

Diamond Cutting Tools for Composites



Arrow Diamond Tooling LTD g01.co.uk

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.



JEC Europe



JEC Americas

CHALLENGERS



WINNER 2008

Patent EP 1 940 585



Institut für
Werkzeugmaschinen



Universität Stuttgart



Fraunhofer IPA



HBG

Holz-Berufsgenossenschaft



DGUV Test



HO 122002



Sicherheit geprüft
tested safety



Cruing Italy



Cruing Italy



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OUR EXPERIENCE TO OFFER ADVANCED SOLUTIONS

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 Air cooled dry cutting

Aerotech® System has been awarded 3 International Awards, the **JEC europe**, the **JEC americas** and the **Challengers Award**, for its technological innovation.



JEC europe



JEC americas

CHALLENGERS



WINNER 2008

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.

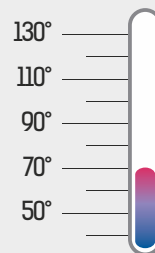
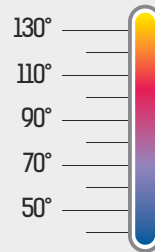
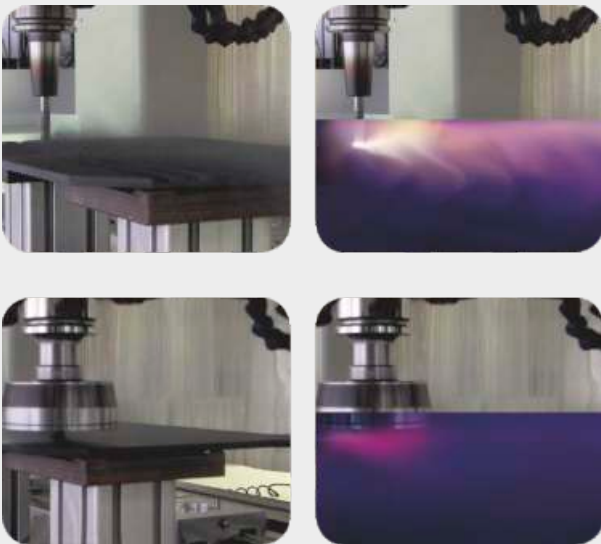
This allows manufacturers of composite parts to consider **dry cutting** their components, providing a practical **alternative to machining with coolants**.



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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.**



AeroMill High-performance milling

Cruing AeroMill series offers **PCD cutters designed for milling CFRP, composites and light alloys.**

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.



- 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 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.



AeroDrill Drilling solutions for perfect holes

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

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.



- 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





Germany

Cruing Germany
Bösingerstraße 5
78727 Oberndorf
Germany
Tel. +49 074238659148
Mob. +49 015140392345
info@cruing.de
www.cruing.de

Italy

Cruing Italy
Via Scozia, 14
Zona Industriale 64026
Roseto degli Abruzzi (TE)
Italy
Tel. +39 085.8930787
Fax. +39 085.8930790
info@cruing.com
www.cruing.com

U.S.A. / Canada

FS Cruing Diamond
Corporation
55 Administration Rd.
Unit 1 Concord
Ontario-Canada
L4K 4G9
ph +1 9057380145
Fax. +1 9057384615
1-800-461-5319
info@fscruing.com
www.fscruing.com

United Kingdom / Ireland

Cruing UK
Building One, Office "B"
Radway Green
Business Park
Crewe, Cheshire
CW2 5PR - UK
ph +44(0) 1270872924
Fax. +44(0) 1270872931
info@cruing.co.uk
www.cruing.co.uk

Denmark

Cruing DK
Fuglsang Naes 7A
7400 Herning
Denmark
Tel. +45 97120705
Mob. +45 29401447
info@cruing.dk
www.cruing.dk

Arrow Diamond Tooling LTD g01.co.uk