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## **The universal Boehlerit 3-D milling programme - Highest performance and process reliability**

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The universally applicable 3-D milling programme from Boehlerit is an ideal supplement for machining hard, resistant materials.

The BALLtec ball-nose copy cutter was developed especially for finishing applications, resulting in two new geometries: one for pre-finishing (N-geometry with neutral chipping angle) and one for fine-finishing (F-geometry with positive chipping angle). Especially the latter ensures low-vibration machining, thanks to low cutting forces and a soft cutting action. These tools may also be combined with the Vidat vibration-dampening extension system by Boehlerit technology partner Bilz. Solid carbide extensions by Boehlerit may also be used. The BALLtec carrier tools are available in a precise steel design and in a high-precision design with a solid carbide shaft. The hardness/toughness ratio of the brand new developed grade BCH13M offers special properties in finishing and semi-finishing of steel materials up to a maximum of 62 HRC. The highly wear-resistant ultra-fine grain carbide grade BCH13M, in combination with an extremely dense, microcrystalline and wear-resistant PVD coating, meets the highest performance requirements while at the same time offering high process reliability. This also brings with it a new geometry with convex helical cutting edges, and fits into the BALLtec programme with the designation FHF2.

The RHOMBICtec milling system is also suitable for finishing, but within a larger diameter (16 to 25mm), and is suitable in particular for 90-degree, plane surface, and contour finishing in die and mould making applications. "What makes this indexable insert system so special is the wiper face that helps achieve an outstanding surface finish", says André Feiel, product manager for milling at Boehlerit.

The ISO 00P programme for roughing applications is also a complete novelty. The programme is extensive and contains a multitude of round indexable inserts for the machining of a wide range of steels as well as cast materials.

When developing these three tooling systems, the Kapfenberg-based carbide and tool experts focused on performance as the key element. And the new cutting grades can certainly hold their own in this respect, for instance the extremely hard, ultra-fine grain grade BCH03M with a cobalt content of just 3 percent, which, in combination with the RHOMBICtec and BALLtec system, is ideal for the finishing of even the hardest materials (up to 66 HRC). The grade BCH03M is also available for the ISO 00P. Two grades that were specially developed for die and mould making complete the product range: BCH05M is CVD-coated and, in combination with ISO

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00P, particularly suited for high-feed applications thanks to its stable cutting edge. The universal BCH10M grade is also available for BALLtec, RHOMBICtec and ISO 00P.

## Press release

### The company

Boehlerit, headquartered in the Austrian town of Kapfenberg, sets global standards with carbides and tools for the processing of metal, wood, plastics and composites. With cutting materials, semi-finished products, precision tools and tool systems for milling, turning, drilling and forming, Boehlerit ensures process safety and efficiency on a global scale. The company's extensive product portfolio includes highly specialised tools for the machining of crankshafts as well as for the mining industry, for bar peeling, tube and sheet metal processing and heavy-duty machining. The Boehlerit product range also features carbides for construction components and wear protection. When it comes to coating technology, Boehlerit holds a global monopoly, ranging from the first-ever nano-CVD bonding layer to the hardest diamond layer worldwide. With its many years' experience in metallurgy, coating technology and state-of-the-art press technology, Boehlerit is a highly competent development partner for toolmakers.

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Pictures

Abb. 1: The universal 3-D milling programme from Boehlerit offers maximum performance and process reliability

