

BALINIT OPTURA: PVD Coating for High-Performance Drilling in Steel and Cast Iron, Enabling Greater Efficiency and Lower Costs

Balzers, Liechtenstein, September 09, 2025 – **Oerlikon Balzers**, a technology brand from Oerlikon specializing in advanced thin-film coatings, is introducing **BALINIT OPTURA**, a new high-performance PVD coating engineered for drilling in steel and cast iron. Designed to meet the diverse demands of modern manufacturing, **BALINIT OPTURA** enhances productivity, tool service life, process reliability and versatility across a wide range of materials and cutting conditions. This innovation reflects Oerlikon's commitment to delivering sustainable, high-efficiency solutions that support productivity and resource-conscious manufacturing in the metalworking industry.

In metal processing, drilling is one of the most critical and often final steps in part production. Ensuring a stable production process – with extended tool service life, high reliability, consistent performance and high-quality boreholes – is paramount in order to achieve optimum productivity and cost efficiency. **BALINIT OPTURA** meets these demands through its optimized multilayer coating structure and increased wear resistance, resulting in longer tool service life, enhanced performance and lower manufacturing costs.

In benchmark tests with a Tier 1 automotive supplier, **BALINIT OPTURA** delivered an average of 89% longer tool service life compared to proven previous-generation coatings. In some cases, the service life of reconditioned drills was even double that of new tools with sophisticated double coatings. This results in lower tool consumption, fewer reconditioning cycles and a significant increase in performance, all of which helps reduce overall production costs while maintaining high borehole quality.

BALINIT OPTURA has demonstrated more reliable performance than current benchmark coatings across a wide range of steel and cast iron grades – from low-alloy to tempered and hardened steels. Whether used in moderate conditions or high-performance drilling, this advanced PVD coating reflects Oerlikon's commitment to addressing the economic and ecological challenges of today's competitive metalworking industry. Its performance is defined by the following key benefits:

- Advanced wear resistance increases productivity, boosts performance and **reduces costs per part**
- **Higher process reliability**, even when machining demanding steel alloys or performing challenging applications such as deep-hole drilling
- Predictable wear behavior to ensure **consistently high borehole quality**
- **Consistent performance after multiple re-coating cycles**, minimizing both costs and environmental impact

“In extensive tests with tool manufacturers and end users across several continents, BALINIT OPTURA has delivered outstanding results,” says Dr.-Ing. Ivan Iovkov, Global Product Manager Cutting Tools at Oerlikon. “With an average performance increase of more than 50% compared to previous-generation and competitor coatings, the newly developed BALINIT OPTURA has proven itself across a wide variety of steel and cast iron materials and cutting conditions in real-world production environments. Its sophisticated coating design and resulting properties extend tool service life and reduce manufacturing costs by up to 33%. We are pleased to announce that BALINIT OPTURA is now available in most countries where Oerlikon works closely alongside its industry partners.”

For more information about BALINIT OPTURA visit: www.oerlikon.com/balzers/balinit-optura



Image: Oerlikon

BALINIT OPTURA enables high-performance drilling across a wide range of steel and cast iron grades – from low-alloy to hardened materials – and supports both moderate and demanding cutting conditions.

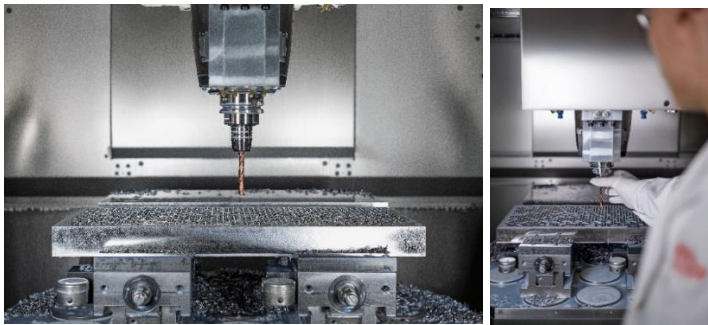


Image: Oerlikon

BALINIT OPTURA has proven its worth in extensive testing under real-production conditions, delivering consistently higher performance, tool service life, borehole quality and cost efficiency.



Image: Oerlikon

Drilling is one of the most demanding machining processes, requiring exceptional precision and reliability – especially in challenging applications such as deep-hole drilling.

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About Oerlikon

Oerlikon (SIX: OERL) is a global leader in surface technologies and advanced materials. With a unique portfolio spanning surface engineering, high-performance materials, coating equipment and components, we make products better by enhancing performance, efficiency and sustainability. Oerlikon serves a wide range of industries, including aerospace, automotive, defense, energy, medical, luxury and semiconductors.

Headquartered in Pfäeffikon, Switzerland, Oerlikon together with its subsidiary Barmag operates in 38 countries with more than 12,000 employees across 199 locations, achieving sales of CHF 2.4 billion in 2024.