

Surface solutions from Oerlikon at EMO 2023: Small differences that make a big impact

Balzers, Liechtenstein / Hannover, Germany, July 18, 2023 – **Oerlikon Balzers, a leading global technology brand of the Oerlikon Group, will showcase its latest high-tech surface solutions at EMO 2023 from September 18 to 23 in Hannover. The S3p coating BALIQ TISINOS PRO for hard machining up to 70 HRC will be presented for the first time, while other highlights include the carbon coating BALINIT MAYURA, the diamond coatings from the BALDIA family and advanced digital production and connectivity technologies. Products and services from the sister brands Oerlikon Metco and Oerlikon AM complete the trade fair line-up, where the theme is: small difference, big impact (Booth B 18, Hall 4).**

Improved performance in machining hardened and stainless steels and high-temperature alloys
BALIQ TISINOS PRO, the latest coating innovation from Oerlikon Balzers, clearly demonstrates how small differences can have a big impact. BALIQ coatings are based on the S3p (Scalable Pulsed Power Plasma) coating technology, which combines the advantages of arc evaporation and magnetron sputtering processes to push the boundaries of conventional HiPIMS coating performance. The microstructure and smoothness of BALIQ TISINOS PRO have been further enhanced, resulting in even better wear resistance. When machining high-temperature alloys and stainless and hardened steels up to a hardness of 70 HRC, the AlTiSiN coating withstands high thermal loads and ensures an even more stable process. Tests with end mills have shown an average increase in tool service life of up to 50 percent compared to its predecessor coating with higher production quality, particularly in micro-machining.

Carbon and diamond coatings for non-ferrous metals, lightweight construction and more

Introduced in 2022, **BALINIT MAYURA** is attracting increasing attention, and not just because of its rainbow color. The thin and extremely hard ta-C coating for machining non-ferrous materials such as aluminum, copper, brass alloys, and polymers minimizes material build-up on the tool while maintaining extremely sharp cutting edges. High precision, longer tool service life and increased productivity are the reasons why toolmakers and end users are increasingly turning to BALINIT MAYURA.

The **BALDIA** family from Oerlikon Balzers serves innovative markets such as the dental, automotive, and aerospace sectors but also traditional industries like mold making. These CVD diamond coatings are ideal for the highly abrasive machining of graphite, ceramics or CFRP/GFRP materials, supporting sustainable manufacturing solutions in electromobility and lightweight construction. For example, **BALDIA COMPOSITE DC** has tripled the tool service life of CFRP drills in aircraft construction while reducing tool costs by more than half.

Digitalization: tool management, customer platform and equipment monitoring

Even small bits and bytes can do great things: Tool ID, a tool management system which uses a digital marking on the tool for identification and traceability, paves the way for full lifecycle management of tools from production to use, including reconditioning.

myBalzers offers next-level digital services, and visitors to the booth can try out the features of its customer platform, from paperless ordering and current status checks to complete document management.

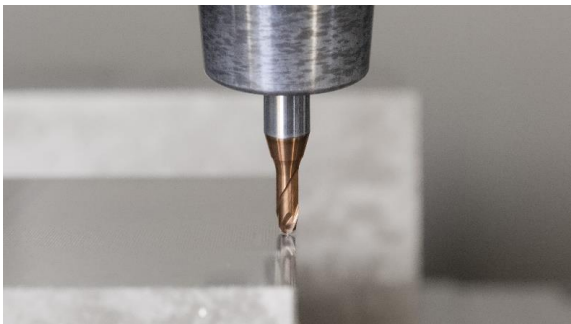
There will also be a hands-on demonstration of software for people interested in coating systems: a new and user-friendly HMI (Human Machine Interface) solution for Oerlikon's METAPLAS.DOMINO systems will be on display, providing highly efficient real-time monitoring and visualization of the system in operation. Progress is also being made with a cloud based IIoT (Industrial Internet of Things) service for end-to-end data networking with Oerlikon coating systems, which offers huge potential to increase productivity.

From metal powder and thermal spraying to additive manufacturing

Oerlikon Metco represents expertise in thermal spraying and supplies special metal powders for additive manufacturing, which in turn is driven by **Oerlikon AM** as an innovator and solution provider.

Visitors to the show will be able to explore Oerlikon's comprehensive portfolio of surface solutions.

Images:



*In a milling test, the innovative BALIQ TISINOS PRO coating achieved up to 50 percent longer service life than its predecessor.
/ Image: Oerlikon*



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Sharp edges and high precision: tool manufacturers and end users are increasingly turning to the rainbow-colored BALINIT MAYURA carbon coating for machining non-ferrous materials. / Image: Ceratizit Group



Data Matrix Codes (DMC), as found on these cutting tools, allow each tool to be uniquely identified throughout its service life to optimize processes. / Image: Oerlikon



Oerlikon's new Human Machine Interface (HMI) solution for METAPLAS.DOMINO systems offers real-time monitoring and visualization during the coating process for greater efficiency. / Image: Oerlikon



Oerlikon AM provides solutions for additive manufacturing of metal components, including these aluminum antenna clusters used in Airbus communications satellites. / Image: Oerlikon

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About the Oerlikon Surface Solutions Division

Oerlikon is a leading global provider of surface and additive manufacturing solutions and services. The division offers an extensive portfolio of market-leading thin-film, thermal spray and additive manufacturing technologies, equipment, components and materials. Emission reduction in transportation, maximized longevity and performance of tools and components, increased efficiency and intelligent materials are hallmarks of its leadership. Pioneering technology for decades, the division serves customers with standardized and customized solutions across a worldwide network of more than 170 sites in 37 countries.

With its technology brands – Oerlikon Balzers, Oerlikon Metco and Oerlikon AM – the Oerlikon Surface Solutions division focuses on technologies and services that improve and maximize performance, function, design, reliability and sustainability, which are innovative, game-changing advantages for customers in the automotive, aviation, tooling and general industries and in the luxury, medical, semiconductors, power generation and oil & gas markets.

The division is part of the publicly listed Oerlikon Group (SIX: OERL), headquartered in Switzerland, which has 13,000 employees and generated CHF 2.9 billion in revenue in 2022.
For more information see: www.oerlikon.com/surface-solutions