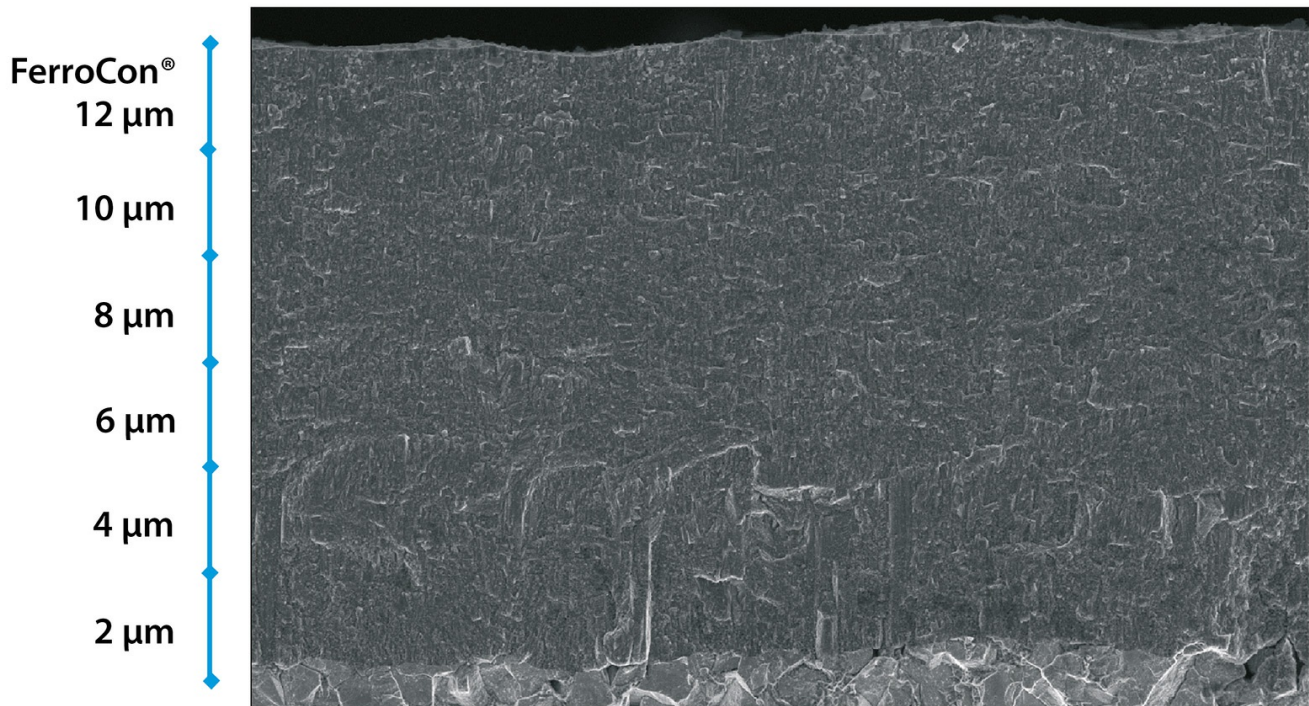


FerroCon®Quadro – The HiPIMS coating with a thickness of up to 12 µm!



FerroCon®Quadro with a coating thickness of up to 12 µm – the HiPIMS technology from CemeCon makes it possible.

Introduced in autumn at the EMO 2019, already a big hit today:

When it comes to really thick coatings, manufacturers of cutting inserts have so far had no choice but to resort to the CVD coating process, which is very limited in its possibilities. As a result, different coating technologies were required for different layer thicknesses. With the HiPIMS technology the situation changes radically. Not only does it require – other than the CVD process – no toxic or environmentally hazardous chemicals, but also layer thicknesses from 1 to 12 µm are possible.

The HiPIMS technology bundles advantages that no other system can provide: Smooth, tough layers with low residual stress. And this with every conceivable material. Almost every element of the periodic table can be built in layers. With coating temperatures around 500 degrees HiPIMS is additionally very gentle to the substrate. This prevents carbide embrittlement.

Now also in thick

When CemeCon developed the first HiPIMS layers to market maturity, it was particularly manufacturers of microtools who very quickly took advantage of the unique selling points achieved by the technology. Other tool types quickly followed, because HiPIMS combines the advantages of all PVD coating technologies. Now, with FerroCon®Quadro, a coating material is also available for manufacturers of cutting inserts intended for heavy-duty machining. This opens up completely new possibilities for indexable inserts in the machining of cast iron and steel.



Material:
1.0503 (C45), 32 HRC

**Milling tool with
indexable inserts**

$v_c = 220$ m/min

$a_p = 0.5$ m/min

Without cooling



Inka Harrand, Product Manager Cutting Inserts at CemeCon, is pleased about the very positive customer response to the new HiPIMS coating material FerroCon®Quadro: "All initial orders are closely monitored. An extensive incoming inspection is carried out, which includes, among other things, the remeasurement and documentation of the edge rounding. An edge rounding of about 40 µm before coating creates ideal conditions for optimum adhesion. We have surprised some of our customers that thanks to our technology, such thick layers are adhesive! HiPIMS radically reduces the residual stresses in the layer. Arc technology is limited to 4 µm layer thickness in the mass production of inserts – with FerroCon®Quadro, 12 µm are possible. This is a paradigm shift in roughing and heavy machining! Each µm of coating thickness ensures better performance and significantly increases the service life of the inserts.

Her colleague Dr Christoph Schiffers, Product Manager Technology, assure: "HiPIMS is a gamechanger. Currently there is no system on the market that is more flexible, faster and future-proof than our CC800® HiPIMS coating system. Paired with the right know-how and our premium coating materials, our customers are not only in pole position, but can stand on the podium at every race".

12 µm | Thick layers | Dense morphology | Smooth layer | Coating thickness | Coating stress | Residual stress management | Cutting inserts | Roughing Machining | Casting | Steel | Long tool life | CC800® HiPIMS | HiPIMS | PVD | FerroCon®Quadro