

Confidence strengthened: long-term cooperation between Mi-Tech Tooling and CemeCon in the USA

Mi-Tech Tooling, Inc., a cutting insert expert for the oil and gas industry in the USA, and the coating experts from CemeCon, Inc. in Horseheads, N.Y. have been working together for many years. This has led to a strong trust in CemeCon technology at the family-owned company from Cass City, MI. Mi-Tech has been able to secure an unbeatable advantage for its cutting inserts using CemeCon coatings in various thicknesses. Now the tooling experts are taking the next step and are raising their production to the next level with their own CC800® HiPIMS coating system. Thanks to training and support from CemeCon, Inc., in-house coating production was up and running within days of installation.

Since the first wells were drilled in Texas at the beginning of the 20th century, oil has been the lubricant of the economy and the basis of the American way of life. Mi-Tech supports the American lifeline with carbide cutting inserts to produce internal and external pipe threads. Reliability, reproducibility, and trust are essential elements of Mi-Tech's mission and have helped the family-owned company to operate profitably and successfully for 20 years. Many years of experience in tool grinding and a commitment to innovation and state-of-the-art technology enable the family-owned company to fulfil the highest quality requirements and provide first-class service. "The energy sector requires tools that reliably achieve high cutting volumes with good surface quality. Short cycle times and long tool life are also essential from an economic point of view," says Joseph Langenburg, President and company founder of Mi-Tech Tooling, describing the requirements for the cutting inserts.

Founded in 2004 by Joseph Langenburg in a rented shed with three second-hand machines and two employees, Mi-Tech Tooling Inc. has developed into a leading manufacturer of specialized carbide cutting inserts and solid carbide cutting tools within just a few years. Today, Mi-Tech Tooling employs 15 people in a 10,000 square foot facility in Cass City, Michigan. The location provides room for further growth to meet the needs of customers in a variety of industries with state-of-the-art technology. All manufacturing is done in-house in accordance with ISO 9001:2015.

Taking production to the next level

Mi-Tech has been working closely with CemeCon for over 15 years, relying on their experts to determine the best coating solutions to protect the cutting inserts against wear and improve performance. Joseph Langenburg: "We can always rely on the coatings and advice from CemeCon. This applies both to the tried-and-tested sputter coatings, which we have been using successfully on our indexable inserts for many years, and the new high-performance HiPIMS coatings."

The team at Mi-Tech has now deepened their trust and partnership with CemeCon by purchasing a full turnkey package highlighted by the CC800® HiPIMS. The unit combines all the advantages of classic DC sputtering technology with the possibilities of the latest HiPIMS technology. Regardless of a customer's needs, Mi-Tech can select the best PVD coating solution to quickly react to all requests and requirements. Coating thicknesses

of 1–12 μm are possible. Only with HiPIMS technology can “extra-thick layers” be realized. With conventional coating processes, the layer thickness is often limited to just 3 μm due to excessive residual stresses. With CemeCon HiPIMS, the residual stresses can be controlled and the layer thicknesses multiplied.

Support all along the line

Working with CemeCon implies the benefit that the coating experts develop a complete package consisting of substrate pre- and post-treatment, coating system and all other necessary peripherals – plus the full-service package. “The decision to use our own coating technology was a very special step. We have thus set the course for the future – especially in view of the upcoming generational change. It was important for us to have a partner at our side who not only supplies us with the best technology, but also accompanies us from the very first step, trains and develops our employees and supports us in producing our successful coatings ourselves as quickly as possible,” says Joseph Langenburg.

CemeCon has a decisive advantage when it comes to integrating the processes and workflows quickly and smoothly into the production of a tool manufacturer: CemeCon uses the same coating and peripheral systems in its own production on a daily basis. This is why the team knows the customer’s in-house coating line, processes and workflows down to the smallest detail and can therefore support them so well. This ensures a seamless transition for Mi-tech’s customers, as Mi-Tech produces completely identical coatings with its own coating system as CemeCon previously did through coating service.

Produce your own coatings quickly and easily

Ryan Lake, Sales Manager at CemeCon Inc.: “Our experience has shown us that the key to a successful transition from coating service to in-house coating comes down to one thing – consistency. There cannot be any change in performance once the switch is made. We have optimized our workflows and processes over the years so that they are easy to learn and understand. Customers go through the same training we put our own staff through when they first start. It is essential that we successfully pass on our knowledge so that tool manufacturers can quickly gain the confidence and ability to master the coating process. In addition, our experienced technicians are always ready to answer any questions a customer may have about their coating system or processes.”

“The on-site training at CemeCon, Inc. and also at our production facility enabled us to quickly get started with real coating production. We were able to coat the first batch immediately following installation. We are delighted with how quickly and efficiently the system was implemented,” says Brad Langenburg, Vice President at Mi-Tech. “The ability to provide premium coatings, improve lead times, and reduce production costs for our cutting tools is a huge advantage for us, and more importantly, our customers. The investment in our own coating line will pay for itself.”



CemeCon installed a complete turnkey coating line with the CC800[®] HiPIMS as the centerpiece in Mi-Tech's production.



The Mi-Tech team in front of the CC800[®] HiPIMS (from left): Joseph Langenburg, President of Mi-Tech, Yarnell Bouverette and Grant Gnagey, both coating center operators at Mi-Tech, and Brad Langenburg, Vice President of Mi-tech.



Mi-Tech was able to coat the first batch shortly after installing the HiPIMS system.

Photos: Mi-Tech Tooling, Inc.

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About CemeCon AG

CemeCon is the world market leader in diamond coating and technology leader in PVD coating of precision tools for machining. The coating materials required for premium coatings are produced within the coating systems developed by CemeCon.

Customers make use of the company's expertise in both coating services and plant engineering. Renowned tool manufacturers worldwide use the technology and expert knowledge of CemeCon for their own competitive advantage and to open up new business areas.

CemeCon has brought the future technology HiPIMS to market maturity. It combines the advantages of all common PVD coating processes – and that with high economic efficiency. With HiPIMS, maximum performance and a significantly longer tool life are possible even when machining materials that are extremely difficult to machine. Maximum productivity in the machining of innovative materials – such as fibre-reinforced plastics, ceramics or graphite – is guaranteed by the patented multilayer technology in diamond coating developed by CemeCon.

Founded in 1986 by Dr. Toni Leyendecker, CemeCon AG has expanded continuously over three decades. At its headquarters in Würselen, the company operates the world's largest coating center. All important international markets are served from there and from the centers in the USA, China and Japan as well as by our sales partners in the Czech Republic, Denmark, Taiwan, Korea, India and Russia.

Press Contact:

KSKOMM GmbH & Co. KG
Jahnstraße 13
56235 Ransbach-Baumbach
Phone.: +49 2623 7990160
E-Mail: info@kskomm.de
URL: www.kskomm.de