Diamond Cutting Tools for Composites
PCD CUTTING TOOLS
FOR THE AEROSPACE
AND COMPOSITE INDUSTRIES

Production plants and R&D facilities in Europe and North America enable Cruing to supply tested and award winning products worldwide.

Patent EP 1 940 585

Institut für Werkzeugmaschinen University Stuttgart Fraunhofer IPA HBG Hoiz-Berufsgenossenschaft

DGUV Test
Thanks to its 50 years worth of experience, Cruing provides and suggests the latest solutions in composite machining and offers a wide range of PCD drills and mills tailored to specific customer needs.

Cruing is one of the most important groups for diamond cutting tools and works closely with many of the world’s leading aerospace manufacturers, F1 racing teams and luxury yacht builders.
Aerotech® System is a revolutionary tooling solution that thoroughly evacuates hot dust particles produced during cutting operations.

By effectively air cooling the material and cutter, it significantly reduces machining temperatures.

This allows manufacturers of composite parts to consider dry cutting their components, providing a practical alternative to machining with coolants.

Aerotech® System has been awarded 3 International Awards, the JEC europe, the JEC americas and the Challengers Award, for its technological innovation.
During a series of heat tests conducted at an Aerospace company located in Europe, thermal camera images confirm that Aerotech® can **reduce machining temperatures by over 100°C**.

At operational rpms the Aerotech® sucks in air up to velocity of **80 meters a second** at the point of cut, blowing the air and hot dust particles out through its fan outlets.

By effectively air cooling the material and cutter, it significantly **reduces machining temperatures**.

---

**Aerotech® System**

The Aerotech® System uses dedicated cutting tools with **HSK cone**, which is widely regarded as a superior tooling assembly. They are **lighter, shorter and stiffer** compared to conventional tools, providing **exceptional axial and radial accuracy**.

This gives you the possibility of running at higher speeds before resonance or chattering begins, minimising tool deflection and increasing your productivity.

The result, a **better quality surface finish with lower Ra values** and **no delamination**.
Cruing AeroMill series offers PCD cutters designed for milling CFRP, composites and light alloys.

- No chatter and vibration
- Increased edge retention
- No delamination
- Super-fine surface finish
- Low Ra values
- Solid-carbide or heavy metal tungsten alloy body
- With external and internal coolant supply

AeroMill series covers the complete range of cutting tools commonly used within the Aerospace and composite-using industries. Edge milling, ball-nose and face milling solutions, all qualified by leading manufacturers processing CFRP parts.

AeroMill cutters are also available with HSK20C cones for use with the Aerotech®, Basic® & Reach® holders. This allows users of HSK20C cutters the possibility to utilize the same cutter across various applications, thus reducing the assortment of cutters required and increasing the potential to cover emergencies.

HSK20C cutters connect to their holders both radially and axially for full metal-to-metal contact and provide a fixed zero point, allowing the CNC machine operator to maintain a constant setting of the machines Z axis after changing between similar tools.
Many leading producers of CFRP parts for the Aerospace industry have already qualified Cruing drills and are benefitting from the performances of one of the most cost-effective drills available today.

Cruing AeroDrill series offers unique designs for PCD Straight and Twist drills, Countersinks and One-shot drill and countersinks

- Unique uninterrupted PCD point
- Special drill point geometry and side profile
- Cutting edge optimized for unidirectional and woven CFRP
- Enhanced hole quality, precision and surface finish
- No delamination at hole entry/exit
- Extreme wear resistance for long tool life
- With external and internal coolant supply

See the difference that the new AeroDrill 101-Uni provides on unidirectional CFRP

Standard drill

AeroDrill 101-Uni specifically developed for unidirectional CFRP