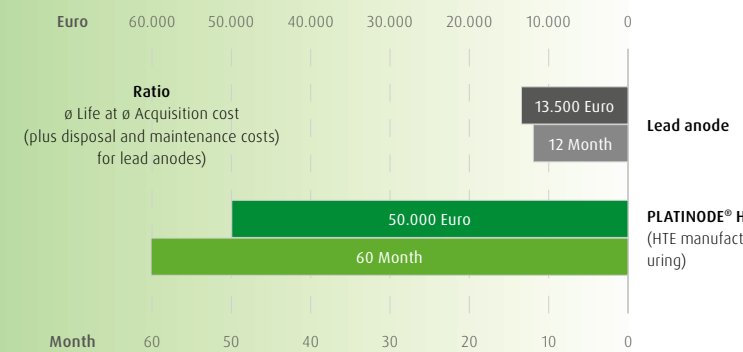
PLATINODE® HC does not just form the basis for a safer, more environmentally friendly, lead-free hard chrome plating process. It requires significantly fewer resources than lead anodes:

- Multiple uses thanks to re-platinization
- Sparing use of platinum thanks to re-use after lifespan

Transitioning to the PLATINODE® HC also comes with more benefits:

- No complicated, expensive procurement of lead or disposal of lead waste
- No more costly restrictions to protect employees coming into contact with lead
- Requirements for a sustainable production chain can be fulfilled
- More efficient work process (reduced maintenance and production downtime)

HIGH-TEMPERATURE ELECTROLYSIS MAKES A DIFFERENCE IN TERMS OF QUALITY



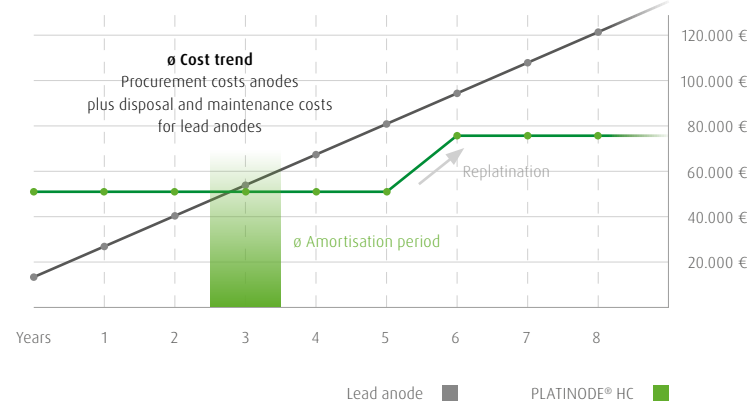
Only the PLATINODE® HC comes with maximum quality benefits and ecological advantages thanks to unique high-temperature electrolysis. The 99.99% pure platinum layer allows a very even distribution of layers.

At the same time, good adhesion, corrosion resistance and ductility facilitate an above-average lifespan. This is reflected positively in the cost/benefit calculation even in the medium term.

PLATINODE® HC

FOR SUSTAINABLE HARD CHROME PLATING

MORE ECONOMICAL THAN LEAD ANODES AFTER 3 YEARS ON AVERAGE



We calculate an investment of three to five times the annual costs for standard lead anodes in the first year. The investment will pay off after around three years.

This realistic calculation doesn't even include hard-to-measure factors such as more efficient processes, reduced production downtime and an improved image. And we haven't counted the time and money you'll save by not having to uphold governmental restrictions.

ADVICE AND TECHNICAL SUPPORT FROM THE OUTSET

It is usually easy exchange lead anodes for PLATINODE® HC. Still, our sales team will be at your side with broad specialist and background knowledge from over 30 years of experience as your new equipment is introduced.

process beforehand in order to come up with an efficient anode design to suit you. Based on this, you should be able to make a well-informed decision for or against PLATINODE® HC.

We offer comprehensive advice beforehand, for example. Together with you, we establish the economical framework conditions for a transparent profitability calculation tailored to your needs. We clear up specific details in your

Of course, we are also on hand after your anodes have been successfully installed on site - anywhere in the world.



Note: All prices, price comparisons and the resulting data are average values of Umicore Electroplating as of May 2019.

Right Composition.
Perfect Surface.

CONTACT PERSON

Frank Friebel
Sales Manager Electrocatalytic Electrodes

Phone: +49 (0) 7171 607 292

Fax: +49 (0) 7171 607 355

frank.friebel@eu.umicore.com

UMICORE GALVANOTECHNIK GMBH

Klarenbergstrasse 53-79
73525 Schwaebisch Gmuend
Germany



www.ep.umicore.com


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