

# SPHERE PRODUCTS LTD.

## LASER CUTTING SERVICE OPTIONS AND REQUIREMENTS

Sphere Products Ltd. are happy to provide a laser cutting service for your own designs and these sheets are intended to give you an idea of what we can do and what you need to do to get the best results possible.

### What our lasers can do.

Our laser engraving and cutting machines are fairly simple beasts but they can produce some fantastic products.

We can cut MDF up to 9mm thick, Acrylic (Perspex) up to 10mm thick, laser ply up to 6mm and most card and paper stock. We can also cut engraving laminates, similar to plastic card, 0.8 & 1.6mm thick. We cannot or will not cut anything that is PVC based, polycarbonate or polystyrene or any metals.

We can engrave all of the above products as well as glass, ceramics, granite and slate.

Our maximum cutting area is 1195mm x 895mm.

### The difference between cutting and engraving.

There are only 2 modes of operation on our lasers; cutting and engraving and 2 controllable options for each mode; speed & power. It is however possible to adjust the scan gap for engraving; the closer the gap the less visible the cutting lines but the longer the engraving time.

### Cutting

Cutting involves the laser running constantly following a single line path. At a higher power and lower speed the laser will cut right through the material giving a FULL DEPTH cut which is ideal for individual parts. If the power is reduced and the speed increased a PARTIAL DEPTH cut can be achieved which can be used to provide textures and details or add text to a part.

### Engraving

For engraving the laser needs an enclosed area or the black part of a monochrome bitmap image to operate. During engraving the laser head operates like a printer and scans across the bed firing only within the enclosed boundary or over the black areas. The depth of engraving can be increased by slowing the head speed and/or increasing the power; unlike traditional mechanical machining it is not possible to engrave to an exact depth.

### What we would like from you

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### CAD Files

Our lasers can cut directly from .dxf CAD files so if you could supply your drawings in this format it would be great but we can also work from .dwg files. Please be aware that most CAD and drawing packages default setting is in inches and we work in mm so if you could set your drawings to metric it would make life easier and prevent your parts coming out 25.4 times bigger than they should be. For engraving we can work from high resolution monochrome .bmp files or CAD files.

### Drawing Layout

The lasers can order the cutting and engraving by the use of different coloured lines but the colour itself doesn't matter. Could you please provide the following lines on your drawing in different colours;

Internal full depth cuts

External full depth cuts

Sheet edges for nested parts

Partial depth cuts

Engraved areas (use of different colours for different depths of engraving if required)

Cutting lines can be either individual lines, poly lines or enclosed areas. Engraving boundaries must be fully enclosed.

There is no need to hatch/fill any of the areas to be engraved just a note on the drawing will be fine.

It may be easier to use different layers for each colour but please keep all the layers on the same plane. If you have any redundant objects on hidden layers please delete them as the laser will see them.

### More Information

The more information you can give us the better so please feel free to add any further notes or requirements that may help. If you have any pictures of previous work or can tell us what you are planning on making that too will make life easier.

Should you have any questions or issues please feel free to call us on +44 (0)1953 681008 or email [sphereproducts@btinternet.com](mailto:sphereproducts@btinternet.com)

Sample 100mm square of 3mm MDF

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