

Press release

Producing threads in high-tensile steels is no problem for the new GARANT Master Tap Steel HT

Hoffmann Group develops top-class tap for difficult-to-machine steels

Stuttgart/Munich, 13 September 2022 – The GARANT Master Tap family has gained a new addition. The latest member of the family for high-performance machining is the GARANT Master Tap Steel HT, a tap specifically developed for steels with high tensile strength. As is the case with all members of the GARANT Master Tap family, the new addition is an extremely powerful and reliable tool that achieves a long tool life. The new tap specialist is available now through the [eShop](#), as well as through the Hoffmann Group's 2022/2023 new products catalogue.

Machining high-tensile steels presents particular challenges, as the tool must also achieve a long tool life in addition to top process reliability and performance. When it comes to problem of producing threads in such demanding materials, the Hoffmann Group has now developed a new tap that easily masters this task: the GARANT Master Tap Steel HT. This specialist in the thread production segment is made from a high-quality and rigid HSS-E-PM tool material and is protected against process heat by a hard and low-friction multi-layer coating. A special feature is that two different coatings are used per application in order to adapt the process even more effectively to meet various different requirements. The tap for blind hole production is therefore coated with titanium aluminium nitride (TiAlN), while the one for through hole production is coated with titanium carbon nitride (TiCN).

The geometric feature of the cylindrically stepped guide thread is relied upon in order to avoid the risk of chip jamming during the production of blind hole threads – which can lead to break-away of the thread flanks in the case of high-tensile

materials. The through hole tap, on the other hand, remains stable and reliable even under high cutting force loads thanks to its strong and optimally crafted spiral point.

In the case of high-tensile materials such as Toolox and Hardox, blind hole threads can be produced up to a maximum thread depth of $2xD$. For materials with a somewhat lower tensile strength, thread depths of up to $2.5xD$ in the blind hole version and of up to $3xD$ for through hole threads are also possible.

With the new GARANT Master Tap Steel HT, M, MF and G threads can be produced both as blind hole and through hole threads. The taps with the M and MF design are manufactured only in the 6HX and 6GX tolerance, in order to counteract wear in the case of abrasive materials. This results in reliable threads that are true to gauge being produced, while maintaining a long tool life.

The GARANT Master product range was started by the Hoffmann Group in 2015 with the aim of providing particularly powerful and reliable tools for high-performance cutting. Since then, GARANT Master tools have opened up new performance classes, including the GARANT Master Steel HPC milling cutter, the GARANT Master Steel Feed and Speed solid carbide drills, and the GARANT Master Steel Deep solid carbide deep hole drill. The product range now comprises a wide range of high-performance tools for applications such as drilling, milling and thread tapping in various materials, including steel, aluminium and stainless steel.



Caption: Thanks to the strong spiral point, the through hole machine tap remains stable and reliable even when under high cutting force loads.



Caption: The cylindrically stepped guide thread of the blind hole machine tap prevents chip jams that may result in flank break-away from occurring.

The Hoffmann Group

More than 4,000 highly motivated people make [Hoffmann Group](#) what it is today: Europe's leading partner for quality tools, workstations and storage, and personal protective equipment. With services that complement our products, the Hoffmann Group simplifies procedures for procurement and supply for 135,000 customers in 50 countries. In addition to machining, clamping, measuring, grinding and cutting tools, the portfolio also comprises hand tools, occupational safety equipment, workstations and storage, workshop articles and digital services and solutions. Customers include large stock market listed corporations as well as small and medium-sized companies. In addition to the brands [GARANT](#) and [HOLEX](#), the Hoffmann Group offers more than 500 top brands from a single source. With comprehensive customer service in all regions and a TÜV-certified delivery quality rating, the Munich-based specialist for industrial tooling and equipment can be trusted as a reliable and efficient partner for its customers. In the trading year 2021 the Hoffmann Group achieved a turnover of more than 1.3 billion euros.

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