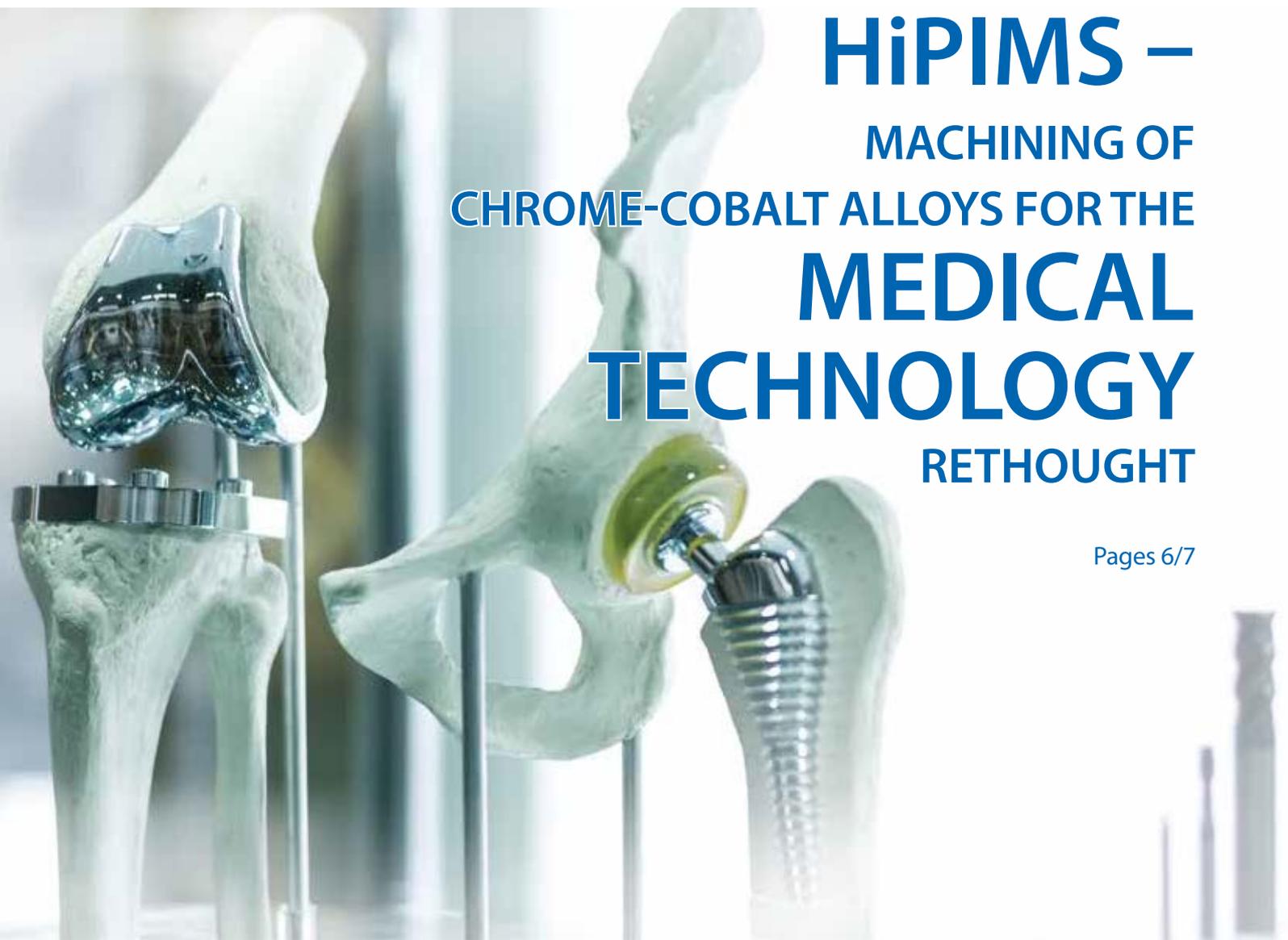


FACTS



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CEMECON TECHNOLOGY OFF TO A FLYING
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EXTRA SHARP – EXTRA LONG

CCDia® AeroSpeed® OPENS NEW HORIZONS
IN RELIABLE CFRP MACHINING

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ON TO NEW MARKETS!

High-performance composites for lighter aircraft, highly abrasive graphite in electrode production and for the manufacture of molds for curved smartphone displays, biocompatible alloys for artificial hip and knee joints and ceramics for flawless, durable dentures – premium coatings from CemeCon are used in the processing of many impressive, future-oriented materials. And they always provide crucial benefits for the users: short production time, better workpiece surfaces and high process reliability.

However, the range of topics we have compiled for you is only a small selection of those available. CemeCon is about much more: [New materials for new business](#) is our driving force behind the worldwide expansion of service and technology. Together with the manufacturers of precision tools, we are stepping forward on our route to generate new successes resulting from changes in the machining industry – for example with research cooperations for even more efficient coating specifications based on our HiPIMS and diamond coating materials.

Success on the global market requires local action – markets, customer requirements and cultures differ. “Think Global, Act Local” drives CemeCon teams in Europe, Asia and the American continent.

Yours sincerely,



Dr Toni Leyendecker



Dr Oliver Lemmer



Bernd Hermeler



Executive board of CemeCon AG (from left):
Dr Oliver Lemmer, Dr Toni Leyendecker and Bernd Hermeler.

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Hard cutting at
Boehlerit with HiPIMS



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CCDia®CarbonSpeed for
the production of dental implants

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CEMECON GOES ARGENTINA

Big country, high mountains, endless sky – Argentina is a country with immense potential. To establish itself there, an enterprise needs good ideas and strong partners.

Coating.tech is the name of the brand new company based near Córdoba, Argentina, offering job coating services to the Argentinian market from last April. It was born from the collaboration between Argentinian company Tantal and the Spanish company Flubetech.

“It's a little like the tango” says Christoph Schiffers, Product Manager Coating Technology at CemeCon, of his experiences with

the southernmost country of Latin America. It is a great advantage to have an experienced partner like Flubetech in Barcelona at your side; fluent in the language and well-versed in the Argentine market. Schiffers has great respect for CemeCon's Spanish partner: “These are really good people. They have managed to establish themselves well in the Spanish market since implementing our PVD technology.”

THE VERY FIRST CEMECON PLANT IN SOUTH AMERICA

Coating.tech works above all for its mother enterprise Tantal which is managed by José Taglioretti, a manufacturer of cutting inserts for advanced threading solutions for the oil and gas industry, that exports more than 50% of its production. “Thanks to CemeCon coatings, our machining tools now have a real market advantage with regard to service life and manufacturing accuracy,” Production Manager Verónica Taglioretti of Tantal is pleased to announce. Other well-known companies such as big car manufacturers operating in Argentina were quickly convinced of CemeCon premium quality at Coating.tech.

Tantal and Flubetech made this work: In Argentina, the first CemeCon plant recently started successfully at the commercial coating company Coating.tech.

Production Manager Verónica Taglioretti of Tantal is pleased: The first CemeCon plant recently started successfully at Coating.tech.



COATING.TECH ▶

BY TANTAL-FLUBETECH



Coating.tech is offering job coating services in Argentina from last April.

“CemeCon supported us in establishing our PVD technology on the Iberian peninsula and was ready to move with us to Argentina,” says Carles Colominas, CEO of Flubetech.

THE IDEA BEHIND EVERYTHING: NETWORKING

Top technology is a decisive factor in establishing oneself internation-

ally, but it is not the only one. For Schiffers, successful networking is just as important, as the Argentine example shows: “To begin: Flubetech in Spain was an ideal springboard,” he asserts. “Thanks to the long trade tradition between the two countries, merchandise trade is much simpler than from Germany to Argentina.” He continues: “We want to keep on expanding internationally in the long term, including across Latin America. And always together with our partners, like Tantal and Flubetech.” CemeCon has made a big step forward with the plant in Argentina, the next step is Mexico.

Diamond Coatings

New Materials | New Business



coatings.cemecon.com

CEMECON
The Tool Coating

PROCESSING CHROME-COBALT ALLOYS WITH HiPIMS

Endoprosthetics is a growth area. Increasing life expectancy, extreme sports with greater risk of injury or deterioration due to obesity are the reasons for the increasing number of joint implants. During their manufacture from complex chrome-cobalt alloys, HiPIMS-coated tools provide the surface quality that is essential to medical applications.

Our knee- and hip-joints render top performance every day. Thanks to modern materials, medical technology can maintain the functionality of our musculoskeletal system into advanced age or reestablish it after an injury with an artificial replacement. Chrome-cobalt alloys are among the most useful materials for modern endoprosthetics. They easily support permanent high peak loads in artificial knee- and hip-joints. Thanks to their biocompatibility, they fuse easily with body

tissue and they also show no signs of corrosion after many years.

“The alloys used are both hard and very tough, and have reduced thermal conductivity, which results in high cutting edge temperatures during machining”, says Inka Harrand, Product Manager for indexable inserts at CemeCon, as she describes the processing challenges. Pressure and heat can lead to strain hardening at the surface of the implant. The expensive blank

turns into rubbish. “That’s why good cooling is important. It is more effective to reduce the heat generation as much as possible.” Here, InoxaCon® has two advantages: The smooth coating surface decreases friction. Thanks to the superior film properties, only 1.5 µm or 3 µm coating thicknesses are required. Hence, the cutting edges remain so sharp that feed and cutting speed can be chosen uncompromisingly for minimal cutting forces, i.e. small pressure. In this way, InoxaCon® re-



CHROME-COBALT ALLOYS for endoprosthetics place **EXTREME DEMANDS** on cutting tools. Adapted InoxaCon®- coating specifications produce **HIGH-QUALITY SURFACES**.

liably prevents work hardening and guarantees process stability.

WEAR PROTECTION AND TEMPERATURE STABILITY THANKS TO INTELLIGENT COATING SPECIFICATIONS

The quality of the milled surfaces is decisive for the healing process and a firm seat of the implant in the bone. Conventionally, the required degree of surface roughness is obtained through multistage polishing. Intelligently adapted tools with InoxaCon® coating specifications produce such a perfect result while milling that there is no need for

extensive polishing. Shorter process times mean more efficient automated manufacturing. The superior surface of the machined implant opens the door to the medical sector for cutting tool producers.

Their corrosion protection and resistance to acids also predestine the chrome-cobalt alloys for use in the mouth cavity. "Their coefficient of thermal expansion also makes them suitable for tooth replacements of chrome-cobalt alloys, it corresponds to that of ceramics", describes Harrand. "No cracks arise between the materials during heat treatment." HiPIMS coatings are ap-

plied to very delicate tools for the manufacture of crowns, bridges, or inlays. Particular pretreatments of carbide make maximal adhesion possible even here without changing its microgeometry.

"Demands on quality and precision are very high in medical technology. But so they are in other security-related areas", explains Harrand. "That's why we can apply our experience from over 30 years of tool coatings. A successful example of how we apply CemeCon technology – leading in diamond, sputter and HiPIMS coatings – to more and more applications and areas."

In medical technology are **DEMANDS ON
QUALITY AND PRECISION** very high.
CEMECON-TECHNOLOGY – leading in diamond,
sputter and HiPIMS coatings – can apply
SUCCESSFULLY TO THE APPLICATIONS.



HIGH-PERFORMANCE CEMECON COATINGS – EVEN IN EXTRA-THICK

Milling and turning cutting inserts, any way you like. They machine all imaginable components: whether gears for wind turbines weighing several tons or turbine blades for aircraft engines. The smooth, hard and at the same time tough HiPIMS coatings from CemeCon are the key for maximum performance when processing the hardest, most challenging materials. Extra thick coatings make much longer service lives for tools possible.

FerroCon®, InoxaCon®, AluCon® – this family of coating materials is the current top favorite for premium coatings of cutting inserts. And for good reason. “With HiPIMS technology, tool manufacturers don't need to compromise anymore. HiPIMS combines the advantages of all PVD coating processes: denser coating morphology, harder coatings, lower residual stress in the film, excellent adhesion, and thermal stability”, explains Inka Harrand, product manager for cutting inserts for CemeCon. The positive machining results of many customers supporting that statement.

HiPIMS is the rigorous further development of the sputter process proven at CemeCon for decades. Harrand is convinced that “for developers, the technology offers enormous potential. In principle, almost any material can be deposited with HiPIMS: the direct transfer from

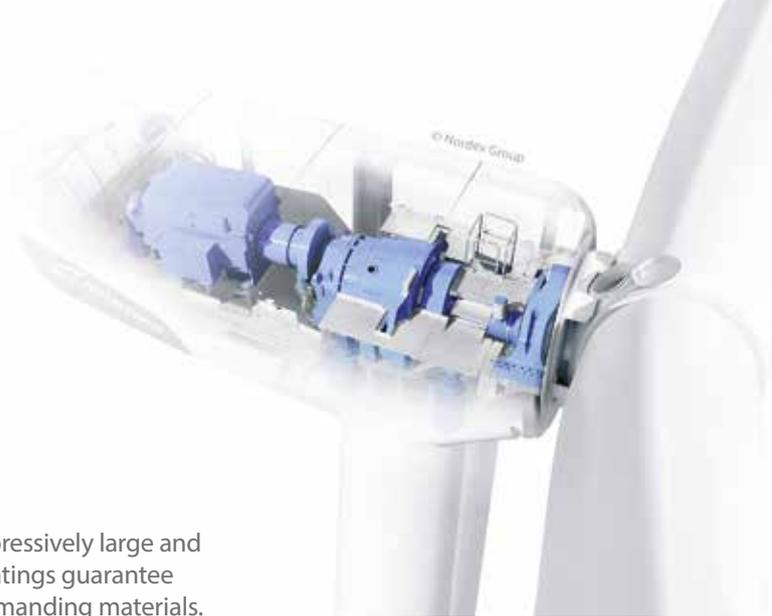


CemeCon-Premium coatings are specifically designed for the tool geometry and material as well as for the specific machining task.

solid state into plasma overcomes the limits of traditional methods.” An enormous flexibility that helps anyone working on new products and solutions.

ALSO IN EXTRA THICK VERSION – WITH HIPIMS, EVEN BETTER

Excessive residual stress restricts coating thickness to a mere 3 µm for conventional coating processes. HiPIMS is game-changing. The plus variants of FerroCon® are more than twice as thick at 8 µm. “And thanks to the grain refining effect of HiPIMS technology, the thick coatings are denser, more regular, and tougher than before. This has even more positive effects on service life,” explains Harrand. Additional plus: The high metal ionization produces a very uniform coating distribution all over the insert with excellent coating adherence on complex tool geometries.



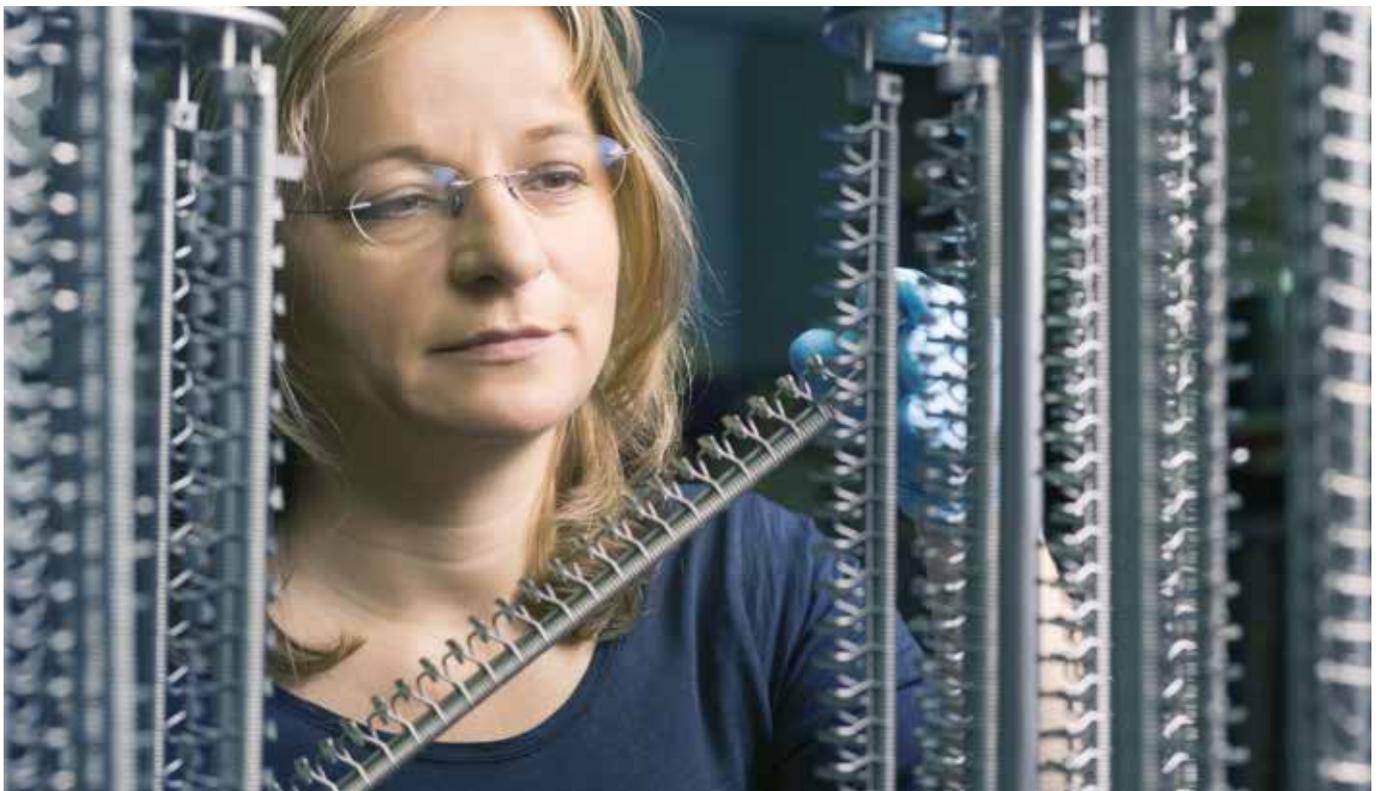
Gear components of wind power plants are impressively large and must withstand great forces. FerroCon® Plus coatings guarantee maximum performance in the processing of demanding materials.

OWN PRODUCTION LINE FOR GREATER PROCESS STABILITY

For the coating process of cutting inserts, CemeCon has set-up its own production line in the coating center. Batches of cutting inserts

and shaft tools are processed completely separately. "That is possible because we have the world's largest coating center here in Würselen," says Harrand, looking around the plant. "We are convinced that this individual treatment benefits the

quality of all tools. Our users very much appreciate that we have the capacity to coat small inserts," she says holding her fingers a few millimeters apart; "and much bigger shank tools in separate batches with appropriate coating processes."



At CemeCon, cutting inserts are always coated as an individual batch – a separate production line for shank tools is available in the coating center.

HARD FACTS FOR BEST RESULTS – HARD CUTTING WITH HiPIMS

HiPIMS-coated indexable inserts have changed ways of thinking and working in die and mold making. Hard facts for best results – following its motto, the carbide and tool specialist Boehlerit, in collaboration with CemeCon, has developed new coating specifications based on FerroCon® and InoxaCon® in a very short time, and can now deliver higher performance indexable inserts for die and mold making.

“Just a few years ago, we used soft steel to make dies. We milled it, hardened it, and then polished it intensively. Today, we take a steel ingot and harden it, and then mill the contour into the hard material. This saves a lot of time and money. Evolutionary leaps in cutting tools

and HiPIMS coatings make this possible,” says Dr Arno Köpf, head of development for PVD coatings for Boehlerit.

Innovations are what drives Boehlerit, which is based in Kapfenberg, Austria. The company therefore

collaborates very closely with universities, research institutes and other partners. “Indexable inserts for milling applications must be hard and resistant, on the one hand, but they must also have very high ductility to achieve a long service life. To stay ahead of the market, Boehlerit needs partners who also work at the highest level. We always test all the options on the market and decide on the best one,” says Köpf.

THREE MONTHS
FROM THE FIRST SKETCH
TO THE FINISHED PRODUCT

Last year, the premium tool manufacturer was looking for a quick solution for hard milling with inserts for die and mold making. Since all of its own coating units that are

Dr Arno Köpf, head of development for PVD coatings at Boehlerit, is pleased with the impressive result of CemeCon's Premium Plus service. (Photo: Boehlerit GmbH & Co. KG)



suitable for these types of trials were already in use, the company turned to CemeCon's R&D department. "CemeCon has the perfect expertise for this project. We have a long-standing partnership and the CemeCon developers know exactly what we need," says Köpf.

In a three-month collaborative development project, the companies worked together to optimize various coating specifications based on FerroCon® and InoxaCon®. Dr Werner Kölker, CemeCon's head of development, outlines the challenge: "This project dealt with extremely hard cutting – 60 Rockwell and more – and the schedule was extremely tight." As part of CemeCon's Premium Plus service, many factors were deliberately varied. Carbide grades, pretreatments, coating composition. Kölker praised the performance of the Boehlerit-CemeCon team, saying, "We fully exploited the capacity that is possible with HiPIMS."



The new FerroCon® coating specifications enable faster milling with significantly increased tool service life and improve the quality of the workpiece surfaces produced. (Photo: Boehlerit GmbH & Co. KG)

CLOSE COLLABORATION WITH AN IMPRESSIVE RESULT

The best results under time pressure can only be achieved together. Countless test tools shuttled back and forth between Germany and Austria. "We sent tools with the corresponding data sheets to Würselen. CemeCon treated the surfaces based on their condition, coated the tools and returned them to us. Then we machined and provided feedback,"

as explained by Köpf regarding the course of the project.

The result is impressive. "The new tools can mill faster, have a significantly longer service life and produce better surfaces, so that much less polishing is needed. The new developments are among the best that we have ever brought to market in the area of indexable inserts for die and mold making," says Köpf, who is very satisfied.

BOEHLERIT GMBH & CO. KG



Boehlerit carbides and tools set standards in the processing of metal, wood, plastic, and composite materials. The cutting material and tool specialists from the steel city of Kapfenberg in Styria, Austria, solve the most challenging processing tasks for materials of the future by taking advantage of their "proximity to the steel laboratory." Cutting materials, semi-finished products and precision tools, as well as tool systems for milling, turning, drilling and forming ensure process safety and efficiency worldwide.

800 experienced employees (500 at the Kapfenberg site) achieve annual sales of approx. 110 million Euros. Boehlerit invests 5% of that directly in research and development. This makes the Boehlerit innovation factory one of the leading international providers of customized solutions and services in challenging application areas.

www.boehlerit.com

TAKE-OFF IS EASIER THAN EVER WITH DIAMOND AND HiPIMS COATINGS

Lightweight materials are praised for their low weight and high strength and stability. And when it comes to machining, they are true heavyweights. CemeCon premium coatings guarantee maximum process reliability, offer the best production quality and ensure long-term effectiveness when drilling and milling hard, yet ductile special alloys and composite materials for aircraft construction.

When a plane lands on the runway, the fuselage is subjected to a gentle jolt. The aircraft also experiences a great deal of motion during the flight. Passengers in the right seats can actually see this happening when they look at the wingtips. It is good to know, then, that aircraft are by no means as rigid as they appear at first glance. In actual fact, they are trimmed from front to rear to ensure elasticity. The aluminum

alloys used in aviation are perfectly designed for this. They are much more ductile than the alloys used in automotive construction, as they only contain a fraction of the silicon used. This makes the material much more resistant to the constant dynamic stress caused by vibrations and oscillations during flight. This guarantees the safety of aircraft throughout their entire service life – popular models are designed to last for 25 years, 60,000 flight hours and 48,000 landings, but can generally last much longer.

the tool, after which they cool down and remain stuck to the tool – it is stronger than most adhesives. “The next chip then snaps off at this artificially created height. The forces exerted are so high that even a regular section of coating or carbide can chip off,” Manfred Weigand, Product Manager Round Tools at CemeCon, states as an explanation of how cold welds can lead to a tool being written off.

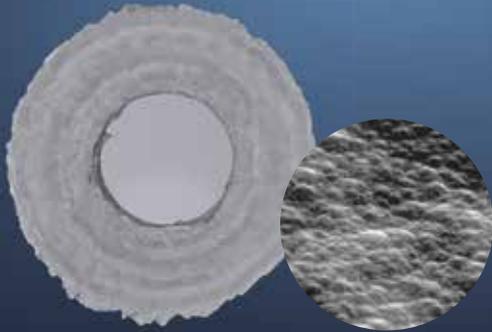


The low silicon content corresponds to an extremely high amount of pure aluminum in the alloy. During machining, the alloy becomes hot and has the tendency to become extremely smearing. This situation has to be kept under observation when milling components. Failure to keep this in mind can lead to material build-ups becoming welded to the tool: The chips that are “liquefied” by the frictional heat become fused to



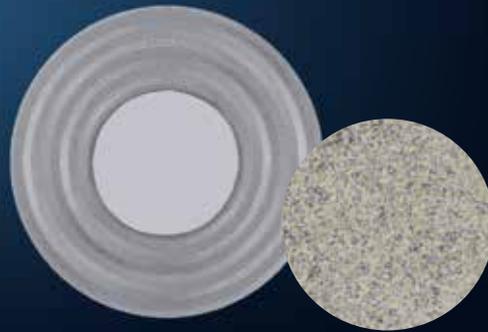
NO

Unacceptable cutting result by using a standard diamond coating



YES

Perfect cutting result by using the CCDia[®]AeroSpeed[®] coating material for the cutting tool



MAXIMUM SHARPNESS
THANKS TO AN ULTRA-SMOOTH,
ULTRA-THIN HiPIMS LAYER

AluCon[®] coatings based on titanium diboride (TiB₂) have an extremely low affinity to aluminum. Instead of sticking, the chips glide over the coated surface like a pancake in a Teflon[®] frying pan. As a result, the chips are transported away from the surface with maximum effectiveness. The cutting edges need to retain their sharpness to machine the ductile aluminum used to build an aircraft. Hence, these HiPIMS coatings are separated by an extremely low coating thickness of just 1 μm or 2 μm. With HiPIMS TiB₂ coatings combine unrivaled density with perfect adhesion. This makes the coating material AluCon[®] the ideal basis for coating tools for titanium processing.

Both aluminum and titanium are increasingly being installed in

modern aircraft in combination with composite materials – in a sandwich structure – with carbon fiber-reinforced compounds. “Drilling a hole into a component that starts out porous and highly abrasive and then ends up soft and ductile places great demands on the substrate, cutting edge geometry and the coating,” explains Weigand. “Originally conceived for CFRP processing, CCDia[®]AeroSpeed[®] offers a balanced solution when combining CFRP with aluminium.” The nano-crystalline diamond surface is extremely smooth and chemically inert. This guarantees that the chips are transported away from the surface effectively. Tools coated with CCDia[®]AeroSpeed[®] are also especially sharp, as the rounding of the cutting edge is much more reduced than with conventional diamond coatings in the same thickness. CCDia[®]AeroSpeed[®] allows for burs of less than 0.1 mm when removing the drill bit from the aluminum composite

layer, which in turn sets a common standard in aircraft construction.

Multilayer diamond coatings by CemeCon are the right solution when it comes to CFRP/titanium processing. “Current trials show that we will soon be the first to machine this composite material in a much more economical way,” states Weigand as he looks to the future.





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CFRP IS REVOLUTIONIZING THE AVIATION INDUSTRY – CEMECON DIAMOND COATINGS ARE REVOLUTIONIZING PROCESSING

MILLING CFRP: CCDia® AeroSpeed® OVERCOMES CHALLENGES WITH EASE

Lightweight solutions just got even lighter in the aviation industry thanks to carbon fiber reinforced plastic (CFRP). Due to its low weight and high strength, the composite is increasingly replacing aluminum, the material used in aircraft construction up to now. CFRP comprises more than 50% of the materials used in modern long-haul jets. Processing this material for use in an industry where safety is paramount leads to various challenges. CCDia® AeroSpeed®-coated cutting tools enhance process reliability and have a longer service life.

A subtle buzzing sound can be heard when the milling tool cuts through the black workpiece to give it its final shape. "You can literally hear that the milling tool is coated with CCDia®AeroSpeed®," states Manfred Weigand, Product Manager Round Tools at CemeCon, with enthusiasm. "This is because the coating has a nano-crystalline surface, making it extremely smooth, which prevents the workpiece from chattering loudly or vibrating during processing." The reason behind this phenomenon: AeroSpeed® coatings are so smooth that the filaments comprising each one of the countless carbon fibers are not "snagged" by the cutting tool. Instead, they simply slide to create workpiece surfaces that are especially even, with no delamination or protruding fibers.

According to Weigand, the structure of CFRP can be described in just a few key words: During production, mats made from bundled carbon fibers are laid or woven depending on the planned qualities of the component. These are then soaked in an epoxy resin and baked in an autoclave: The pressure and heat fuse the fibers embedded in resin and cure them into the desired shape. The fibers guarantee durability and strength in the exact places where this is required.

EXTREMELY SHARP CUTTING EDGES FOR HIGH PROCESS RELIABILITY

While this creates a structure with a host of advantages, it also gives rise to various challenges in processing. If, for example, individual fibers are only folded down instead of fully cut off during drilling, they will protrude into the borehole. What happens then? Aircraft components are riveted. First of all, the protruding fibers are riveted together with the components. However, vibrations during flight will cause them to break after just a few short hours. The rivet then has too much space in the hole. In a worst-case scenario, this can cause it to break entirely. Tools coated with CCDia®AeroSpeed® feature extremely sharp cutting edges, which ensure that all fibers are cut through for maximum process reliability. This is also adept at preventing delamination, which involves individual carbon fibers becoming detached from the compound. One reason for this is the specific adhesion technology used, which guarantees maximum

interlocking of the diamond coating with the solid carbide tool while preserving the micro-geometry of the cutting edge.

As stated, the CFRP is baked in an autoclave. When drilling and milling, the temperature may not exceed 180°C. The smooth surface of CCDia®AeroSpeed® reduces friction, i.e. heat build-up, and prevents the resin from starting to melt and the micro-structure from losing its rigidity once more. Unconditional quality when machining CFRP is the top priority when it comes to the construction of premium aircraft. As well as guaranteeing maximum process reliability and performance, CCDia®AeroSpeed® results in economic benefits for aircraft manufacturers, as ten times more boreholes can be drilled into the highly abrasive carbon fiber/epoxy resin compound with CCDia®AeroSpeed®-coated tools than with uncoated ones.



DIAMOND COATINGS FOR MORE BEAUTIFUL TEETH

Straight and white teeth give you a wonderful smile. We look well-kempt and friendly to others. It's understandable that many people want perfectly looking dental implants. The trend in dentistry is moving towards the automated production of crowns, inlays and bridges made from zirconium oxide. Diamond coatings using CCDia®CarbonSpeed are a guarantee for extended tool life, high production accuracy and perfect implant quality.

Zirconium oxide is the perfect basis for a lovely smile. The ceramic material is well suited for implants. Besides being true to color, its high biocompatibility is especially impressive. Thanks to its good compatibility, the mucosa of the mouth heals quickly and irritations and even infections are avoided. Implants made with zirconium oxide are especially unbreakable in addition and they keep strain from chewing at bay for decades.

Crowns, inlays or bridges are currently being made by hand and are complex to polish and grind as well. But the future is just over the horizon for dental laboratories and practices. Digital technologies are changing their dental working principles very quickly, starting with precise 3D scans of the oral cavity to automatic computer-aided design and CAD/CAM production. It will be easier, faster

and more economic for patients and doctors.

COATING QUALITY OF THE TOOLS DETERMINES THE QUALITY OF THE IMPLANT SURFACE

“Zirconium oxide is the ideal material medicinally and optically. Still, the process creates a great challenge for the wear resistance of cutting tools,” explains Marco Furrer, Area Sales Manager at CemeCon. “Zirconium oxide, processed as a green compact before the ceramics are fired, is highly abrasive and relatively porous at the same time. It is very sensitive to micro-cracks on the cutting edge surface.” CemeCon's solution to this problem is CCDia®CarbonSpeed. The extremely hard and yet perfectly smooth diamond coating lowers the risk of micro-cracks on the workpiece, ensures maximum pre-

cision during milling and makes for a long service life of the tools.

Joachim Bauer, managing Director of J. Bauer Präzisionswerkzeuge explains: “These properties immediately solve a number of problems for our customers who are manufacturers and operators of dental milling machines. The CAD/CAM systems in dentistry are designed for the easiest operation possible. After scanning the natural dentition or the tooth stump, the CAD system generates the implant practically on its own and computes data for the milling machine, taking into consideration shrinkage caused by firing the ceramics.” Besides a few basic parameters such as cutting speed or feed function, no further adjustments can usually be made. This means that the surface, dimensional accuracy and geometry of the tool have an even greater influence on the result.



Known as the green compact (before the ceramics are fired), zirconium oxide is highly abrasive and porous at the same time. The wear resistance of cutting tools presents challenges to processing.

PERFECT BALANCE OF TOOL PROPERTIES BASED ON COATING SPECIFICATIONS

“Our tools need an especially sharp cutting edge with minimal contact zone to the work piece. A cutting edge rounding too high enlarges this contact zone. Hence, the cutting pressure of the tools gets too high and micro-cracks occur at the surface of the workpiece. The same happens for excessive tool wear which flattens out the flank face of the tool,” describes Bauer. This can be effectively prevented: “CemeCon has developed a dedi-

cated coating specification for us, customized for tool geometry and carbide. The result is perfect performance in relation to a long tool life and the best surface quality and superb adhesion.” Furrer adds: “The surface created with automatic milling is so perfect that complex and expensive finishing operations almost completely lapse.”

PRACTICE-ORIENTED SERVICE LIFE THANKS TO CCDia®CarbonSpeed

Dr Hans-Joachim Turban, a dentist in Tiefenbach in Bavaria, comments: “Patients are always fasci-

nated when they see the machine making their implants while they wait.” Thanks to the onsite automatic production, doctors and patients save time and money, when for example, no temporary prosthesis is inserted and the produced inlay has to be removed again before insertion. “Since we have been using the CemeCon coated milling tool from the Bauer company alone, not even one has been broken.” Turban is pleased with the quality of the precision tools in combination with the premium coating.

“WE SPEAK OUR CUSTOMERS' LANGUAGE”

When the sales teams from all CemeCon sites assemble at “Meet & Train”, a productive atmosphere is omnipresent. The regular meetings aid the flow of information, and increase solidarity as well as face-to-face communication. At the same time they guarantee the high level of customer support worldwide – tailored for different markets, requirements, and cultures.

“Guten Morgen!”, “Good morning!”, “Konnichiwa!” and “Ni hǎo!” – a wide variety of morning greetings pervades the “Meet&Train”. Afterwards, the colleagues naturally pursue their intense conversations in the world language English. This year Germany was the host for colleagues from Europe, China, the USA, Japan and

Korea. In the world's largest coating center for cutting tools in Würselen, they devote themselves completely to further education about premium coating technology and personal exchange.

“It is splendid to meet regularly,” says Dr Craig Morton, account man-

ager at CemeCon Inc. from Horseheads, New York, during lunch on the second day. Even while eating pizza and pasta, many conversations revolve around HiPIMS- and diamond coating materials, tool geometries or machining results. Dr Beate Hüttermann, Executive Director Sales, had an apt and obvi-



ous explanation for her colleagues' engagement. "Each of us wants be able to present fitting solutions from all over the world that help our customers advance. Here is where the know-how of all the CemeCon sales teams can be found. There are a lot of ideas and suggestions and we learn from each other!"

DIFFERENT MARKETS –
INDIVIDUAL ADVICE –
THE SAME PURSUIT OF QUALITY

Everyone in the team knows that speaking the customer's language is crucial for successful consulting. One must recognize their needs and understand their perspective. The Meet&Train events show how fertile communication among peers can be. Mutual esteem for colleagues and the things they achieve daily are natural on these days together. Hüttermann is certain that "this trust exerts sustained influence on a team's cooperation long after the return to home base".

**"THINK GLOBAL – ACT LOCAL:
customer requirements and cultures are
different in ASIA, EUROPE AND
THE USA. CemeCon ACTS VERY
INDEPENDENTLY at each location – always
with the same PURSUIT OF QUALITY,
the same PREMIUM PRODUCTS
and CONSULTATION at the same
HIGH LEVEL."**

Dr Beate Hüttermann, Executive Director Sales

Each Meet&Train centers around high-level training sessions on the latest developments in coating. Today's worldwide boom in HiPIMS and diamond coating technology makes such training sessions essential for keeping up with technology. Here valuable experiences are shared and findings and results are presented: "It is very stimulating when colleagues report how challenges are being

met for widely differing and rapidly changing markets. For example, the coating of new tool geometries with InoxaCon® for stainless steel processing in Germany," explains Jimmy Zhang, Sales Manager of CemeCon China. In this way, all the sales teams take home a lot of added value for the customers in their home markets. So "Auf Wiedersehen!", "See you again!", "Sayonara!" and "Zàijiàn!".

Sales teams from all regions meet regularly at the world's largest coating center at the German CemeCon site for training sessions and exchange of experience.



ACCEPT CHANGE – SHAPE THE FUTURE

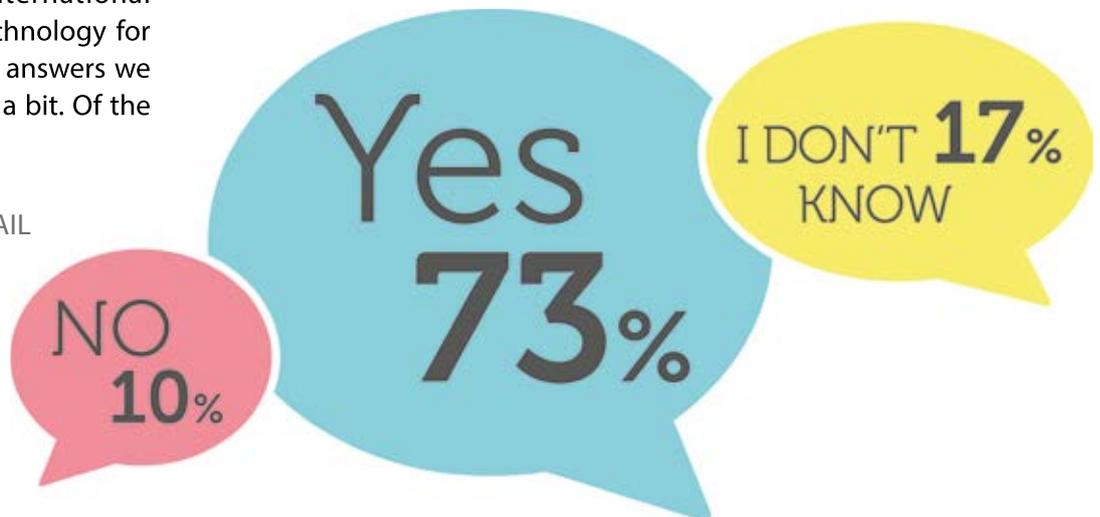
RESULTS OF THE CEMECON SURVEY AT THE GRINDTEC FAIR:

We asked, and the professional visitors at GrindTec 2018 answered! “Do you expect that the expansion of e-mobility will compromise the industrial landscape and in particular the machining industry?” This is what we wanted to find out from the visitors to the international fair on production technology for cutting tools. And the answers we received told us quite a bit. Of the

104 people asked, 73% were sure: Yes, there will be changes for the machining industry. These changes mean opportunities: Companies in this sector that face the change with good ideas will open up every path to success. **New materials for**

new business is the right direction. With HiPIMS and diamond coatings, CemeCon paves the way for precision tool manufacturers in the acquisition of new business in micro machining, medical technology or aircraft manufacturing.

WILL E-MOBILITY ENTAIL
CHANGES FOR THE
MACHINING
INDUSTRY?



You can find out more about the crucial **FACTORS FOR SUCCESSFUL BUSINESS** in the white paper “**IMPULSES ABOUT THE FUTURE OF CUT MACHINING**” by CemeCon board member **DR TONI LEYENDECKER** at: cemecon.de/en/wp218.

OUR NEXT EVENTS 2018 / 2019

10TH - 15TH SEPTEMBER 2018
IMTS
Chicago (USA)

17TH - 21TH SEPTEMBER 2018
16th International Conference on Plasma Surface Engineering (PSE)
Garmisch-Partenkirchen
(Germany)

18TH - 22ND SEPTEMBER 2018
AMB
Stuttgart (Germany)

01ST - 06TH NOVEMBER 2018
JIMTOF
Tokyo (Japan)

20TH - 22ND NOVEMBER 2018
3^d international vacuum coating application and technology seminar
Shen Zhen (China)

27TH - 30TH NOVEMBER 2018
DMP
Dong Duan (China)

29TH - 30TH NOVEMBER 2018
37. Hager Symposium
Hagen (Germany)

24TH - 30TH JANUAR 2019
IMTEX
New Delhi (India)