

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

IND-SPHINX invests in the second CC800® HiPIMS coating system

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 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 TiB₂ 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 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.

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