



C6 COMPOSITE TOOLING

Cutting tools and CNC aggregates

Coordinated precision solutions for high-performance machining and complete solutions for complex machining of lightweight materials

Composite the **FUTURE**



Wind Energy
Composites Repair



Health & Safety



Architectur



Life Science



Public Furniture



Sports &
Performance



Consumer
Products



Maritim &
Yachting



Medical



Automotive



Public
Transportation



Motorsport



Railtransport



Military &
Defence



Space



Robotics &
Industry 4.0



Industrial &
Mass Production



Construction
& Building



Aviation



Sports
equipment

Drills and countersinks

For CNC machines, robots and manual applications

Whether designed as single drills and countersinks or as a combined drilling and countersinking solution in one tool, we have an economical solution for all your applications in the field of modern materials. Our aim is to perform drilling and countersinking operations in One-Shot, i.e. in one production step, without rework.

Advantages:

- » fast reaction times for new developments and optimizations, short delivery times
- » smooth running, low cutting pressure, low vibration
- » long tool life due to special diamond coating process adapted to C6 drill geometries
- » rework-free hole edge quality (no reaming or manual reworking)

Applications - Drilling and countersinking of:

- » CFRP (carbon fibre reinforced plastic) components in series production with long service life due to special coatings
- » Stacks (CFK-Al or Al-CFK or CFK-Al-CFK or Al-CFK-Al)
- » SMC (Sheet Molding Compound) components in series production without reworking the milled edge (manual grinding process not required)
- » CSMC (Carbon Sheet Molding Compound) components in series production
- » Honeycomb in the aerospace industry
- » Aluminium profiles



Straight & Curve

For CNC machines and robots

With the development of the composite saw „Straight & Curve“, the engineers at C6 have succeeded in adding further dimensions to the familiar linear saw cut. It is finally possible to saw free-form components with 5-axis simultaneous machining. The new tooth geometry of this revolutionary solid carbide saw enables a delamination-free finish cut without fibre protrusions. This eliminates the need for an additional finishing operation using a milling tool. In addition to this saving, the economic efficiency is increased by the highest possible feed rates of up to 30 m/min.

Another positive side effect is the up to 85% lower dust emission compared to machining with a conventional end mill.

Milling Cutters

For CNC machines, robots and manual applications

With our milling cutter portfolio we cover almost every milling application in the machining of modern lightweight materials. Our milling tools are used in a wide variety of applications worldwide. When machining delamination-free milling edges in the series production of CFRP components, when finishing a wide variety of honeycomb materials (honeycomb) and when machining carbon-ceramic or glass fibre reinforced plastics (GRP).

Advantages:

- » fast reaction times for new developments and optimizations, short delivery times
- » smooth running, low cutting pressure, low vibration
- » long tool life due to special diamond coating processes matched to C6 cutter geometries
- » edge free of rework after the milling process for the most common materials (no manual grinding process required)

Applications - Milling of:

- » CFRP (carbon fibre-reinforced plastic) components in series production with long service life thanks to special diamond coatings
- » SMC (Sheet Molding Compound) components in series production without reworking the milled edge (manual grinding process not required)
- » CSMC (Carbon Sheet Molding Compound) components in series production
- » Honeycomb in the aerospace industry
- » Aluminium profiles



Aggregates

Customised complete solutions consisting of unit and tool for automated machining of fibre composites, aluminium or hybrid material composites. The sophisticated design allows working with high continuous torque.

Advantages:

- » fast reaction times for new developments and optimizations
- » high stock availability of the most common machine connections
- » long service life thanks to decades of know-how in CNC unit construction
- » process reliability through system solution (clamping device + tool + unit)

Applications:

- » individual connection of the unit to the tool spindle of your machine
- » automated insertion of the aggregate via the tool changer
- » Drilling and milling tools with aggregate in the system individually for your application





Circular saw blades

As specialists in sawing technology, we offer complex and high-quality saw blades for CNC machining of CFRP, GFRP, SMC, aluminium and all lightweight materials used on the market. The saw is specially adapted to the respective application by us. We would also be happy to send you our recommendation for your application.

Advantages:

- » Higher feed rates compared to milling cutter technology (depending on application $v_f = 10-30 \text{ m/min.}$)
- » higher tool life compared to milling cutter technology (depending on material and application)
- » low cutting pressure and rework-free edge due to the use of PCD-tipped thin-cutting saw blades with special geometry for composite materials

Applications:

- » Separating cuts when machining CFRP/GFRP and honeycomb panels
- » Capping of aluminium profiles
- » Use on C6 angle units



Clamping systems

Our clamping systems for milling, drilling, countersinking and sawing applications are available from stock in all common designs and machine connections. Please contact us for special dimensions for any requirements.

Advantages:

- » large available stock programme of the most common designs (HSK-F, HSK-E, HSK-A, SK, CAT)
- » Mounts designed for the required tolerance range

Applications:

- » Clamping agent for all kinds of cutting tools



Products

Engineering

You have interesting projects, but you lack the time and qualified personnel to implement them economically? Increasing deadline pressure and increasing price pressure from the market make your competitiveness more difficult?

Let our experienced application engineers and programmers support you!



Profitieren Sie von

- » Support from the start of the project to the start of series production
- » Macro-supported CAD/CAM programming
- » Field-proven cycles for machining with aggregates of all types
- » tool-friendly helix and ramp programming
- » optimal use of the tool potential
- » efficient processes through economical machining strategies
- » reduce processing costs and thus increase your margin

Industries

As a medium-sized company and specialist in the field of machining lightweight materials, we supply many industries worldwide and score points with our many years of experience.

- » Wind Energy & Composites Repair
- » Health & Safety
- » Architectur
- » Life Science
- » Public Furniture
- » Sports & Performance
- » Consumer Products
- » Maritim & Yachting
- » Medical
- » Automotive
- » Public Transportation
- » Motorsport
- » Railtransport
- » Military & Defence
- » Space
- » Robotics & Industry 4.0
- » Industrial & Mass Production
- » Construction & Building
- » Aviation
- » Sports equipment

Service

A good tool alone is not enough - it also needs excellent service that gives you the certainty at all times: My productivity is guaranteed!

- » large stock availability
- » decades of know-how
- » PCD service
- » VHW service
- » decoating and coating service
- » review and optimisation of
- » of existing machining processes
- » ALL-in-ONE system solutions
- clamping device + tool + aggregate

We shape future

We are a member of leading associations to provide „State of the Art“ solutions to our customers.



C6 COMPOSITE TOOLING

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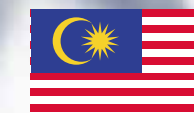
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Always one step ahead
don't miss any trends in
the field of machining and
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