CemeCon The Tool Coating

CUSTOMER MAGAZINE
FOR COATING TECHNOLOGY

FACTS

No. 57 September 2023

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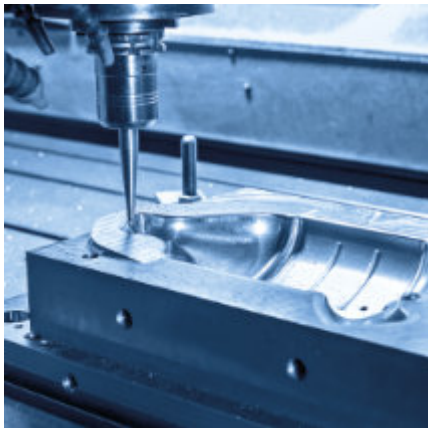

"The machining industry is experiencing a PARADIGM SHIFT due to the transformation of the automotive industry. This brings with it great challenges for both machinists and TOOL MANUFACTURERS, but also opportunities. The high-opportunity markets are quickly identified: ELECTROMOBILITY, MEDICAL TECHNOLOGY, TOOL AND MOLD MAKING, HEAVY MACHINING AND 3C. If you want to score in these highly competitive industries, you have to tailor your PRECISION TOOLS to the market and the requirements. Our COATING TECHNOLOGIES make the decisive difference here!"

Dr.-Ing. Beate Hüttermann, Dr.-Ing. Oliver Lemmer and Bernd Hermeler, Board of Management CemeCon AG (from left)

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ANCA and CemeCon deepen cooperation and bundle their know-how for outstanding tooling solutions

Imprint

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Circulation of English version: 4,300
Circulation of German version: 5,150

Photographs
Photographs unless otherwise indicated: CemeCon.
Cover: Paul Horn GmbH

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STRONG PARTNERS:
HORN AND CEMECON

SUCCESS STORY WITH HiPIMS CONTINUED

The tool manufacturer Horn has been coating its cutting tools with HiPIMS high-performance coatings in its own coating center since 2015. From the very beginning, the company has relied on market-ready solutions from CemeCon. Now Horn has received seven new CC800® HiPIMS systems for its in-house coating center – including peripherals for pre- and post-treatment of shank tools.

"With the HiPIMS COATING SYSTEMS, we as a tool manufacturer have the FLEXIBILITY to react immediately to changing market conditions and new customer requirements. Yes, even to cover completely NEW FIELDS OF APPLICATION."

Dr.-Ing. Matthias Luik,
Head of Research and Development at Horn

The quality of its cutting tools is the key to the market success of Paul Horn GmbH. In 70 countries on six continents, companies in the automotive industry, chemicals, aerospace, medical technology or in tool and mold making use the precision products of the Tübingen-based company.

The high-performance coatings of the tools also play a major role in the success. The company's own coating center at the company site offers Horn maximum flexibility, for example in the development of new coating solutions. And what makes many of the tool manufacturer's customers particularly happy is that fast delivery times are also possible for special tools and specific small series. From the very beginning, the partner for the operation of the systems has been the specialist CemeCon, which has developed the HiPIMS high-performance coatings to market maturity and economic efficiency. "For the current expansion and modernization of our coating lines, it was therefore out of the question for us to once again rely on proven expertise," says Managing Director Markus Horn, appreciating the cooperation with the technology and market leader.

COMPLETE COATING CENTER FROM A SINGLE SOURCE

With seven new CC800® systems, Horn is sustainably expanding its coating capacities in HiPIMS technology. Major parts of the periphery for the pre- and post-treatment of shank tools, such as cleaning sys-

tems, blasting technology and quality control, also come from the plant manufacturer CemeCon. Horn intends to take full advantage of the "more" in autonomy and performance gained with the support of its strong partner. CemeCon will continue to supply all consumables and take over maintenance services as well as individual user training and support. Furthermore, in addition to the operational business, the joint focus is on expanding the cooperation in research and development as well as the combined strategic development of new business fields for Horn's cutting tools. Managing Director Markus Horn is firmly convinced: "It is key partnerships like this with innovative strength that pave the way for us to remain successful in a dynamic market."

After all, CemeCon is also well aware of the challenges involved in manufacturing precision tools. "A large proportion of the tools manufactured at Horn are solutions that are directly adapted to specific machining processes," knows Inka Harrand, the responsible product manager at CemeCon. The right premium coating is just as important as the geometry and the material of the tool itself: "Only the interaction creates a solution that guarantees quality and enables productivity and durability."

EFFICIENT IN DAY-TO-DAY BUSINESS – HIGHLY FLEXIBLE IN COATING MATERIAL DEVELOPMENT

The new CC800® HiPIMS systems with their open technology are ideal for the changing requirements that characterize everyday life at the Tübingen coating center. Clear user interfaces and fast batch changes make work efficient even with small batch sizes and complex mold

Strong partners (from left): Dr.-Ing. Matthias Luik, Head of Research and Development Paul Horn GmbH, Maurizio Colecchia, Head of Coating Department Paul Horn GmbH, Dr.-Ing. Christoph Schiffers, Product Manager Technology CemeCon AG, Thomas Schaaff, Area Sales Manager CemeCon AG, and Frederic Neumann, Deputy Head of Coating Department Paul Horn GmbH

"It is KEY PARTNERSHIPS like this with INNOVATIVE STRENGTH that pave the way for us to remain SUCCESSFUL in a dynamic market."

Markus Horn, Managing Director Paul Horn GmbH

shapes. Handling the original CemeCon targets, which are an elementary building block for the production of the coating materials, is also very easy. As a result, the company produces completely smooth, droplet-free and low residual stress coatings with maximum adhesion and uniform coating thickness distribution of 1 to 8 µm for all tool sizes – technically possible even up to 12 µm.

There are almost no limits to HiPIMS technology: New coating materials can be developed quickly, precisely and economically from combinations of many elements of the periodic table. Coatings can be finished directly on an industrial scale. "In this way, we as a tool manufacturer have the flexibility to react immediately to changing market conditions and new customer requirements. Yes, even to cover completely new fields of application," says Dr.-Ing. Matthias Luik, Head of Research and Development at Horn, who is delighted with the potential of the HiPIMS coating systems. "We are thus securing important competitive advantages in the market and creating tangible benefits for our customers."

Paul Horn GmbH

Since 1969, Paul Horn GmbH, based in Tübingen, Germany, has been developing and producing grooving, longitudinal turning and slot milling tools that impress with their performance and reliability. The high-performance tools are used in a wide range of industries such as the automotive industry and its suppliers, aerospace, hydraulics/pneumatics, the jewelry industry, medical technology and mechanical engineering. In Germany, the company has already been the market and technology leader for years – not least thanks to the continuous advancement and optimization of processes and products. Thanks to the cooperation with the international locations as well as the numerous partners around the globe, Horn is able to reliably support customers worldwide.

www.horn-group.com

PAVING THE WAY FOR MACHINING MARKETS: ANCA AND CEMECON COOPERATE

PRECISION REDEFINED

Precision tools with highly specific properties in ever smaller batch sizes and with shorter development cycles – the demands of the machining markets are high. Those who have an eye on the entire manufacturing process of premium tools and know the critical success factors of each individual step have a clear advantage. When leading experts like ANCA and CemeCon join forces, extraordinary potential is created.

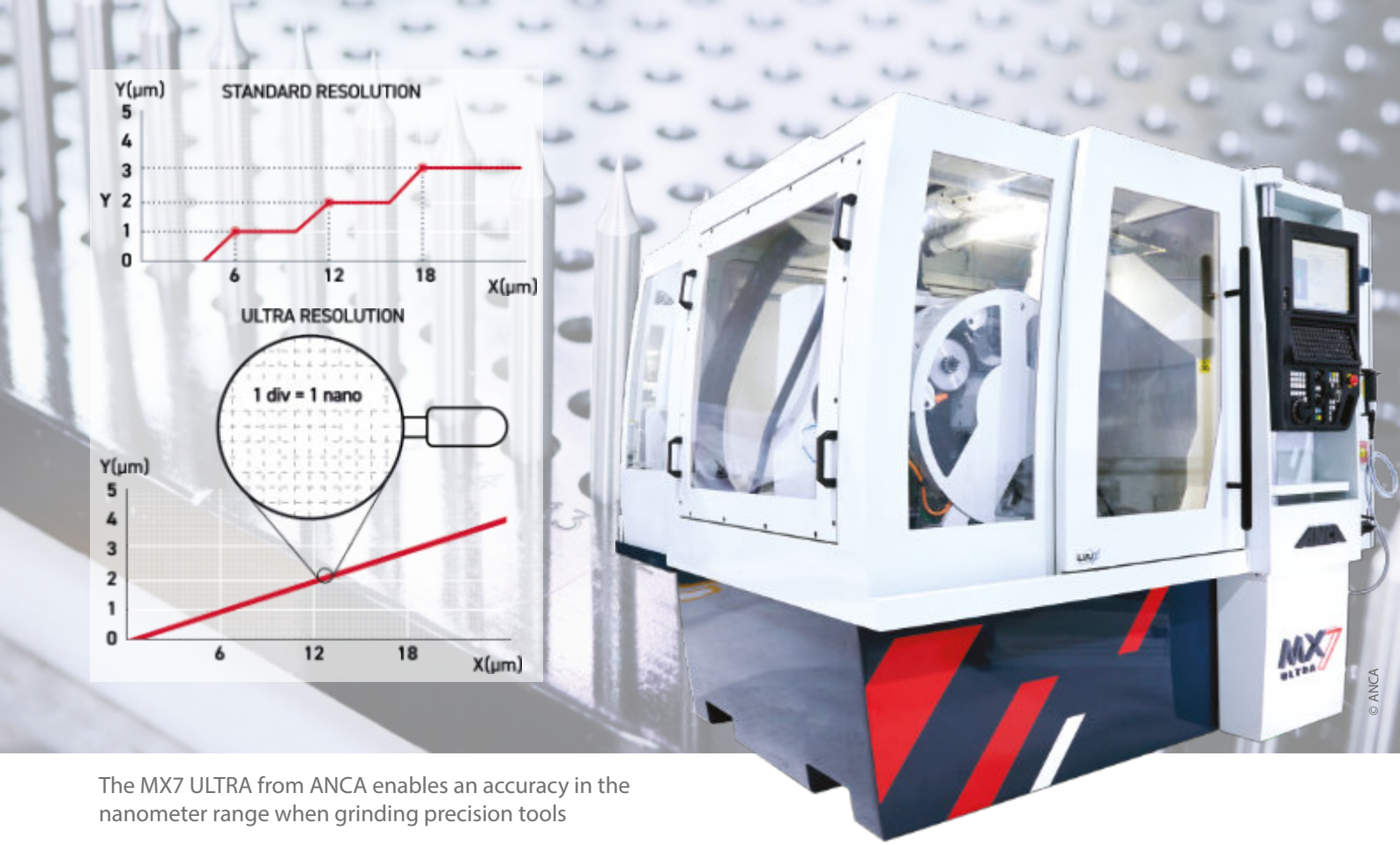
Both ANCA, a leading manufacturer of CNC grinding machines, and the coating experts at CemeCon take a holistic approach: For example, CemeCon advises tool manufacturers on the relevance of the geometry from the very beginning so that an optimum coating result can be achieved later. And grinding machine manufacturer ANCA also recognized the importance of optimum tool preparation for subsequent coating at a very early stage. "The best coating technology in the world cannot turn an inferior tool into a bestseller. All components – substrate, geometry and coating – must not only be of high quality, but also match perfectly. This is the only way to create an outstanding precision tool with which machinists can achieve top performance," the experts agree.

Optimal conditions for a cooperation that quickly brought positive effects. Thus, a loose know-how transfer has turned into a tangible cooperation. In May 2023, the management boards of both companies signed a promising extended cooperation agreement. The first practical and, above all, very market-relevant results were not long in coming.

CUTTING-EDGE TECHNOLOGIES COMBINED

In their joint development, the experts follow a simple equation: take tools that are ground with unprecedented high accuracy and surface quality, add the ideal coating material, and combine it all with the process know-how of both compa-

ANCA and CemeCon deepen their cooperation (from left): Edmund Boland, General Manager, AMT, ANCA, Dr.-Ing. Beate Hüttermann, CMO, CemeCon AG, Dr.-Ing. Christoph Schiffers, Product Manager Coating Technology, CemeCon AG, Martin Ripple, CEO, ANCA Group, and Dr.-Ing. Jan Langfelder, Global Key Account Manager, ANCA

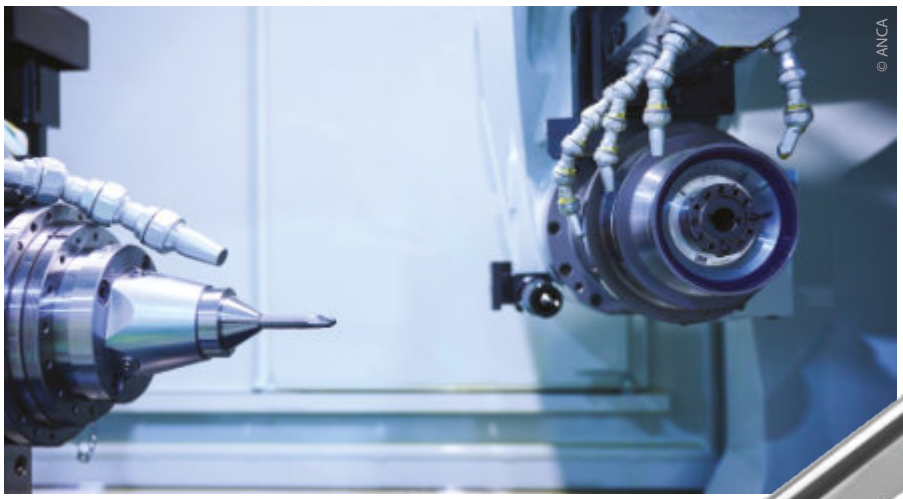


The MX7 ULTRA from ANCA enables an accuracy in the nanometer range when grinding precision tools

nies. With a tool solution made up of these factors, users should be able to achieve machining results that exceed all expectations.

The central component is ANCA's new ULTRA technology. The technology package is an upgrade for the company's MX series and now introduced in to the FX series at EMO 2023. It consists of a new nanometer control resolution, new hardware and software features, auxiliary equipment and a refined grinding process. "This enables the ULTRA series of machines to achieve a shape accuracy of less than +/- 0.002 mm for any profile – including ball nose and corner radius cutters. This produces cutting tools with outstanding surface finish, extremely high accuracy and concentricity. Market feedback has been enthusiastic even before the technology is rolled out to all machine ranges," say Thomson Mathew and Santosh Plakkat, product managers at ANCA, who were heavily involved in the ULTRA development.

CemeCon brings the HiPIMS coating material SteelCon® into play for the project. SteelCon® is extremely hard and yet very tough and adhesive. This results in very high wear resistance. Together with the dense layer structure and high thermal stability, these are top prerequisites for best performance in hard machining. The smooth surface ensures optimum chip and heat removal, thus increasing process stability. The result: significantly longer tool life and outstanding machining results. SteelCon® shows top performance



The combination of ULTRA technology and SteelCon® brings significant advantages to the user

Martin Ripple (left) and Dr.-Ing. Beate Hüttermann (right) sign the co-operation agreement between ANCA and CemeCon

when machining a wide variety of materials - hardened steels beyond 50 HRC, stainless steels, nickel-based alloys, titanium, CoCr and more. The coating material is also particularly suitable for micro tools.

Dr.-Ing. Christoph Schiffers, Product Manager Coating Technology at CemeCon: "The production of micro tools poses many challenges – especially with regard to coating. Cleaning small and very small tools is demanding. Smooth surfaces are crucial for success in micromachining, because defects (droplets) can, in the worst case, lead to tool breakage. To maintain the sharpness of the cutting edges, low-stress coatings are essential. Achieving a homogeneous coating also requires adapted charging. Our HiPIMS technology masters the challenges skillfully. The combination of grinding technology and coating technology can bring further important advantages to the market here."

ACHIEVING OUTSTANDING RESULTS TOGETHER

The expert teams from ANCA and CemeCon now wanted to explore together the potential of ULTRA technology in combination with SteelCon®: For this purpose, the same tools were ground on standard machines and on ULTRA machines. This was to show what advantages would result in terms of the coating process and also in terms of the machining results. Can a significant difference in tool life be identified? Does this make more aggressive cutting strategies conceivable? What new possibilities are opening up?

CemeCon uses high-precision measuring technology to precisely analyze customers' cutting tools. CemeCon also brought this know-how into the cooperation with ANCA and into the joint development. It is not only under the microscope that it becomes apparent that ANCA's ULTRA technology in combination with SteelCon® brings significant advantages to the user. The two co-operation partners will reveal exactly what these are during EMO 2023 in Hanover.

ANCA CNC Machines

ANCA CNC MACHINES

ANCA CNC Machines is one of the world's leading manufacturers of CNC grinding machines. The company was founded in 1974 in Melbourne, Australia, where it still has its global headquarters and production. ANCA CNC grinding machines are used to produce precision cutting tools and components in a wide range of industries of the future, including power generation, woodworking, automotive, aerospace, electronics and medical. The vertical integration of ANCA allows ANCA to maintain very high quality standards without compromise and ensures maximum flexibility for specific customer requirements. With offices in the UK, Germany, China, Thailand, India, Japan, Brazil and the USA, as well as an extensive network of sales and service partners, ANCA provides local support to customers worldwide.

machines.anca.com

TOOL QUALITY SIGNIFICANTLY IMPROVED WITH DIAMOND

With passion and commitment, MOLDINO Tool Engineering, Ltd. develops precision tools and manufacturing strategies for various industries, first and foremost for tool and mold making. For many years, the company has had its precision tools coated with diamond at CemeCon. Kazuyuki Kubota, Director of the MOLDINO plant in Narita, reveals what is special about the partnership.

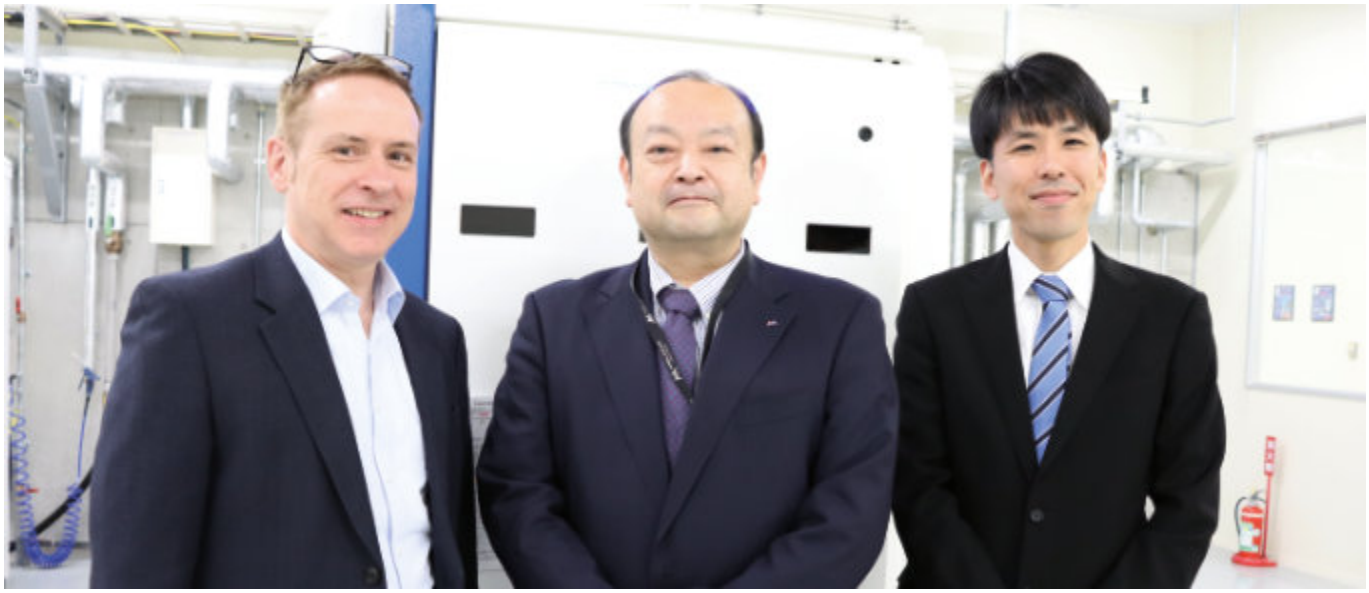
WHAT IS SPECIAL ABOUT CEMECON DIAMOND COATINGS?

Kazuyuki Kubota: Diamond coatings are very demanding. CemeCon has decades of experience in this and is a pioneer in this field. The coating technology is precisely tailored to cutting tools. The experts have developed coordinated processes for all production steps. This makes the diamond coating technology unique and sets CemeCon apart from other suppliers. That is why many manufacturers around the world rely on it to optimize their cutting tools – including MOLDINO. In close cooperation, the engineers at CemeCon K.K. have configured the coating specifications precisely for our requirements.

WHAT ARE THE ADVANTAGES OF CEMECON DIAMOND COATINGS FOR MOLDINO?

Kazuyuki Kubota: MOLDINO has specialized in cutting tools and process optimization in tool and support for mold making. The CemeCon diamond coatings offer excellent solutions for this market. In addition, we are linked through a long-stand-

From left: Alexander Marxer, Managing Director CemeCon K.K., Kazuyuki Kubota, Director of the MOLDINO plant in Narita, and Tomoya Sasaki, Materials Development Manager at MOLDINO



"The COATING TECHNOLOGY is precisely tailored to CUTTING TOOLS. The experts have developed COORDINATED PROCESSES for all production steps. This makes the DIAMOND COATINGS UNIQUE and sets CemeCon apart from other suppliers."

Kazuyuki Kubota, Director of the MOLDINO plant in Narita

ing partnership. As a result, the experts know MOLDINO's specific requirements and needs inside out. The excellent technical advice helps us to continuously improve the performance and quality of our tools. We are sure that together we will be able to respond flexibly and successfully to the increasing demand and development of the market.

ARE YOU SATISFIED WITH THE COATING SERVICE AND QUALITY?

Kazuyuki Kubota: We are very satisfied with the coating service. CemeCon has always supported us well. The coatings have significantly improved the quality of our cutting tools and enable us to achieve outstanding results. For example, our plant in Yasu focuses on precision tools for graphite machining. The product quality we have achieved together is impressive. No one else can match it.

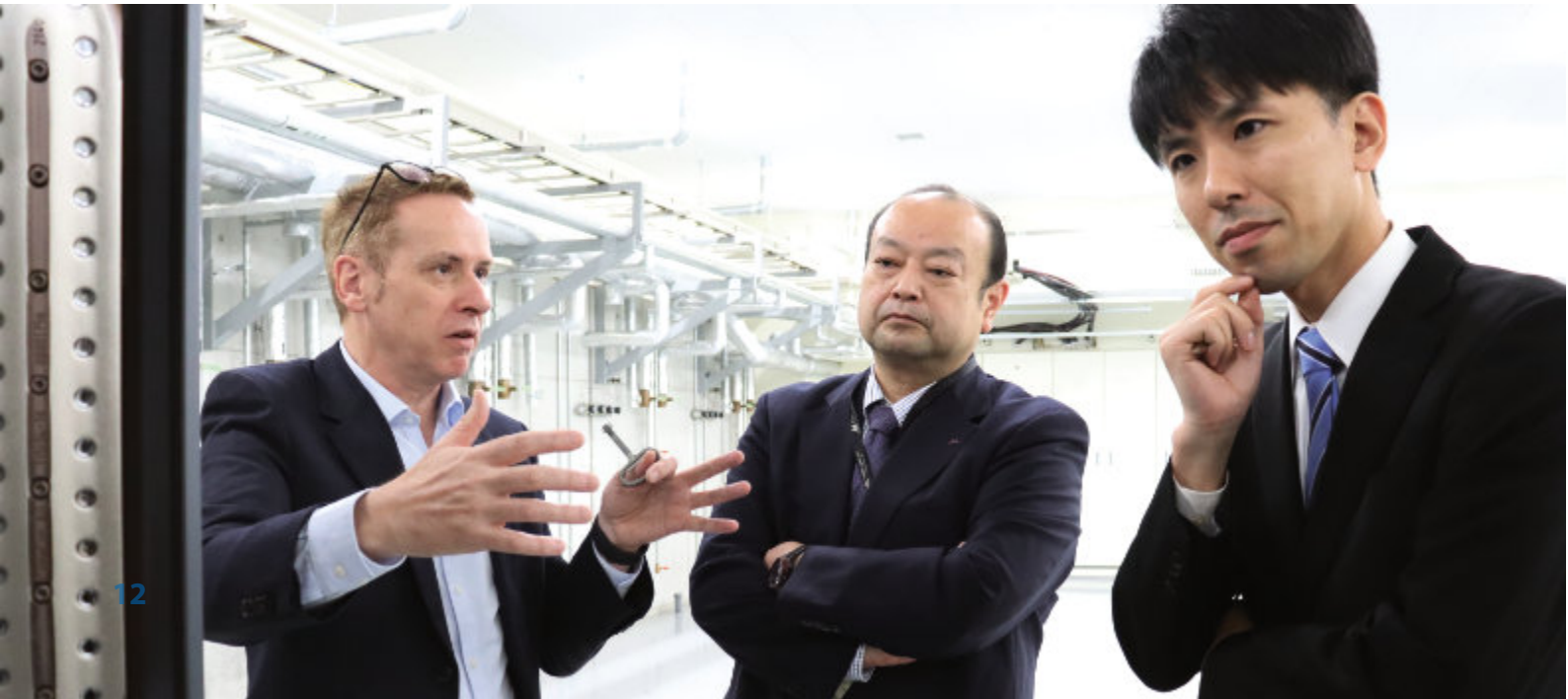
HOW HAS THE COOPERATION WITH THE SUBSIDIARY IN JAPAN CHANGED?

Kazuyuki Kubota: With the establishment of CemeCon K.K., we can now communicate effectively with each other in Japanese. This takes the partnership to another level. The exchange of information is even easier and faster. Now, even employees without English language skills can contact CemeCon at any time. We are very happy about the fast and smooth communication in Japanese. This strengthens mutual trust.

WHAT IS SPECIAL ABOUT THE COOPERATION WITH CEMECON JAPAN?

Kazuyuki Kubota: Currently, MOLDINO mainly cooperates with

The intensive consulting by Alexander Marxer (left) and the team of CemeCon K.K. has once again significantly improved the quality



CemeCon and MOLDINO have enjoyed a special partnership for decades. With CemeCon K.K. it was strengthened

CemeCon in diamond coating. But there has also been a lively exchange in the past in research and development with HiPIMS technology. Alexander Marxer, Managing Director of CemeCon K.K., and Dr. Stephan Bolz, Executive Director Technology & Development at CemeCon, explained the coating technology to us in detail. During a visit to the coating center in Würselen, I was able to see the various systems in action. The perfect all-round support!

We will continue to use their technical support for diamond coating in the future. We would like to continue to work closely together and receive advice at the highest level – also for new solutions with HiPIMS. Because this technology is also exceptional and promises great potential.

WHAT DO YOU WISH FOR THE FUTURE?

Kazuyuki Kubota: Coating a batch of tools with diamond is time-consuming. Thus, given the high labor costs in Japan, the current cost of diamond coating is relatively high. We hope that CemeCon can shorten the coating time or increase the performance at the same cost. Similar to what they have done for PVD coating with HiPIMS.

We would like to thank Alexander Marxer and CemeCon K.K. for the great support and the smooth transfer of the processes we developed with Germany to the Japanese subsidiary.

MOLDINO Tool Engineering, Ltd.

MOLDINO is part of Mitsubishi Materials Corporation. The company, with over 700 employees worldwide, develops and manufactures precision tools for various industries, such as mainly automotive and difficult cutting technology. Special emphasis is placed on tools for mold making. MOLDINO optimizes its customers' manufacturing processes with high-quality cutting tools. The product range includes milling cutters, drills and other special tools for specific applications. The focus for MOLDINO is always on increasing customers' machining efficiency, reducing costs and improving product quality.

www.moldino.com/en/

IND-SPHINX INVESTS IN THE SECOND CC800® HiPIMS COATING SYSTEM

ALUCON® ENSURES SUCCESS IN CELL PHONE PRODUCTION

The IND-SPHINX/AXIS team (from left): Neeraj Kumar, Chattar Pal, Manu Chauhan, Manohar Lal and Amit Kumar

The Electronics industry, Micromachining, Aerospace, Tool and mould making and Medical technology – the key to High-precision machining of the Micro components and finest contours are tools that are only a few millimetres or even tenths of a millimetre thin. The Indian tool manufacturer IND-SPHINX/AXIS is an expert in micro-machining and even grinds tools with a diameter of 15 µm. High-precision tools require a High-precision coating, and so IND-SPHINX/AXIS has relied on CemeCon's coating technology for many years. With AluCon®, the experts have enjoyed enormous business success with tools for the 3C industry (Computer, Communication and Consumer Electronics). That's why IND-SPHINX/AXIS is now investing in another CC800® HiPIMS.

For over 35 years, IND-SPHINX/AXIS has stood for Quality, Precision and Consistency. In Parwanoo, at the Himalayan foothills, the Indian company, at its world-class facilities, develops and manufactures High-Precision tools for a wide range of applications, such as mobile phone production, Micromachining, Aerospace and other niche areas. "Our claim and promise to our customers are products of the highest quality, precision and consistency. We rely only on world-class technology for the entire workflow. CemeCon HiPIMS coatings have been the key to our business success in tools for producing metal housings and parts for cell phones, Micromachining and machining of composites in Aerospace. Only with HiPIMS coatings can we grow in this these highly demanding industries," says Ronuk Taneja, Director and CEO at IND-SPHINX/AXIS.

When it comes to coating technology, IND-SPHINX/AXIS has relied on CemeCon for years and has already integrated several systems – CVD Diamond and HiPIMS – into its own production. According to Ronuk: "The coating lines are a valuable

building block in quality assurance. The autonomy and wide range of manufacture not only gives us maximum flexibility for specific requirements but also allows us to maintain our high-quality standard without compromise. This ensures our success! Whether diamond or HiPIMS – we can always rely on CemeCon's equipment and support on any day, at any hour." To expand capacity and meet the high demand for high-performance micro tools for Metal machining in the 3C industry and tools for the Aerospace industry, IND-SPHINX/AXIS has now invested in a second CC800® HiPIMS.

AN ACE IN THE ALUMINIUM MACHINING

High-end cell phones are much more than just commodities. They are status symbols and trendy products. "The machined surface on the aluminium frames, for example, must be perfect. Smooth tool coatings, especially in micro and ultra-micro dimensions, are crucial here. HiPIMS creates such extremely smooth coating solutions that also meet the low tolerances of miniature production. This ensures optimum chip removal. Thanks to the reduced friction, the temperature in the machining process is reduced. In aluminium machining, our HiPIMS coating material AluCon® brings additional advantages: low affinity of TiB_2 to non-ferrous metals prevents built-up edges and protects against sticking of the aluminium to the tool. The excellent adhesion of HiPIMS coatings also ensures that even under very demanding conditions, the coating remains where it is needed – on the cutting edge," says Manish Adwani, Managing Director of CemeCon India, explaining the advantages of HiPIMS in the coating of micro tools and in aluminium machining.

In order to run the high cutting speeds typical in micromachining with process reliability, the precision tools need very sharp cutting edges. This means that both low coating thicknesses and an exact reproduction of the filigree geometry after coating are required here. With HiPIMS, ultra thin coatings around 1 µm are possible, which neither influence nor unintentionally round the cutting edges. Even with complex tool geometries, the homogeneous layer growth around the cutting edge also ensures a uniform coating layer thickness distribution within very narrow tolerances.

CLOSE PARTNERSHIP

"When deciding on another CemeCon coating system, we were not only convinced by the reliable, cutting-edge technology, but we also feel very well looked after by CemeCon and have maintained a close partnership for a long time. Whether here in India through Manish Adwani or the German team in Würselen – the experts are there 24x7 to help us in word and deed so that we can fully exploit the possibilities of the systems and develop new customised solutions for our tools," adds Ronuk Taneja.

IND-SPHINX Precision Ltd.

IND-SPHINX® PCB DRILLS | PCB ROUTERS

AXIS® Tools for mICRO mACHINING

IND-SPHINX Precision Ltd., located in Parwanoo at the foot of the Himalayas, was founded in 1987 in cooperation with SPHINX WERKE MULLER A.G. from Switzerland. The high-quality precision tools are known worldwide under the two brands IND-SPHINX and AXIS. IND-SPHINX is an expert in all kinds of PCB tools for the PCB industry. AXIS is known for High-precision solid carbide micro and macro tools with diameters from 15 microns to 20.00 mm. They are used in a wide range of industries, including Electronics, 3C, Micromachining, Automotive, Aerospace, Jewellery, Dental, Medical as well as Tool and mould making. To meet the high-quality requirements of demanding markets, IND-SPHINX relies on Swiss, German and Japanese CNC Grinders, accurate German and Japanese measuring equipment and high-quality European technology.

indsphinx.com axis-microtools.com

INCREASE PERFORMANCE WITH DIAMOND

Anyone who thinks that diamond coatings are only suitable for shank tools and that PCD is always required on cutting inserts in corresponding applications is mistaken: Diamond coatings can also be used excellently for cutting inserts. The tools achieve excellent results when cutting CFRP and GFRP, graphite, non-ferrous metals and plastics.

In many industries such as aerospace or tool and mold making, shank tools with multilayer diamond coatings from CemeCon are now indispensable. With their nanocrystalline, extremely smooth and hard surfaces, they are often superior to other solutions in terms of performance, quality and precision. And even with diamond-coated cutting inserts, graphite, non-ferrous metals or fiber-reinforced plastics can be machined excellently.

COMPLEX GEOMETRIES, MORE CUTTING EDGES AND HIGH FEEDINGS

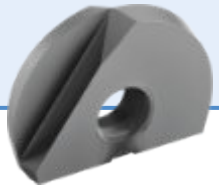
"On the way to optimized machining, the numerous advantages of diamond coatings can also be used profitably for cutting inserts. Extraordinary cutting edge geometries, multi-bladed cutting edges and high feed rates are keywords that make diamond-coated inserts a good alternative to PCD tools," explains Inka Harrand, Product Manager Cutting Inserts at CemeCon.

Diamond coating materials for cutting inserts

CCDia®CarbonSpeed

for graphite, carbide green bodies and ceramic green bodies

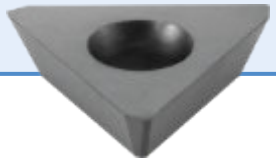
Composition:
Multilayer, sp^3
Color:
Grey
Max. operating temperature:
650 °C
Microhardness:
10,000 $HV_{0,05}$
Coating thickness:
7 µm



CCDia®FiberSpeed

for fiber reinforced plastics, aluminum with high Si content, and ceramics

Composition:
Multilayer, sp^3
Color:
Grey
Max. operating temperature:
650 °C
Microhardness:
10,000 $HV_{0,05}$
Coating thickness:
9 µm



CCDia®MultiSpeed

for fiber reinforced plastics, aluminum with high Si content, and ceramics

Composition:
Multilayer, sp^3
Color:
Grey
Max. operating temperature:
650 °C
Microhardness:
10,000 $HV_{0,05}$
Coating thickness:
14 µm

CCDia® COATINGS…

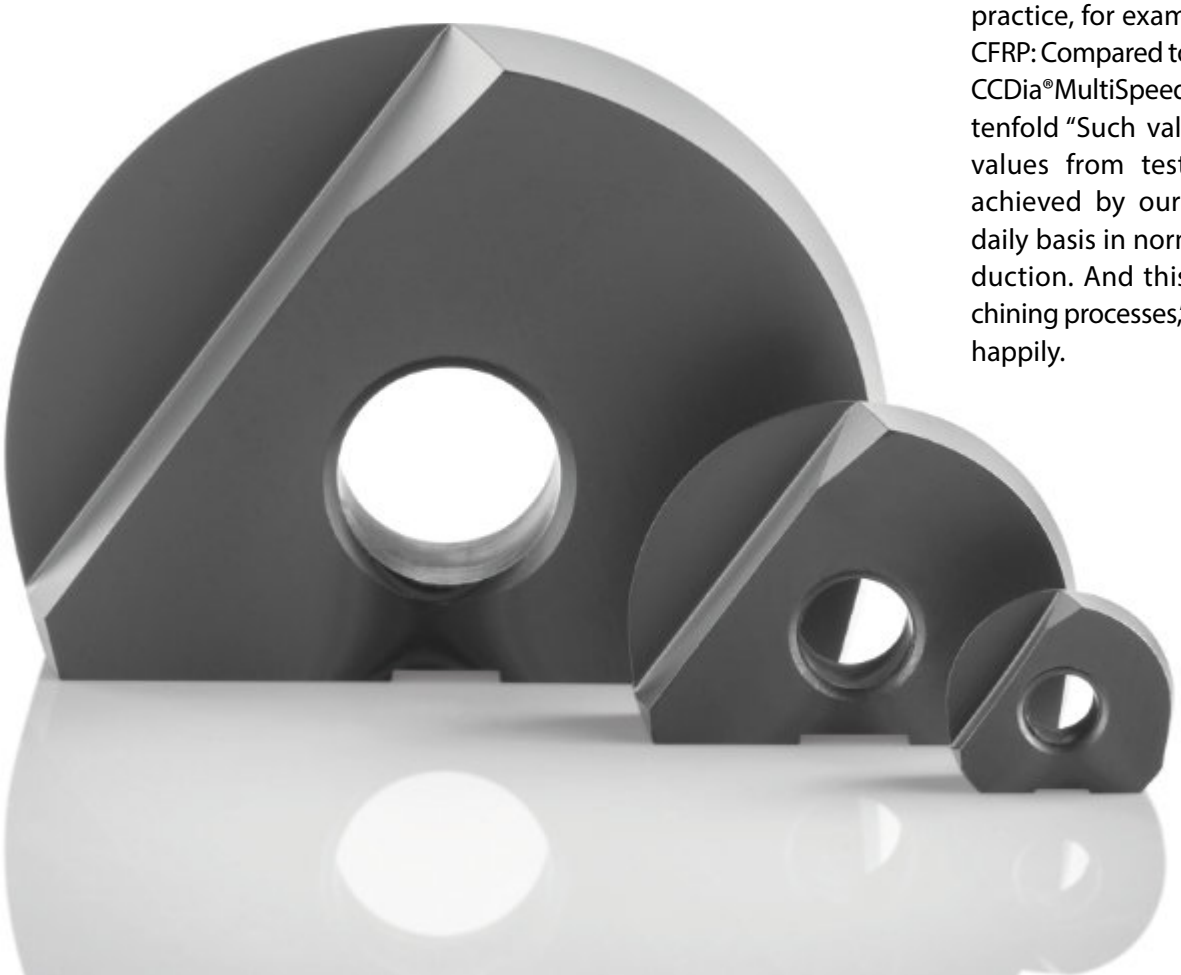
- have excellent coating adhesion;
- have the necessary microhardness of 10,000 $HV_{0.05}$ for maximum resistance to abrasive wear;
- have an extremely smooth and fine crystalline surface topography for good chip flow with rapid heat dissipation via the chip;
- do not affect tool microgeometry.

Especially positive insert geometries with bore can be coated with diamond in a particularly economical way. The chip shape geometry is not altered, as the diamond coatings grow directly on the substrate surface and thus precisely reproduce the geometry. In addition, a diamond-coated carbide cutting edge is stable and very robust. This enables high feed rates and is particularly advantageous for roughing operations.

Three multilayer diamond coatings from CemeCon are particularly suitable for cutting inserts: CCDia®CarbonSpeed is the ideal solution for graphite as well as carbide and ceramic green bodies, CCDia®FiberSpeed and CCDia®MultiSpeed for fiber-reinforced plastics, AlSi alloys and composites. Whether in Germany, China, USA or Japan – in all CemeCon coating centers, users can have their tools coated in the same quality with the same coating specifications. Nobody has to make any concessions here.

10 TIMES TOOL LIFE

Diamond-coated cutting inserts have already proven themselves in practice, for example when drilling CFRP: Compared to uncoated inserts, CCDia®MultiSpeed increases tool life tenfold "Such values are not peak values from test series, but are achieved by our customers on a daily basis in normal everyday production. And this with stable machining processes," says Inka Harrand happily.



FAST AND SUCCESSFUL TO IN-HOUSE COATING

Faster production, full quality control, no costs for job coaters – the advantages for an in-house coating line are obvious. However, tool manufacturers often shy away from this for fear that they would not be able to cope with it. With CemeCon as a partner, this concern is completely unfounded. Because with HiPIMS – the best coating technology on the market – and training "made in the USA" by the coating experts at CemeCon Inc. the vision becomes a business.

When comparing the tool grinding workflow and the coating workflow, it quickly becomes clear that the same factors are important in both processes: The central element in the grinding of precision tools is, of course, the grinding machine. But without the right peripherals – grinding wheel, cooling lubricant, coolant filter system, clamping equipment, etc. – and without training how to use of the technology, the manufacturer will not produce competitive tools even with the best machine.

In the coating center, the CemeCon team works every day with the same technology that is installed at customers' sites

THE PERFECT COMBINATION: HiPIMS TECHNOLOGY AND TRAINING FROM CEMECON

It's the same with coating: The CC800® HiPIMS is the best coating technology available on the market. And yet it is the sum of many small details that turns a ground tool into a perfectly coated tool. For example, 50 percent of the success depends on the periphery – the cleaning and pretreatment of the tools. And of course, training is crucial here as well.

CemeCon has years of experience with every step of the coating process and, just as importantly, the ability to share that knowledge. CemeCon, Inc. has provided coating services to the North American marketplace for almost 20 years and understands the challenges associated with both operating and growing a coating facility. Two new CC800® HiPIMS coating systems were installed earlier this year in Horse-

heads in order to respond to increasing demand following the additions of SteelCon®, FerroCon®Quadro, MultiCon and InoxaCon® Plus.

Eli Roberts, technical manager at CemeCon, Inc.: "One of the biggest advantages we have over our competitors is that we actually use the same coating and peripheral equipment as our customers on a daily basis. If we install equipment at a customer as part of their own in-house coating facility, we have it in ours and work with it day in and day out. That's why our team knows our customers' in-house coating line, processes and workflows down to the smallest detail, and is also so good at helping them understand the intricacies of the CC800® HiPIMS. Customer training does not differ from that for our own employees. Even after the installation is completed, our experienced technicians are on-hand to answer any questions a customer might have in regard to their coating system or processes." This quickly gives tool manufacturers the confidence and sovereignty to easily master the coating process and respond to the changing needs of the machining sector.

The company's own coating center in Horseheads brings further advantages: The experts at CemeCon, Inc. know the U.S. market, its special requirements and peculiarities very well and use this knowledge every day when coating precision tools. There is no standard program here, but solutions specially adapted to the U.S. market. Jeff Barlow, President at CemeCon Inc.: "Our success is based on our customer's success. It is easy to install and learn how to run equipment. The real challenge and key to success is understanding the entire process from start to finish. If we know something, it is on us to share it and help our customers apply it. This commitment is what sets us apart from others."

The CemeCon Inc. team knows the processes inside out and can deliver the best coating training in the USA

New President at CemeCon Inc.

Jeff Barlow was named the new president of CemeCon, Inc. in November 2022. His return to the company brings extensive knowledge back into the organization due to having spent time in customer and internal technical support, engineering, and production leadership.

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