

# We are K-Cut

The UK's leading Abrasive Waterjet Cutting Specialists

Abrasive Water Jet Cutting is a sophisticated modern technique for cutting soft materials like paper through to the hardest substances such as titanium, ceramics, steel and granite. At the K Cut factory our latest generation equipment can even cut through bullet-proof glass!

At K Cut we provide a high tech service for Abrasive Water Jet Cutting. Once a design is transferred into the system's computer a fine abrasive water jet cuts around the shape at ultra high pressure. Computer Aided Design (CAD) technology is at the heart of the process of Abrasive Water Jet but we can work from just a simple sketch, developing your concept into a computer-generated detailed drawing for approval.

The K Cut factory will accept one-off projects or regular orders for Abrasive Water Jet Cutting. We will source your raw materials or if you prefer, allow delivery of your own materials to our factory. We will produce drawings for your approval and deliver the finished goods to your site wherever you are located within the UK.



## Advantages to Waterjet Cutting

Waterjet cutting has many applications, and there are many reasons why waterjet cutting is preferable over other cutting methods. Listed below are several advantages, along with a brief explanation.

- In waterjet cutting, there is no heat generated. This is especially useful for cutting tool steel and other metals where excessive heat may change the properties of the material.
- Unlike machining or grinding, waterjet cutting does not produce any dust or particles that are harmful if inhaled.
- The kerf width in waterjet cutting is very small, and very little material is wasted.
- Waterjet cutting can be easily used to produce prototype parts very efficiently. An operator can program the dimensions of the part into the control station, and the waterjet will cut the part out exactly as programmed. This is much faster and cheaper than drawing detailed prints of a part and then having a machinist cut the part out.
- Waterjet cutting can be easily automated for production use.



Abrasive waterjet cutting is a process for cutting materials using a stream of high pressure water, sometimes adding an entrained stream of abrasive particles to aid with the cut, consequently almost any material can be cut with this technology. A special pump raises the pressure of the water from about 60 psi to 60,000 psi. The nozzle is moved in X and Y axes under computer control and can cut shapes difficult or impossible to make using other processes. The surface finish of a part cut with this process appears as though it was sanded.

There are no heat-affected-zone, when you cut with water as you would have if you cut with plasma, laser or oxy-acetylene flame. Researchers have determined that temperature rise is limited to a maximum of 15 to 20 degrees Celsius and this has no effect on material temper. There is no discoloration due to heat and this is a key point if your part will be visible after assembly and cosmetics are crucial. Water jet technology allows material to be cut quickly and cleanly with minimal waste and no distortion. If you have a CAD/.dxf file, a drawing, or just an idea, we will work closely with you to ensure that the finished product is what you desire. The speed and quality of the cut provided by an abrasive water jet allow us to create many different products, the possibilities are almost without limit.

### What we cut

- Soft rubber
- Hardened tool steel
- Plastic
- Foam
- Titanium
- Nylon
- Carpet
- Aluminium
- Graphite
- Paper and cardboard
- Copper
- Many ceramics
- Gasket Material
- Stainless Steel
- Carbon Fibre
- Soft or thin wood
- Mild Steel
- Composites
- Brass
- Marble
- Soft, or thin wood
- Stone
- Exotic material
- Marble
- Hard, or thick wood
- Granite
- Glass (even bullet proof!)



In fact, there are very few materials that we cannot cut.

### Other Projects

With the water jet almost anything is possible and we do not limit ourselves to any particular type of project. If you have a material to cut and it is not on our list then please ask us for advice. Any design pattern, from Stone to Steel, up to 100mm thick can be cut to your sizes using our state of the art cutting system. With your artwork or CAD drawings we can produce high tolerance shapes to your specifications. We are capable of producing in any quantity from prototypes to full runs of your parts or projects

### Composites & Plastics

Traditionally sensitive composites are not a problem, our process exerts very low cutting force on the work piece. Complex geometries with inside corners and drill holes are available. Plexiglas, Corian, rubber, and gasket materials are precisely contoured to your needs.



At Kcut, as well as our suite of waterjet cutters, we have recently installed a state of the art Trumpf LY2500 laser cutter for stainless sheet steel up to 2 mm thick & mild steel up to 6 mm. The use of YAG laser for cutting of sheet steel is a relatively new technology, requiring lasers that can be run continuously at high power with beams that are fed through a fibre optic cable. The laser cutting technology is especially suitable for the production of finished parts where high quality edge cuts are important. The process is also very much quicker than waterjet.



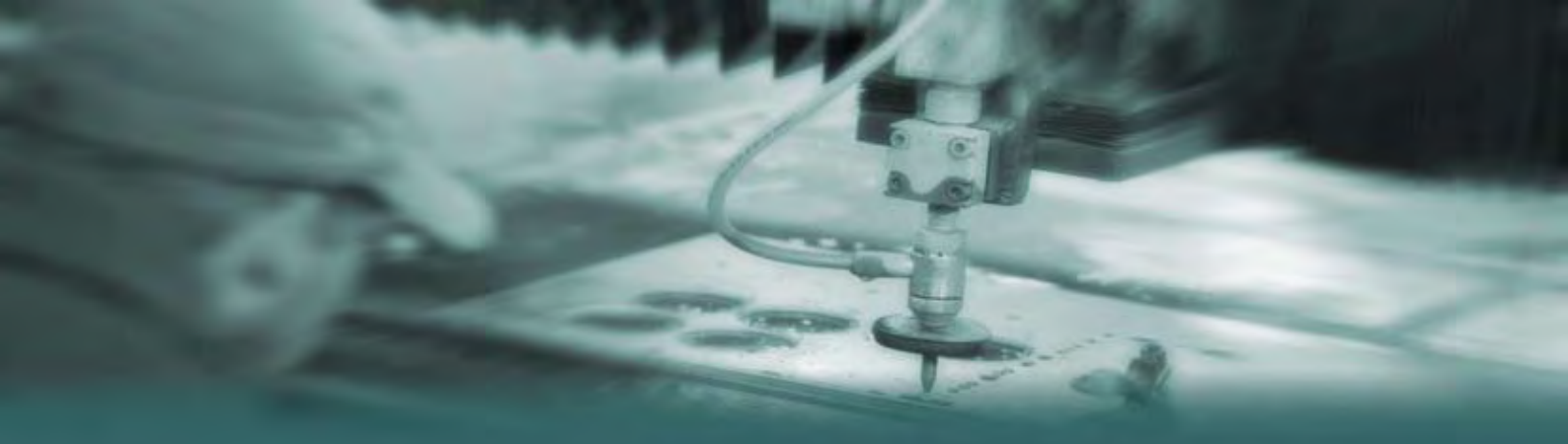
We can cut virtually any design in a variety of materials. Cut quality is consistent using a high-pressure cutting head producing exceptionally clean cuts and offering our customers a fast turn around. We can hold tight positioning and repeatability tolerances, offer nesting capabilities and deliver the part repeatability users of high quality laser-cutting services require.

and consulting services to lower costs, provide small kerfs and heat affected zones, and deliver the part repeatability users of high quality laser-cutting services require.

Our Trumpf laser has an integrated CAD/CAM software system called ToPs, this is a programming system for simple and complex geometry and it can process whole sheets fully automatically.

There are many benefits to laser cutting;

- Our state of the art laser technology, provides you with the highest quality parts due to our ability to cut at some of the industry's highest speeds.
- Production of finished parts with high quality edge cuts.
- Use of CAD software optimises the job from a full sheet reducing potential waste.
- Laser cutting is much faster than other forms of cutting technology.
- A laser is financially more competitive to run than some other cutting methods.



To offer our customers a more complete and rounded product & service folio Kcut Ltd works in partnership with a sister company, DD Fabrications, a privately owned, well established, precision sheet metal engineering & fabrication company specialising in the manufacture of high quality components and products from a range of ferrous and non ferrous sheet materials. The facility is within walking distance of Kcut operating within a well organised 16,000 sq ft premises.



We are collectively continually investing in the latest technology and are constantly looking at ways to maximise our manufacturing capability. We offer an extensive range of production capacity in;

#### Laser Cutting

- Trumpf Laser machine with a bed size of 2500mm x1250mm (max thickness 6mm M/ S2mm St/St)

#### UHP Water Jet Cutting

- 2x waterjet cutting machines with a bed size of 4000x2000mm
- 1x waterjet cutting machine with a bed size of 3000x1500mm
- 1x robotic waterjet cutting machine 7 axis with a cubic bed size of 2500mm
- We can cut almost any material up to 100mm thick

#### Finishing

- 1 PDJ Vibro deburring machine
- Grinding, Linishing, Polishing, Electroplating, Passivation, Galvanising & Powder coating can all be offered as part of a finished product

#### Press Brake Folding

- CNC 200 tonne 7 axis up to 4m in length 8mm M/S 4mm St/St

#### Welding

- 5 welding stations 1 Mig, 3 Tig A/C & D/C, 1 Spot & Stud

#### Fabrication & Assembly

- Drilling, Tapping & Countersinking, Riveting, Joining, Pressing & Fastener Insertion



We predominantly focus on the bespoke production of general and fine limit sheet metal components but have the capability to take on batch processing ranging from prototype through to contractual production. Our factory and plant layout has been designed and set up to provide a lean manufacturing environment giving us a highly efficient well run operation, where throughput and quality are constantly monitored and where customer service is paramount with an emphasis on providing consistent deliveries on schedule.



We are currently implementing a Quality Management System in accordance to the requirements of BS ISO 9001: 2008 and look forward to being annually audited by the British Standards Institute.

Our Quality Department use the latest sheet metal inspection and measuring equipment to ensure we manufacture consistent product conformity.

Our focus on complete customer satisfaction is achieved by continual improvement through ongoing investment in the training & development of our staff, investment in the latest CAD software and most up to date machinery technology.



We believe with our customer commitment and knowledge for what we do, our professional attitude to work, engineering skills and customer service we excel at providing the ever increasing quality standards expected within the sheet metal industry.

If you have any cutting or fabrication requirements we would be delighted to hear from you, we promise to deal with your enquiry swiftly and personally, please call us today for a competitive quote or if you just want to learn how Kcut's bespoke services can help you with your manufacturing process.

Call us on **01524 842974** or e-mail us your enquiry to [info@k-cut.co.uk](mailto:info@k-cut.co.uk)  
You can learn more about Abrasive Waterjet Cutting at our web site [www.k-cut.co.uk](http://www.k-cut.co.uk)

We look forward to hearing from you soon.

John Fothergill (MD)