

New possibilities for cutting inserts



Complete range of coating thickness from one source

High coating thicknesses for cutting inserts have always been a specialty of CemeCon. HiPIMS has again significantly expanded the possibilities here. The process can be used to produce coating thicknesses between 1 and 12 μm . FerroCon®Quadro – the latest premium coating material especially for indexable inserts in CemeCon's success story – heralds a new era in heavy machining of cast iron and steel with a coating thickness of 12 μm .

“Even with our sputtering technology we were able to produce 6 μm thick layers without any problems. Especially in roughing, every μm more determines the economic efficiency of the process. So it is hardly surprising that the proportion of high coating thicknesses in our coating service has been rising steadily for years. Many customers have also signaled to us that there is definitely a need for even thicker coatings. This is how the idea for FerroCon® Quadro with a layer thickness of 12 μm was born early on,” recalls Inka Harrand, Product Manager Cutting Inserts at CemeCon. With HiPIMS the idea has now become reality. Tests have shown that thanks to the outstanding technology, even layer thicknesses of up to 25 μm can be realized.

FerroCon®Quadro is now penetrating into areas where previously only CVD coatings worked. In the heavy-duty machining of cast iron and steel – precisely where thick chips are produced – the HiPIMS coating material ensures increased performance and significantly longer tool life. This enables best performance when turning, milling or drilling with cutting inserts.

In addition, with FerroCon®Quadro and HiPIMS, a decision was made in favour of an environmentally friendly technology that does not use toxic or explosive gases. The process temperatures of around

500 degrees during coating additionally protect the substrate and prevent the carbide from becoming brittle.

„Since the introduction of FerroCon® Quadro at EMO 2019, we have been offering manufacturers the complete range of coating thickness from 3 to 12 µm for their cutting inserts from a single source – in consistently high quality and with short delivery times.“

— Inka Harrand, Product Manager Cutting Inserts at CemeCon

A successful premium coating is more than just the right coating material. It is the result of a targeted combination of special pre- and post-treatments, coating material, coating thickness and other details. Especially with cutting inserts there are special challenges: For example, different surface conditions often have to be adapted to ensure high and uniform adhesion. The CemeCon production line especially for cutting inserts is precisely geared to the requirements of this tool group. And the experts' decades of experience ensure that manufacturers receive the best possible advice here.

Thick layers ■ Cutting inserts ■ FerroCon®Quadro ■ 12 µm ■ CVD-coatings ■ heavy-duty cutting ■ Casting ■ Steel ■