

Tap drills: growth through HiPIMS



CTO Dariusz Ptaszkiewicz (left) and PVD Process Engineer Arkadiusz Urbanowicz (right) at FANAR. (Photo: FANAR)

FANAR expands its tap production with the CC800[®] HiPIMS

Based in Ciechanów, Poland, Fabryka Narzędzi FANAR S.A. is continuing to grow steadily. The first step into in-house coatings for taps was a CemeCon sputter coating line two years ago. The company is now following this up with a CC800[®] HiPIMS. The system enables the production of the highest quality TiCN coatings over a much shorter cycle time. The latest HiPIMS technology perfectly complements the threading tool manufacturer's international growth strategy.

“How can we grow more quickly? What gives us the edge over the competition? What technology can help us to achieve this goal?” These are questions that motivate Marcin Kołodziej, President of FANAR. For the past two years, FANAR has been using a CC800[®]/9 ML from CemeCon for coating tap drills. “The sputtering system gave us a significant competitive advantage. With the support of CemeCon, we are able to control the entire process chain, from grinding, heat treatment and edge preparation to coating. Delivering a better product faster: that's what FANAR is all about.”

„The CC800[®] HiPIMS greatly enhances THE PERFORMANCE of our TAP DRILLS enabling us to GROW OUR BUSINESS.“

HiPIMS coatings – perfect for threading tools

To meet the increase in demand, FANAR invested in a CC800® HiPIMS to upgrade its production with a second CemeCon coating system. “Threading tools require coatings with very specific properties,” states Dr. Biljana Mesic, who supervised CemeCon’s development of dedicated coatings for FANAR. “The adhesion of the workpiece material to the tap is usually the cause of poor performance. Smooth, dense coatings are essential.” In addition, only the first two to three threads cut when threading. This means that maximum coating adhesion and ductility are at the top of the list of specifications. “HiPIMS technology is perfect for this task: it results in extremely smooth, dense coatings that stay on the tap’s threads due to outstanding ductility. The exceptionally high ionization adds optimal film adhesion to the positive properties. And it ensures the reliable deposition of coatings containing carbon,” states Biljana Mesic.

Coating systems such as TiCN and WC/C, for example, are essential for low torque during tapping and reliable chip removal in stainless materials. However, the production of these coatings became the Achilles' heel in tap tool production due to the evaporator systems, which are several decades old. HiPIMS points the way of the future: latest technology equipment for a reliable production of high-performance TiCN coatings.

Dariusz Ptaszkiwicz, CTO at FANAR, summarize: “Thanks to the HiPIMS technology, standard TiCN has been successfully replaced with a novel nanostructure coating having a TiAlN and TiAlSiN base layer for greater versatility and increased durability of taps. HiPIMS coatings effectively support our strategy of ‘one tool for all materials’. While putting together the know-how of the tap’s macro and micro geometry with a dedicated HiPIMS coating, we have released a series of ‘Master’ and ‘X’ tap products that are a huge success on the market.”

Best prerequisites for growth

As well as greatly enhancing tap drill performance, the CC800® HiPIMS completes coating tasks in record time – thanks to deposition rates of up to 2 µm per hour. This ensures short production times and maximum productivity.

“HiPIMS technology offers us virtually boundless possibilities in the development of specific coating solutions. This enables us to achieve growth through new materials,” states Marcin Kołodziej with pride about FANAR's latest investment.

Fabryka Narzędzi FANAR S.A.

Fabryka Narzędzi **FANAR S.A.** is a leading manufacturer of machining tools for metal processing, based in Ciechanów, Poland. State-of-the-art technology, qualified people and many years of experience make it possible for FANAR to offer a wide range of tools of the highest quality. Innovative solutions and continuous development are central priorities in the company's philosophy. Its global customers include companies from the automotive industry, aerospace, medical technology and other industries. FANAR tools are sold in more than 40 countries.



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