

Media Release

Take off with high-end surface solutions for the aerospace industry

Balzers, Liechtenstein, June 2016 – Tribological wear, friction and mechanical impacts take their toll. During operation, aerospace components must withstand wear, corrosion, thermal effects, erosion and greater loads whilst still maintaining their characteristics of light weight and low friction. Plus: mechanical aerospace components have to comply with very strict regulations regarding environmental and safety requirements. Oerlikon Balzers and Oerlikon Metco, both part of the Surface Solutions Segment of the Oerlikon Group, are scheduled to display their complementary offerings for the aerospace industry at the 2016 Farnborough International Airshow.

The objective of a coating is to protect against an undesired effect, such as friction, wear, corrosion, or heat transfer. Coatings can also add new properties to facilitate a desired effect, such as thermal conduction, gas permeability, electrical conduction, magnetism, self-lubrication and low friction. To maximize operational efficiency and safety in the aerospace industry, functional coatings play an essential role as they enhance surface properties and increase the performance and reliability of critical aerospace components.

Oerlikon Balzers: Greater performance and reliability

Protected with BALINIT coatings from Oerlikon Balzers, such as the new BALINIT TURBINE PRO, the light-weight materials and components used in the aerospace industry permit greater loads, meet closer tolerances, and lower the cost of maintenance. They exhibit excellent wear resistance, low co-efficient of friction and functional stability at high temperature while also improving the corrosion resistance. Consequently, this facilitates a longer service life and prolonged maintenance intervals, reduced energy consumption in flight systems and dry running operation in oil-free systems - thus giving the lowest cost of ownership.

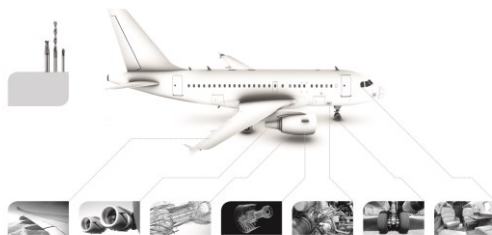
Besides, materials important to the aerospace industry like titanium and nickel alloys impose severe stress, not only thermally but also mechanically, on the tools used to machine them. Composite materials, which are increasingly used in the light-weight construction of aerospace parts, are challenging to cut. Oerlikon Balzers' customized BALINIT coatings, such as the new BALINIT DIAMOND coatings, developed for the needs of the aerospace industry, improve the cutting parameters for a wide spectrum of applications while still ensuring the lifetime of the tool remains at a high level.

Oerlikon Metco: Reducing fuel consumption and emissions

Furthermore, Oerlikon Metco's thermal spray materials, coatings, specialized machining services and components for aircraft engines significantly increase efficiency and fuel economy and reduce emissions in engine operation. Specifically designed materials and coatings protect the base material of critical turbine parts from oxidation, hot gas corrosion, erosion, wear and excessive heat. In particular, thermal barrier coatings (TBCs) reduce heat transfer into the base material of turbine parts allowing high operating temperatures and thereby improved efficiency, mechanical properties and life expectancy. Next-generation materials designed for coating and additive manufacturing processes, such as the new MetcoAdd™ alloys, are key contributors to aircraft engine efficiency.

With Nadcap certified Customer Centers throughout Europe and USA, Oerlikon Balzers and Oerlikon Metco aerospace customers benefit from a uniquely broad range of surface technologies, coating solutions, application equipment, materials, services and manufactured engine components.

Explore Oerlikon's high-end surface solutions for the aerospace industry and visit us at the Farnborough Airshow, stand F30 in hall 4!



Aerospace industry customers of Oerlikon Metco and Oerlikon Balzers benefit from a uniquely broad range of surface technologies, coating solutions, application equipment, materials, services and manufactured engine components.

More about Oerlikon Balzers applications for the aerospace industry:

<http://www.oerlikon.com/balzers/com/en/markets/aerospace-market/>

More about Oerlikon Metco applications for the aerospace industry:

<http://www.oerlikon.com/metco/en/industries/aviation/>

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About the Surface Solutions Segment

The Surface Solutions Segment of the Oerlikon Group includes the two brands Oerlikon Balzers and Oerlikon Metco. **Oerlikon Balzers** is one of the world's leading suppliers of surface technologies that significantly improve the performance and durability of precision components as well as tools for the metal and plastics processing industries. Extremely thin and exceptionally hard coatings, marketed under the BALINIT and BALIQ brand names, reduce friction and wear. The BALITHERM brand opens up a broad

range of heat treatment services, whereas BALTONE comprises coatings that are available in a full range of elegant colours, perfectly suited for decorative applications. Under the technology brand ePD, the company develops integrated services and solutions for the metallization of plastic parts with chrome effects. Worldwide, more than 1'100 coating systems are in operation at Oerlikon Balzers facilities and its customers. Equipment engineering and assembly of Balzers' machines are headquartered in Liechtenstein. **Oerlikon Metco** enhances surfaces with coating solutions and equipment. Customers benefit from a uniquely broad range of surface technologies, coating solutions, equipment, materials, services, and specialized machining services and components. The innovative solutions improve performance and increase efficiency and reliability. As innovation leader, Oerlikon Metco is forging new paths with materials for additive manufacturing (AM). Oerlikon Metco serves industries such as power generation, aviation, automotive, and other specialized markets. The **Surface Solutions Segment** operates a dynamically growing network of currently more than 145 facilities with over 140 coating centres in 37 countries in Europe, the Americas, Asia and Australia, employing more than 6 000 people. The Surface Solutions Segment is part of the Switzerland-based Oerlikon Group (SIX: OERL).

About Oerlikon

Oerlikon (SIX: OERL) is a leading global technology Group, with a clear strategy of becoming a global powerhouse in surface solutions, advanced materials and materials processing. The Group is committed to investing in value-bringing technologies that provide customers with lighter, more durable materials that are able to increase performance, improve efficiency and reduce the use of scarce resources. A Swiss company with over 100 years of tradition, Oerlikon has a global footprint of over 13 500 employees at more than 170 locations in 37 countries and sales of CHF 2.7 billion in 2015. The company invested CHF 103 million in R&D in 2015 and has over 1 350 specialists developing innovative and customer-oriented products and services.