

First Choice Inovatools Cutting Tools

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Related Glossary Terms

[centers](#) [endmill](#) [feed](#) [gang cutting \(milling, slitting\)](#) [hardening](#) [metalworking](#)
[microstructure](#) [milling](#) [milling cutter](#) [twist drill](#) [workhardening](#)

Tool manufacturer Inovatools supports the metalworking industry with a wide range of tools for all manner of cutting challenges. With its First Choice Inovatools, the tool specialist from Haunstetten near Kinding in Germany is now giving users the opportunity to find tailor-made tools for their specific cutting requirement quickly and easily. One example is machining stainless steel.



In addition to in-person technical advice, First Choice Inovatools represent a highly effective means of quickly identifying top tools in the Inovatools online shop or in the main catalog. This enables users to search by the application and cutting values thanks to the INOCUT cutting data program; alternatively, the tools are marked as "First Choice" in the complete catalog.

"To help you to find what you are looking for quickly when searching for a tool that is optimized for your application, Inovatools has preselected a number of top products and marked them as special recommendations," says Tobias Eckerle, product manager at Inovatools. "One of the things we are trying to achieve is to guide users to the advanced geometries and technologies that are most suitable for them via the fastest possible route. Ultimately, that helps them to reduce production times and deliver top surface quality while

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benefiting from a longer service life, for example. Tool and machinery costs are reduced as a result.”

INOX, Nirosta, chromium steel, VA steel, rust-free steel, nickel-chromium steel and so on – there are many names for stainless steel. And just as the names for this material group are hugely diverse, so too are the specific characteristics depending on the chromium, nickel, titanium and molybdenum content. On the one hand, this defines the area of application; on the other hand, these supplements make HPC cutting complex and difficult.

Depending on the microstructure and alloy content of the material, the milling cutters and drills used struggle with built-up edges, abrasiveness, workhardening, edge zone hardening and high temperatures in the intervention zone, for example. Tools from Inovatools are adapted to the relevant requirements in terms of the substrate, cutting geometry, chip removal and coating and achieve the best results when it comes to roughing and finishing, for instance, with their specific cutting and cooling strategy.

According to Eckerle, “The top products from Inovatools bring the desired added value in terms of endurance and speed to HPC roughing and finishing processes. Such as the FightMax INOX milling cutter in a shorter or longer, free-length variant.”

In the FightMax INOX, Inovatools uses a balanced mixing ratio of special ultrafine-grain carbide. The tool has an unevenly split and unevenly twisted geometry with highly polished chip space. This gives the tool the necessary performance, ensures quiet, vibration-free concentricity, and guarantees quick and reliable chip removal. This is supported by the DUOCON smooth high-performance coating, which also gives the FightMax INOX protection and the necessary stability. Inovatools achieves extreme edge stability through the defined cutting edge rounding. A further special feature of the FightMax tools is the face that is specially optimized for ramping.

“These design benefits combined with the narrowest of production tolerances yield very long service lives and top surface quality, even at high feed rates and cutting speeds,” says Tobias Eckerle.

Another First Choice recommendation for machining stainless steel, for roughing with a reduced chip volume and lower cutting forces, for example, is the QuickMax SC roughing endmill. Special features include the optimized chip groove and the special entwined profile. The tool also scores points for achieving exceptional cutting rates while reliably removing the short, tightly rolled chips.

When it comes to trochoidal milling, the INOX SC endmill is in pole position. The tool demonstrates its strengths when taking on tasks such as complex contouring and, above all, deep cross-sections. The reduced cutting forces during slot milling allow smaller diameters to be used with large cutting lengths, which saves not only time, but above all costs.

As Eckerle comments, “Via First Choice, we recommend a multitooth milling cutter such as the StarMax Superfinish for finishing and, for drilling stainless steel, the SpeedMax universal high-performance twist drill, which centers itself precisely and can be operated at high feed rates.”