CEMECON The Tool Coating

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FACTS

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MICROMA and NACHREINER:

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Optimized machining for microsurgical instruments

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"MULTICON® is the ideal solution for companies that require maximum process stability in STEEL MACHINING. The coating combines the advantages of HiPIMS TECHNOLOGY with the properties of AlCrN-COATINGS and raises the performance of milling and drilling tools to a new level. With MULTICON®, CemeCon offers a FUTURE-PROOF SOLUTION that meets the requirements of modern manufacturing."

Manfred Weigand, Product Manager Round Tools at CemeCon
(Further information on the new HiPIMS coating material MultiCon® on pages 12–13)

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IN THIS ISSUE

Boehlerit develops its own coatings for machining titanium and stainless steel with CC800® HiPIMS

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HOW CEMECON DEVELOPS COMPETITIVE ADVANTAGES FOR THE CUSTOMER

Modern machining processes require maximum precision, especially in industries such as medical technology, electromobility and electronics. CemeCon therefore relies on customized premium coatings: In engineering, Jürgen Balzereit and his team tailor the coatings to the specific requirements of the respective tools and applications. Stephan Geisen supports this process with his expertise as a materials tester when analyzing the coating. In the interview, both provide insights into their work.

MR. BALZEREIT, THE REQUIREMENTS IN SECTORS SUCH AS MEDICAL TECHNOLOGY, ELECTROMOBILITY AND ELECTRONICS ARE HIGH. HOW DOES CEMECON SUPPORT TOOL MANUFACTURERS IN SUCCESSFULLY POSITIONING THEMSELVES ON THE MARKET?

Jürgen Balzereit: Tool manufacturers often come to CemeCon because they want to launch a new tool on the market and are looking for our expertise. Others are pursuing the goal of differentiating themselves even more from the competition. Sometimes that the user's machining process is not running optimally and the tool needs to be better adapted to the application. Our engineering team analyzes machining results, material properties and tool geometries in order to develop an optimum coating solution. These customized solutions give our customers a clear competitive advantage.

HOW DOES SUCH A PROCESS WORK IN PRACTICE?

Jürgen Balzereit: First of all, we look at the requirements for the tool and

the material to be processed. The more information we have, the better we can create a customized coating specification. There are a number of parameters for this: coating material, coating thickness, tolerance, pre-treatment, finishing and much more. The process steps are sensibly combined and individually adapted to the parameters. We work closely together with our customers and rely on sampling: the tools are given different coatings, which are validated in a machining test at the customer's premises. Only when the best possible result has been achieved do we define a final coating specification that is precisely tailored to the application.

MR. GEISEN, YOU ANALYZE THE COATINGS IN DETAIL. WHICH ROLE DO YOUR INVESTIGATIONS PLAY IN THE ENGINEERING PROCESS?

Stephan Geisen: A decisive one! Our customers expect consistently high quality, and to achieve this we need to know every detail of the coating. Among other things, we measure the coating thickness, analyze the roughness of the surface and check the mechanical properties such as hardness and adhesion. We use state-of-the-art measurement technology – for example, we use a high-end scanning electron microscope from Zeiss to make the finest details visible. This data helps us to optimally match the premium coatings to the respective machining processes.

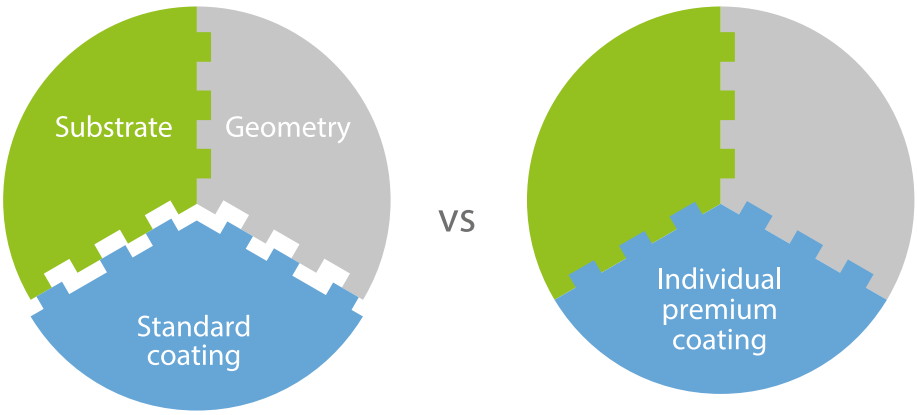
The analysis and control of the coating are crucial in engineering

WHAT OTHER TEST METHODS DO YOU USE?

Stephan Geisen: In addition to microscopic analysis, we use a nano hardness tester from Anton Paar to precisely determine the mechanical characteristics. We check the cutting edges and examine the surface quality of the tools. Incidentally, all successful parameters are stored so that we can reproduce our coatings worldwide with the same quality.

MR. BALZEREIT, THE INTERPLAY BETWEEN THEORY AND PRACTICE SEEMS TO PLAY A CENTRAL ROLE AT CEMECON. HOW DO YOU ENSURE THAT EACH COATING MATCHES THE TOOL OPTIMALLY?

Jürgen Balzereit: Our close cooperation with the customers is the key to our success. We involve both tool manufacturers and users in the engineering process. This is the only way we can develop individual solutions that meet the highest requirements. We also rely on a continuous improvement process: our engineering experts optimize the coatings until the best possible result is achieved.



The individual premium coating is adapted precisely to the requirements in a joint engineering process. The result is a perfect combination of substrate, geometry and coating

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MICROMA AND NACHREINER: OPTIMIZED MACHINING FOR MICROSURGICAL INSTRUMENTS

CUSTOMIZED MILLING CUTTER WITH HiPIMS COATING FOR MAXIMUM PERFORMANCE

In microsurgery in particular, the quality of the microsurgical instruments plays a major role in the success of an operation. This places the highest demands on their manufacture in terms of precision, durability and workmanship. MICROMA Martin Alber GmbH & Co. KG from Irndorf, Germany, has been a specialist in the production of microsurgical instruments for many years. With a milling tool from NACHREINER GmbH in Balingen-Weilstetten, Germany, tailored to the application, the medical technology experts were able to significantly reduce the machining time – and almost double the tool life. A key detail in the adaptation of the milling cutter was the high-performance HiPIMS coating.

Surgical spring scissors, needle holders and forceps in the smallest dimensions are the specialty of MICROMA. In order to meet the extreme demands placed on such high-precision microsurgical instruments, the highest quality standards are mandatory. The guarantee of success at MICROMA is the combination of specially designed special machines, high-quality materials and high-performance precision tools. “Precision and quality are indispensable in medical technology and are uncompromisingly adhered to in our

production. But of course we always focus on efficiency and productivity as well. That's why we regularly put our processes to the test in order to tap into optimization potential. For example, we were looking for an efficient milling tool to reduce our machining times. We found what we were looking for at NACHREINER," says Jan Alber, Production Manager at MICROMA.

IN-HOUSE COATING EXPERTISE FOR EVEN MORE DIFFERENTIATED SOLUTIONS

NACHREINER's expertise lies in precision tools for demanding machining tasks involving metal, non-ferrous metals, plastic and composite materials. The company produces as much as possible in-house with optimized manufacturing, quality and service processes. Temperature-controlled production, modern technology for edge preparation and optimization of micro-geometry as well as innovative grinding, measuring and automation technology are fixed factors in its tool production. For some years now, an in-house coating line from CemeCon based around the CC800® HiPIMS coating system has also been a central component of production. Martin Seifriz, Managing Director at NACHREINER GmbH: "Our aim is to develop the best cutting tools for our customers now and in the future so that they can achieve outstanding product quality. Thanks to our high level of vertical integration, including premium coating expertise, we can deliver outstanding solutions. The CC800® HiPIMS is the key to differentiating ourselves even better from

NACHREINER

NACHREINER GmbH from Balingen-Weilstetten is a renowned and highly respected tool manufacturer in the global industry. NACHREINER has been a reliable solution partner for machining technology since 1981 and consistently follows the guiding principle "Precision means leaving nothing to chance". The company produces high-quality milling, drilling and reaming tools for machining a wide variety of materials at its sites in Balingen and the Black Forest with a high level of vertical integration. In addition to the standard range, the experts also offer users from a wide variety of industries intensive technical advice on customer-specific solutions; in addition, they manufacture individual special tools for special applications. An efficient regrinding service and innovative coatings round off the product range perfectly.

www.nachreiner-werkzeuge.de

MICROMA

MICROMA Martin Alber GmbH & Co. KG from Irndorf has stood for the development and production of high-precision microsurgical instruments, such as micro-spring scissors, micro-needle holders and micro-tweezers, since it was founded in 1989. The owner-managed company combines maximum flexibility for small and large series with the highest quality standards. As an MDR-certified company, MICROMA is active in the OEM and own brand labeling sector. This makes the medical technology expert a powerful and valued partner.

The instruments for microsurgery are produced on specially developed machines that have been specifically designed for these demanding requirements. The combination of high-quality materials and expert manufacturing ensures that the products not only have an exceptionally long service life, but also a high level of availability. MICROMA also offers a fast and reliable repair service for microsurgical instruments.

http://microma.de/de/

Customized milling cutter with TiAlSiN coating

the competition with high-quality coating solutions."

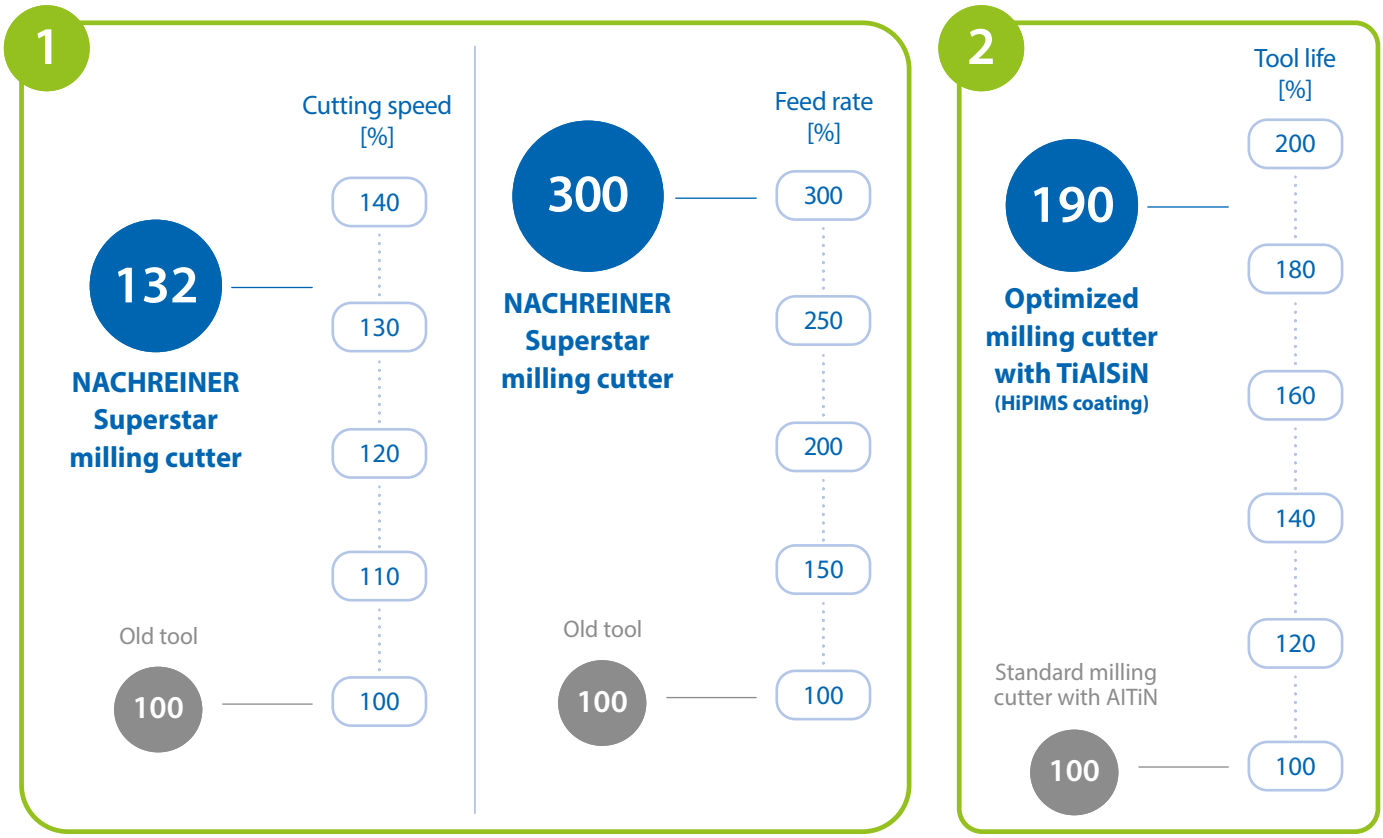
With the HiPIMS technology CemeCon has once again significantly increased the quality and performance of coatings compared to other processes. The technology is flexible and suitable for coating many different tool variants. Whether small batches or batch sizes with high quantities: It can be optimally adapted to different requirements, for example from micro-tools to tools for heavy-duty machining – and within a very short time. The HiPIMS coatings have excellent properties across this entire range: they are smooth, adhesive, hard and tough at the same time, have a fine crystalline, dense morphology, adapted residual stresses and high thermal stability. The uniform layer thickness distribution also contributes to optimum wear protection of the cutting tools. The perfect combination for precision tools in premium quality.

APPLICATION WITH SPECIAL CHALLENGES

The manufacture of microsurgical instruments places high demands on the cutting tools: they are made of stainless steel (1.4034 or 1.4022). These high-quality steels are characterized by their high resistance to corrosion and acids. They are also very tough and have low thermal conductivity. Excellent properties for use in medical technology, but a challenging combination for machining. This is because high temperatures are generated at the cutting edge during drilling, milling or turning, which can damage the tool. In addition, the machining itself is very demanding: the milling tool must achieve a high material removal rate on a long and thin component while also achieving good surface qualities.

PRECISE ADJUSTMENT FOR EXCELLENT PERFORMANCE

In a first step MICROMA switched to the solid carbide HPC Superstar milling cutter from the NACHREINER standard range, which was then adapted to the special application in a second step. "The combination of a 3 and 6-edged tool in our Superstar milling cutter enables both effi-



With NACHREINER tools, MICROMA was able to significantly increase the cutting speed and feed rate (diagram 1). Thanks to the precise adjustment to the application, the tool life was also almost doubled (diagram 2)

© NACHREINER

Jan Alber (left), Production Manager at MICROMA, and Martin Seifriz (right), Managing Director at NACHREINER, in front of the HiPIMS coating system in the NACHREINER production facility

cient roughing and smooth finishing with outstanding surface quality. This is because the unequal pitch prevents vibrations and oscillations, among other things, and is therefore responsible for the very smooth running and reduced friction," explains Martin Seifriz.

Even with the standard version, MICROMA was able to significantly increase the feed rate and cutting speed (see diagram 1). "That was already a great success! We reduced our machining time and achieved first-class machining results with increased productivity," says Jan Alber happily. But that was just the beginning; optimizing the tool further improved the results. To this end, the experts worked closely together to adapt the milling cutter precisely to the MICROMA application and almost doubled the tool life (see diagram 2). In addition to the targeted adaptation of the micro-geometry, the coordinated TiAlSiN coating also provided an additional performance boost.

The standard milling cutter from NACHREINER has an AlTiN coating. However, the TiAlSiN coating offers significant advantages when machining stainless steel: Thanks to its high temperature stability up to 1,100°C, it optimally protects the tool from heat during the machining process and the heat is dissipated through the chip. "The extreme smoothness resulting from the HiPIMS process further reduces the heat. TiAlSiN also has a low affinity to stainless steels. This reliably prevents built-up edges and ensures process reliability," says Marc Semder, Sales Manager at CemeCon, explaining the benefits of the customized coating solution.

© MICROMA

Microsurgical instruments from MICROMA

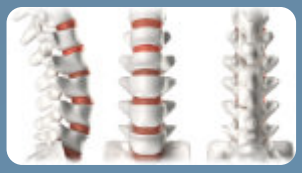
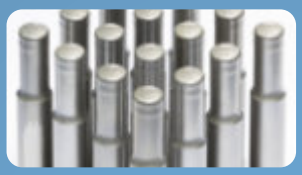
SUCCESSFUL PARTNERSHIP

The collaboration between MICROMA and NACHREINER shows how crucial an intensive exchange between user and tool manufacturer is. Through the use of HiPIMS technology from CemeCon and the targeted optimization of the tool geometry MICROMA was able to shorten the machining time while at the same time significantly increasing tool life. A result that inspires everyone!

APPLICATIONS FOR HiPIMS COATINGS

APPLICATION EXAMPLES		MATERIAL TO BE MACHINED	HiPIMS COATING MATERIAL
	Smartphone housing	Aluminium	AluCon®
	Lightweight components for e-mobility		
	Lightweight components for aircraft construction	Titanium	SteelCon® AluCon®
	Orthopaedic implants	Cobalt-chronium	SteelCon® InoxaCon®
	Heavy-duty machining of railroad rails	Steel Casting Chrome-nickel-steel	FerroCon® FerroCon®Quadro MultiCon® SteelCon® InoxaCon®
	Components for mechanical engineering		
	Engine components		
	Wind turbines, Turbines		
	Medical instruments	Stainless steel	SteelCon® InoxaCon®
	Tool and mold making	Hardened steel	SteelCon®
	Electrodes in tool and mold making	Copper	AluCon®

APPLICATIONS FOR DIAMOND COATINGS

APPLICATION EXAMPLES		MATERIAL TO BE MACHINED	DIAMOND COATING MATERIAL
	Crowns, inlays and bridges in dental technology	Zirconium dioxide (ZrO_2)	CCDia®CarbonSpeed®
	Structural components for airplanes	Fiber-reinforced plastics (CFRP, GFRP)	CCDia®AeroSpeed® CCDia®FiberSpeed® CCDia®MultiSpeed
	Back implants		
	Sporting goods such as bicycles		
	Lightweight components for e-mobility		
	Graphite electrodes for the production of molds for displays	Graphite	CCDia®CarbonSpeed®
	Punches and dies	Tungsten carbide	CCDia®CarbideSpeed®
	Lightweight components in automotive engineering	Hypereutectic aluminium	CCDia®FiberSpeed® CCDia®MultiSpeed

Whether diamond or HiPIMS – the CemeCon Coating App provides you with an initial guide to the right coating material for your application and your tools
www.cemecon.de/de/schichtwerkstoffe

PERFORMANCE LEAP WITH MULTICON®

AlCrN coatings have been used alongside AlTi(Si)N-based coatings in steel processing for many years – previously also as a sputtering variant at CemeCon. The majority of the coatings used are deposited using the arc process. Although these solutions have proven themselves in many cases, hardly any improvements in performance have been possible.

"This is where HiPIMS technology comes into play: it produces extremely smooth, dense and homogeneous coatings with high adhesion. This opens up new potential in steel machining. The new HiPIMS coating material MultiCon® is the logical evolution of our AlCrN sputter coatings – with clear advantages in terms of performance and tool life, especially compared to arc variants," says Manfred Weigand, Product Manager Round Tools at CemeCon.

TAILOR-MADE FOR STEELS FROM 30 TO 50 HRC

With MultiCon®, CemeCon closes the gap between the HiPIMS coating materials FerroCon® and InoxaCon®. While FerroCon® is ideal for soft steels

NEW: MultiCon® for steel and cast iron

Steel is omnipresent in industrial production and demands top performance from tools and coatings. With the latest HiPIMS coating material MultiCon®, CemeCon offers a high-performance solution especially for milling and drilling cast iron and steels between 30 and 50 HRC. MultiCon® combines excellent adhesion, an extremely smooth surface and optimized wear behavior to raise machining quality and tool life to a new level – in both wet and dry machining.

MultiCon® in detail

Coating technology:
HiPIMS

Properties:
Optimum wear behavior, excellent adhesion, extremely smooth

Coating material:
AlCrN-based

Max. operating temperature:
1,100 °C

Color:
Dark gray

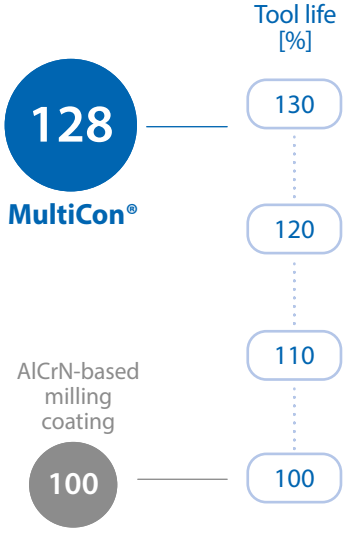
Coating thickness:
3 µm (for Round tools)

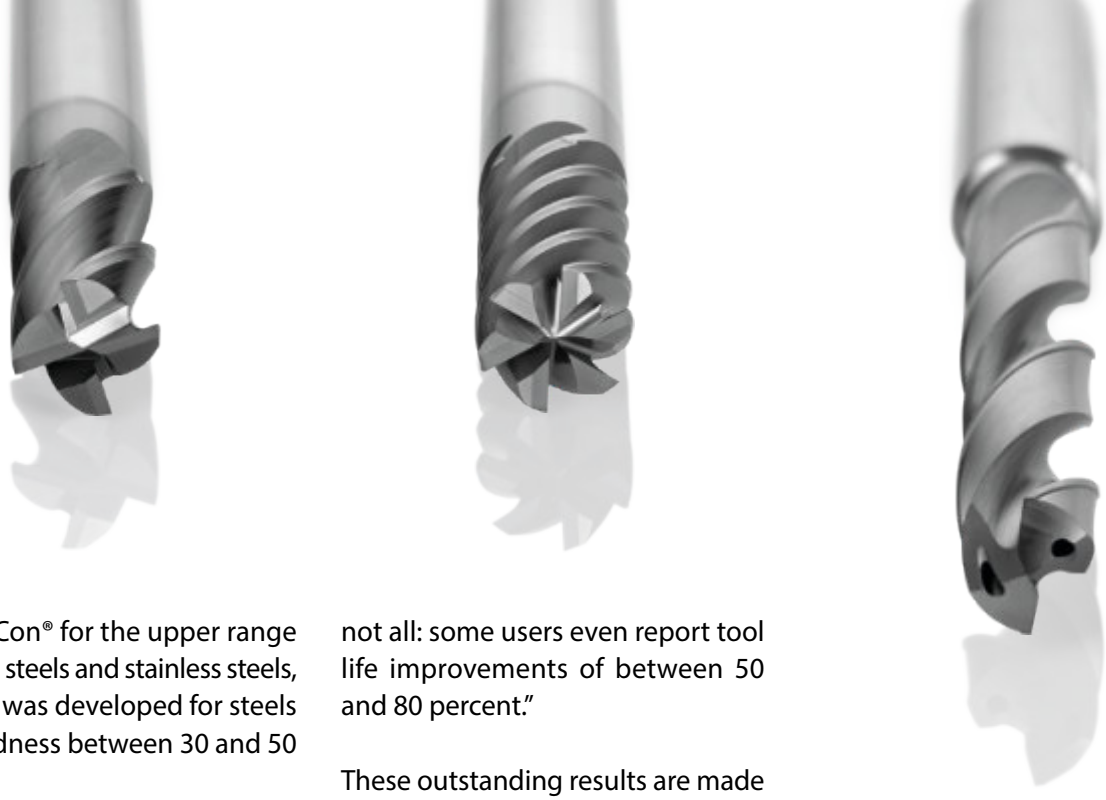
Milling application example

Material:
Heat-treated steel 1,400 N/mm²

Tool:
Solid carbide milling cutter Ø 8 mm

v_c = **150 m/min**
n = **6,460 min^{-1}**
f_z = **0.085 mm**
a_p = **0.028 mm**
a_e = **0.5 mm**
Cooling: **Emulsion**





and InoxaCon® for the upper range of medium steels and stainless steels, MultiCon® was developed for steels with a hardness between 30 and 50 HRC.

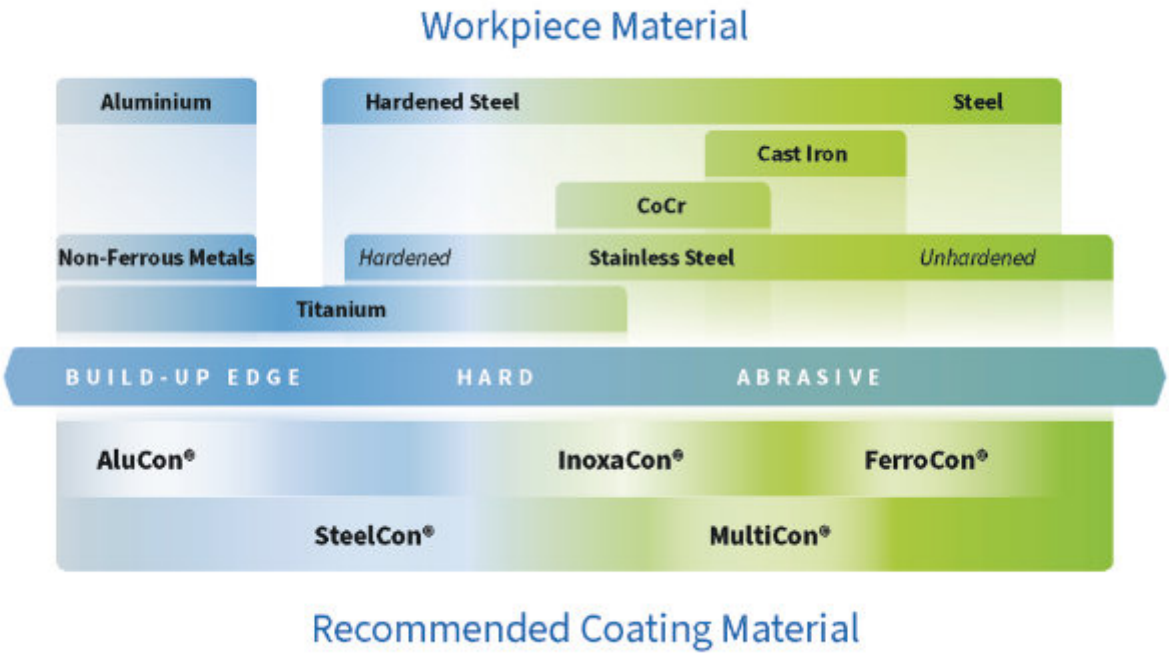
PERFORMANCE ENHANCEMENTS CONVINCING

Practical examples from steel processing show how MultiCon® increases productivity. When milling tempered steel (1,400 N/mm^2) with a solid carbide milling cutter, tool life increases of approx. 30 percent were achieved compared to an AlCrN coating deposited using arc technology. Manfred Weigand: "And that's not all: some users even report tool life improvements of between 50 and 80 percent."

These outstanding results are made possible thanks to the combination of optimally matched tool geometry and adapted HiPIMS coating, which is developed in close cooperation between CemeCon and the respective tool manufacturer. This allows MultiCon® to develop its full potential.

MULTICON® SETS NEW STANDARDS

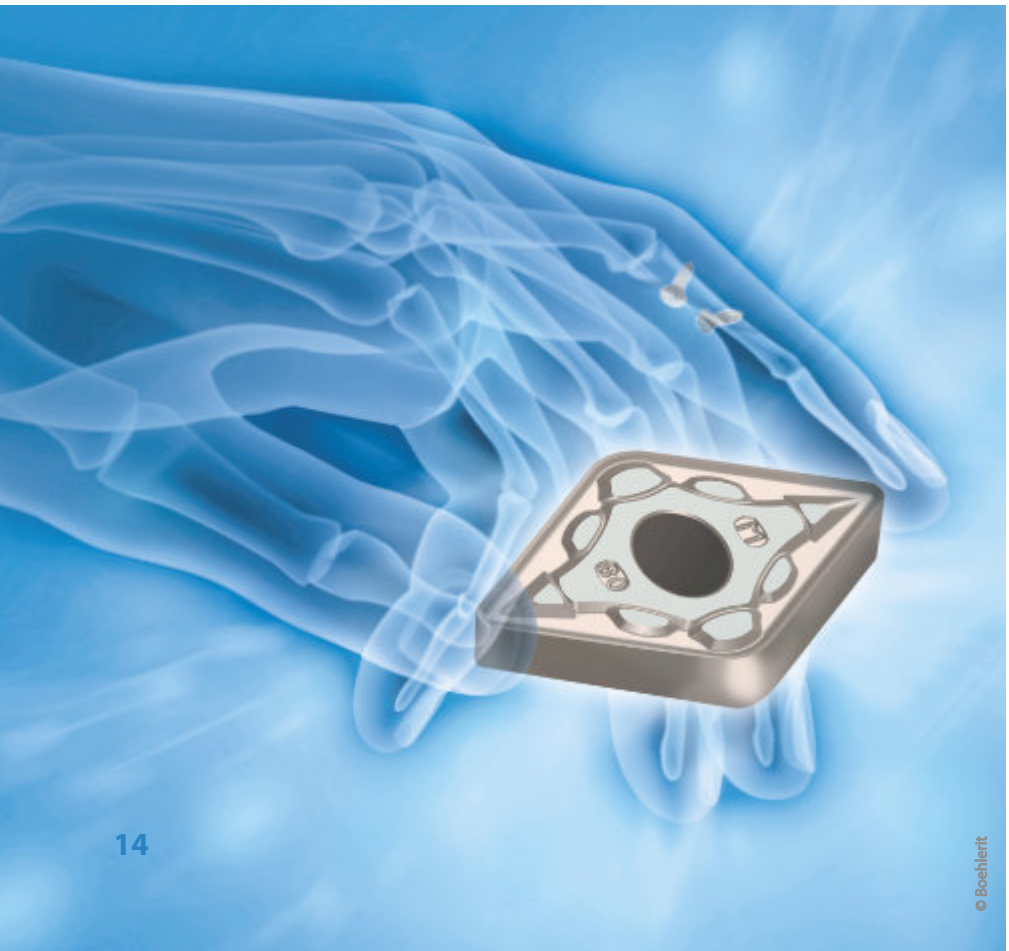
"MultiCon® is the ideal solution for companies that require maximum process stability in steel machining. The coating combines the advantages of HiPIMS technology with the properties of AlCrN coatings and raises the performance of milling and drilling tools to a new level. With MultiCon®, CemeCon offers a future-proof solution that meets the requirements of modern manufacturing," summarizes Manfred Weigand.



CUTTING-EDGE SOLUTIONS FOR TITANIUM AND STAINLESS STEEL

High-performance precision tools for turning and milling are essential for the economical machining of difficult-to-cut high-performance materials such as titanium and stainless steels. Boehlerit has been a competent partner for customized cutting inserts for many years – especially for machining materials that are difficult to cut. The HiPIMS coating technology from CemeCon is an important component for cutting inserts that adapt perfectly to these demanding applications. The ability to develop its own coatings and adapt them specifically to different applications gives Boehlerit the decisive edge – especially for demanding machining tasks.

Hard metals and precision tools from Boehlerit solve demanding machining tasks worldwide and set standards in the machining of metal, wood, plastic and composite materials. The Austrian experts' recipe for success undoubtedly includes a high level of vertical integration with state-of-the-art technologies and extensive know-how in all facets of tool manufacturing – from design to coating technology. With the CC800® HiPIMS coating system as one of the key components, Boehlerit is setting new standards in the processing of high-performance materials.



The combination of selected carbide, special chip former geometry and high-performance HiPIMS coating ensures the best results when turning titanium

HiPIMS TECHNOLOGY BRINGS COMPETITIVE ADVANTAGES

HiPIMS technology significantly increases the quality and performance of the coatings even further: HiPIMS coatings are very smooth, hard and tough at the same time. They have excellent adhesion and ensure opti-

mum wear protection for the tool thanks to the uniform coating thickness distribution.

Boehlerit benefits from both the exceptional performance of HiPIMS coatings and the flexibility of the coating systems. The ability to customize coatings to the requirements of specific applications makes all the difference – especially for demanding applications. For example, the technology makes it possible to produce coatings with adapted residual stresses – a decisive advantage for processing difficult materials.

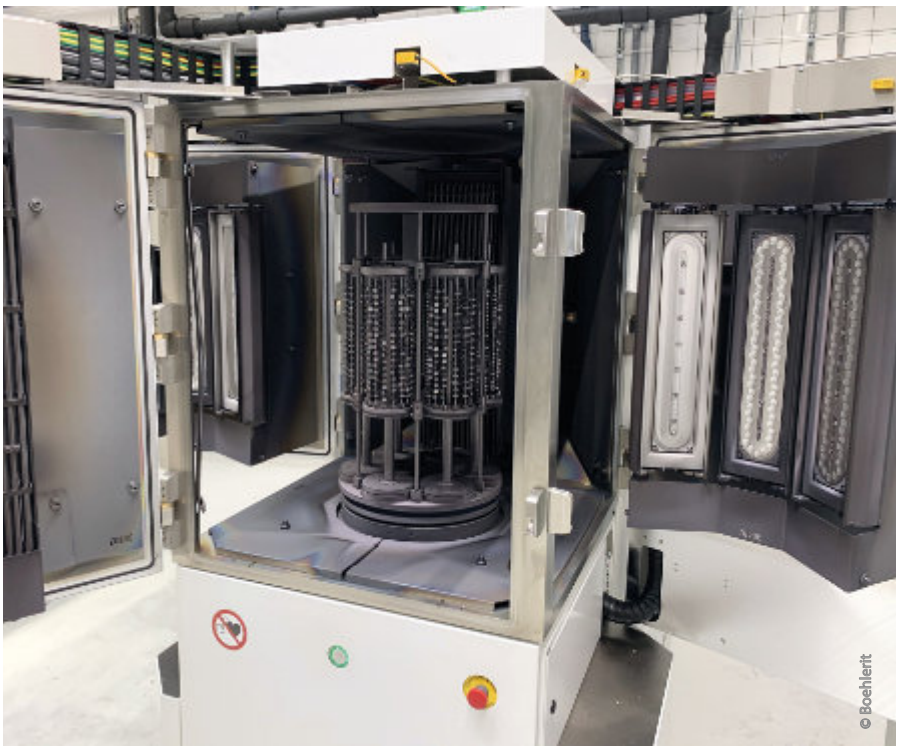
PROCESSING TITANIUM AT THE HIGHEST LEVEL

Boehlerit has developed new cutting inserts to machine unalloyed titanium grades such as Ti (ASTM1-11), α alloys or α+β alloys (e.g. Ti-6Al-4V) with a high degree of reliability. In practice, these achieve up to 40 percent longer tool lives than conventional solutions. "We owe these great results to the coordinated combination of selected carbide, special chip former geometry and high-performance HiPIMS coating," says André Feil, Segment Manager Machining at Boehlerit. "The carbide base is a K10 ultra-fine grain substrate. It is particularly temperature-stable and has a low tendency to plastic deformation. The specially developed MT (medium titanium) chip former with its sharp cutting edges ensures reliable chip breaking during medium and light roughing. And the icing on the cake is the 3 µm thick HiPIMS coating based on AluCon® (TiB_2)."

BOEHLERIT

Boehlerit, headquartered in Kapfenberg, Austria, has been part of the Brucklacher family group of companies (Bilz, Boehlerit and Leitz) since 1991. With 800 employees at twelve locations worldwide, the company develops and produces cutting materials, semi-finished products and precision tools as well as tool systems for milling, turning, drilling and forming for a wide variety of materials. These include highly specialized tools for crankshaft machining and for metallurgical technology for rotary skiving, tube and sheet metal processing and heavy machining. Carbides for construction parts and wear protection are also among the company's strengths. The cutting and wear protection materials are continuously developed further using modern analysis methods and in close cooperation with universities and research institutes. Thanks to its many years of expertise in metallurgy, coating technology and state-of-the-art pressing technology, Boehlerit is also a competent and sought-after development partner for toolmakers.

www.boehlerit.com



The CC800® HiPIMS coating system in use at Boehlerit

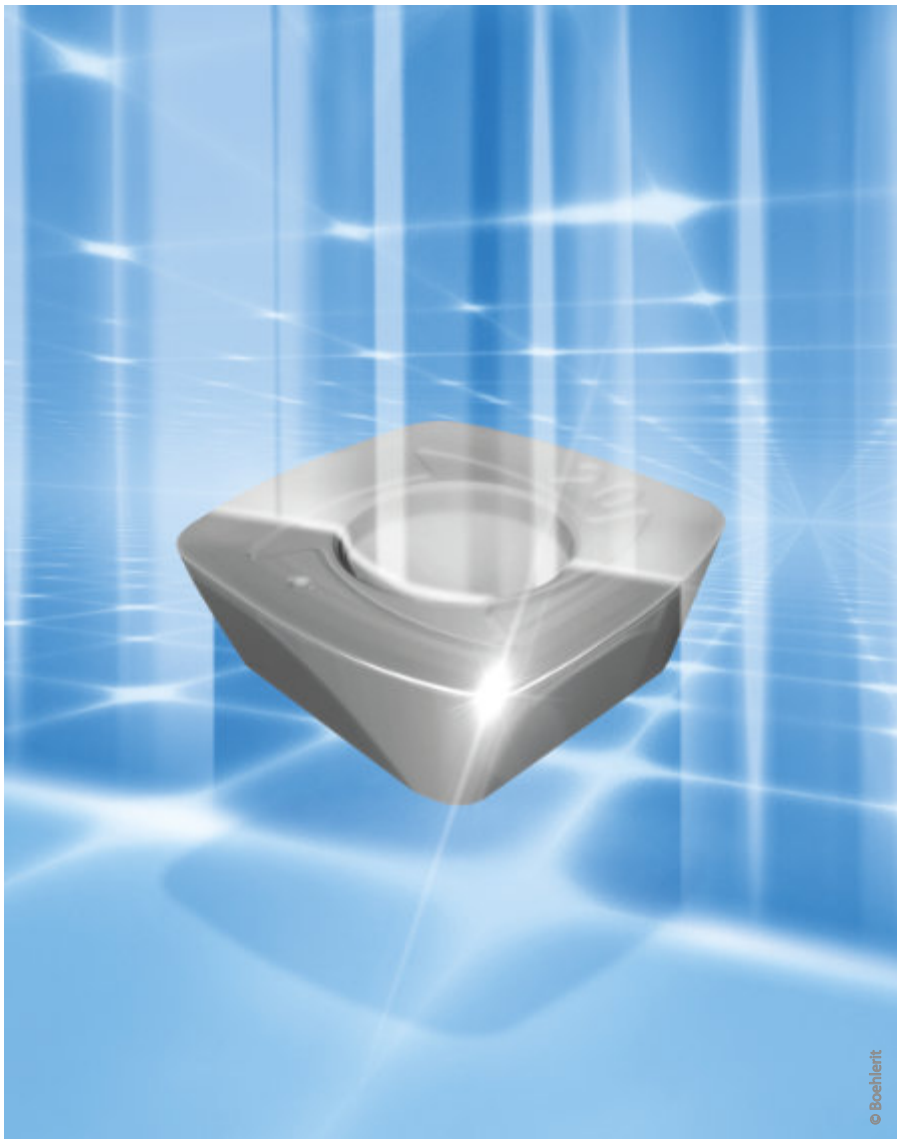
The low affinity to non-ferrous metals and the high hardness make the TiB_2 coating so successful when machining titanium with sharp cutting edges. The HiPIMS coating material provides optimum protection against built-up edges. The extremely smooth coating surface ensures efficient chip removal. Thanks to the reduced friction, the temperature in the cutting process is reduced. The result: significantly longer tool life. The very good adhesion, coupled with the high hardness of up to 5,000 $HV_{0.05}$, enables top performance in wet and dry machining – often with increased cutting data.

UNSURPASSED FOR STAINLESS STEELS

High abrasive wear, poor chip breaking, built-up edges – milling stainless steels is one of the most demanding tasks in machining technology. "Such high demands require a perfectly sophisticated tool concept. Our newly developed BCM35M and BCM40M grades for milling stainless steels provide users with the perfect solution to these challenges," says André Feil.

PROPRIETARY HiPIMS COATING FOR MAXIMUM PERFORMANCE

Both milling grades are made of ultra-fine grain carbides with an optimized hardness-to-toughness ratio – i.e., abrasion resistance paired with fracture toughness. Boehlerit determined the chip formers and edge preparation after extensive simulations and application tests. The result: optimum cutting ability and perfect chip flow. André Feil: "We are breaking new ground with the coating and have developed a multilayer HiPIMS coating: It consists of alternating AlTiN and AlCrN individual layers. The multilayer structure results in excellent abrasion resistance, even at higher temperatures, combined with good fracture toughness. It also delays the formation of cracks. Extremely smooth layer surfaces minimize built-up edges and ensure excellent machining results when milling stainless steels."



The HiPIMS coating with multilayer structure completes Boehlerit's new solution for milling stainless steels

EXPERIENCE THE TECHNOLOGY BENEFITS LIVE

The CC800® HiPIMS is the fastest, most flexible and most economical PVD coating system on the market and the perfect platform for developing your own coating for your products! Trust it or see for yourself! In their exclusive Live Batch, tool manufacturers and users who want to set up or expand their own coating production can experience the coating technology of tomorrow at first hand in order to make an informed decision for their own production. You will learn everything about future-proof coating technology – without any obligation and tailored to your specific requirements.

The Live Batches offer the opportunity to exchange ideas directly with our experienced specialists. Clarify all your questions about coating technology and its possible applications. This can happen either on site – in Würselen at the largest coating center in the world or in one of the CemeCon branches around the globe. Or you participate conveniently from your own office via online Live Batch.

What you can expect from your Live Batch

We will show you in an individual live demonstration:

- **how easy, fast and flexible the handling of the HiPIMS coating system is.**
- **how effortlessly smooth, hard and tough coatings with adapted residual compressive stresses can be produced.**
- **how versatile the coating material portfolio of the CC800® HiPIMS is - from FerroCon®Quadro coating for inserts with a coating thickness of 12 µm to ultra-thin coatings for micro-tools.**
- **how quickly you can switch between different coating batches.**
- **how efficiently the entire coating process is designed.**

Let us inspire you and benefit from our know-how – WITH NO OBLIGATION. Book your EXCLUSIVE LIVE BATCH today and see the coating technology of tomorrow FOR YOURSELF!

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PREMIUM STARTS WITH ADVICE

80,000 tools per day. Individually coated on our own systems. What sounds like industrial mass production is actually a high-precision, customized process at CemeCon. Because behind every premium coating there is not only state-of-the -art technology, but also intensive personal support and decades of expertise.

CemeCon offers tool manufacturers much more than just a high-quality coating: the company sees itself as a partner at eye level – with comprehensive advice, modern tools such as order tracking, coating app, web catalog and perfectly coordinated order processing. The basis: the world's largest coating center for cutting tools, bundled expert knowledge at one location and continuous further development of all processes.

WELL-ESTABLISHED TEAM FOR MAXIMUM CUSTOMER PROXIMITY

"The fact that we combine all of our expertise in one place here in Würselen ensures a comprehensive and diverse wealth of experience from which our customers benefit. This allows us to work closely together across all departments. This leads to an optimal exchange of knowledge and ensures the best possible support for our customers in all matters relating to their premium solution," emphasizes Dennis Miranda, Head of Sales Support at CemeCon.

Personal exchange, fast response times and technical depth characterize the cooperation. From the technical field service to the back office and product management, everyone involved works hand in hand – flexibly, competently and solution-oriented. Whether on site, by telephone or online – customer-specific support is firmly anchored in the CemeCon system.

Close cooperation between all departments ensures the best solution for the customer

Dennis Miranda and the Sales Support team provide customers with individual and flexible support in the coating service

INDIVIDUAL COATING SOLUTIONS WITH A SYSTEM

The Coating App offers a very special service for those who want to get their own overview first: it provides initial recommendations for the right coating with just a few clicks – quickly, intuitively and available at any time. "Depending on the tool, application and the material to be processed, tool manufacturers receive a recommendation for the right coating material. This already defines 50 percent of the premium coating," explains Dennis Miranda. CemeCon then takes care of the finishing touches – such as variants, parameters and process steps – in close consultation with the customer.

Where the highest requirements meet complex applications, the engineering team at CemeCon combines a deep understanding of the process with the most efficient coating processes – HiPIMS and diamond – to develop a customized solution. The decisive factor here is not the process or the coating material alone, but the precise coordination of all parameters with the substrate, geometry and machining task. The individual coating configuration is developed on the basis of a sound analysis: coating material, coating thickness, tolerance, pretreatment, finishing – everything is optimally combined (more information on engineering on page 4–5). Experience shows: thanks to the close integration of all areas, the full potential for tool manufacturers can be exploited in engineering, and coordinated high-performance coating solutions are created.

SMOOTH PROCESSES THROUGH TO DELIVERY

CemeCon also sets standards in logistics and packaging. Whether with its own delivery service, specially developed transport boxes or established parcel services – the safety and punctuality of the supplied tools is paramount. In addition, digital order tracking ensures maximum transparency: "We want to give our customers more flexibility. They can look up when their tools will be ready for dispatch at any time," says Dennis Miranda.

What remains is a well-rounded overall package: successful precision tools are the result of an optimal substrate, well thought-out geometry – and a premium coating that is tailored to the respective application down to the smallest detail. CemeCon not only supplies coating materials, but also partnership-based support that makes the difference.

DO YOU HAVE ANY QUESTIONS?
OUR COATING SERVICE EXPERT TEAM
CAN BE REACHED AT
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CemeCon honors 34 long-serving employees in 2025

STRONG TOGETHER

This year, CemeCon honored 34 employees for their many years of loyalty and support. Colleagues who have been with the company for at least 10 years were honored, including two employees who have been with CemeCon for an impressive 35 years and three others who have been with the company for 30 years.

These numerous anniversaries reflect CemeCon's corporate culture: it is characterized by mutual appreciation, an inspiring working environment and a strong focus on collaboration. "Our long-standing employees are the foundation of our success. Their expertise, loyalty and close interaction with our customers make the difference - both in the quality of our work and in the support we provide to our customers worldwide," says CEO Dr. Oliver Lemmer.

CemeCon's corporate values of "respect, tolerance and fairness" create a working environment that not only promotes the personal development of employees, but also their motivation to meet the high demands of CemeCon's customers. The anniversary celebration provided a special moment to honor the people who have contributed to the company's success over the years.

With a strong team that builds on experience and commitment, CemeCon is optimistic about the future and would like to thank all those celebrating their anniversaries for their tireless commitment. Oliver Lemmer: "A modern working environment and a good business model are worthless without the most important success factor: a well-qualified and loyal workforce."

A total of 34 jubilarians were honored for their many years of loyalty and commitment to CemeCon (not all jubilarians in the photo)