

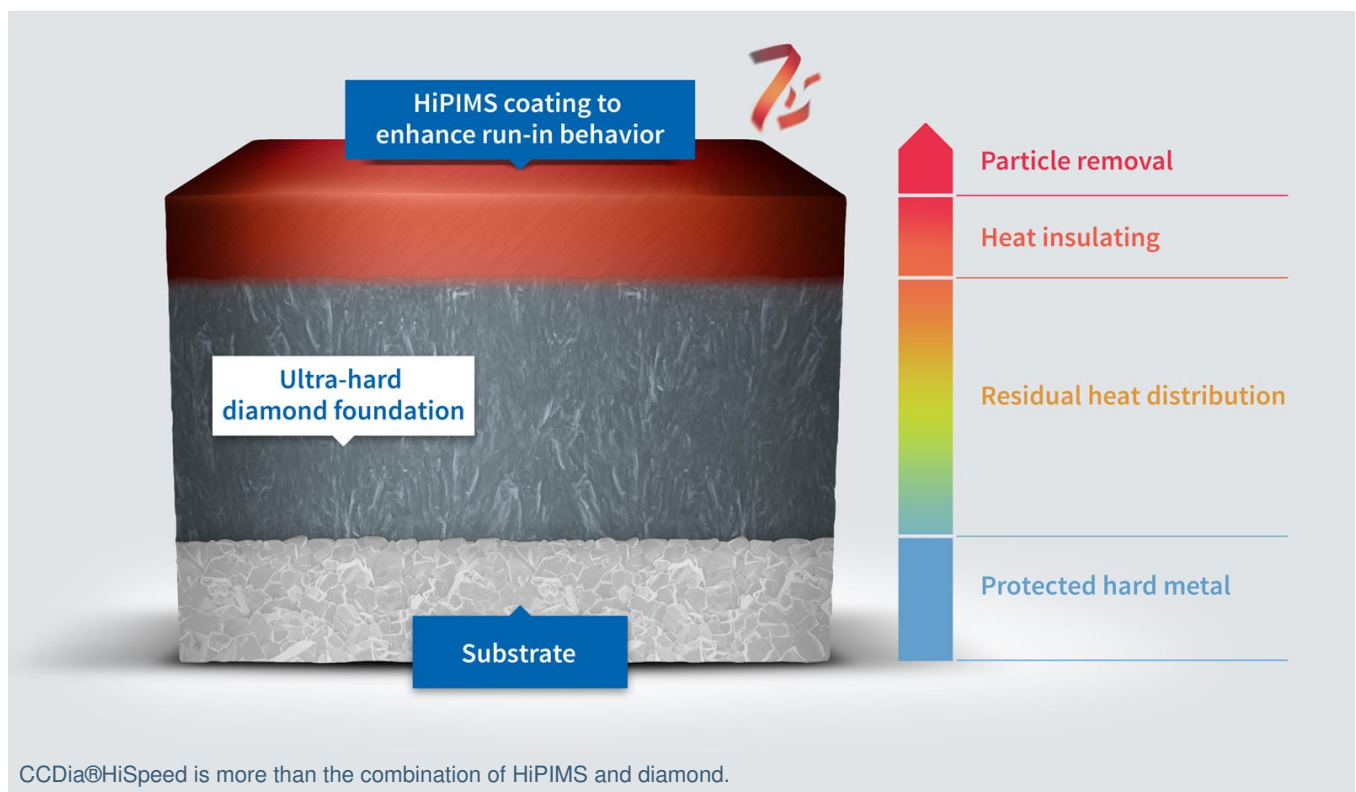
CCDia®HiSpeed: all the best combined

For future challenges

Heat dissipation, oxidation resistance, stability, running in behavior, conductivity – the combination of the two leading CemeCon technologies – HiPIMS and diamond – enables an entire new class of coating materials. CCDia®HiSpeed is more than the sum of excellent properties and opens new horizons in machining.

Precision tools coated with CCDia®Hi-Speed are extremely high-performance, very heat-resistant and the edges are extremely hard. But why?

Ultra-hard diamond offers the best possible foundation for HiPIMS. The edge remains stable during machining and the "eggshell effect" is prevented. Current processing strategies lead to extreme temperatures on the cutting edge. Thanks to the isolating properties of HiPIMS, the heat is transferred into the chips. This reduces crater wear and protects the diamond from thermal damage. CCDia®HiSpeed bypasses the low temperature resistance of carbon while taking advantage of the extreme hardness of diamond. The residual heat distributes the diamond evenly due to the good thermal conductivity in the substrate, thereby protecting the cobalt matrix of the carbide metal from softening.



Thanks to the "softer" surface compared to diamond, the tools have a better running-in into the material and, at the same time, benefit from the hardness of the diamond – a guarantee for high productivity. For example, the electroconductive surface of CCDia®HiSpeed facilitates automatic approaching in graphite or PCB processing. The shiny look fits in perfectly with the premium properties. With its distinctive colors, the CCDia®HiSpeed achieves a higher recognition effect.

"With 'HiPIMS meets diamond', we have created a unique coating material concept. Multiple applications are conceivable – for example, casting, PCB processing, machining of stacks or graphite or processing of materials that we haven't even thought of yet. We want to test and make these possibilities reality with our customers," says Toni Leyendecker, CEO of CemeCon AG.