Laser cutting instructions

Model space or Layout

The AUTOCAD file(.dwg) must be delivered in "MODEL" with the screen in black (never in "LAYOUT"). You may include in a single file all the cuts or engravings that you need.

Scale

When the drawing is in 1/1 scale (meaning 1 unit = 1 meter) you just need to do a simple divison:

1000 / wanted scale = reference number

Example: 1000/200=5 ------ click scale icon, right mouse button, left mouse button, 5 and enter.

When the drawing is scaled it will be understood as 1 unit = 1 mm.

Layers and colours

It is need to create different layers and give a name and colour to each one of them.

Reference layer: magenta. Draw the box with the measures of the material (each material has specific measures) and the laser machine (1300 x 900 mm). These boxes need to have an off set of 8 mm.

Láser →

1.300 mm

1.000 mm

CARTOMAT

700 mm

900 mm

Microcanal: 700 x 1000 mm C. Gris: 500 x 750 mm Cartomat: 500 x 700 / 700 x 1000 mm
Pluma: 500 x 700 / 1000 x 700 mm
Balsa: 100 x 930 mm - Up to 9 balsas can be glued together in horizontal (1000 x 900) and up to 13 in vertical (1300x900)
Pycnantus / Calabo: 1220 x 900 mm DM: 1220 x 900 mm. Ask for the measures of other materials.

Engraving layer: Depp blue. The engraving is to carve the material without cutting it. It's like making a drawing.

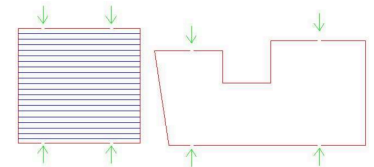**Interior cutting layer: red.** Ex: in a facade it would be the windows.

Exterior cutting layer: yellow. Ex: in a facade it would be its external perimeter.

Distances

To prevent the breaking of a piece, the distances between the cutting lines must be checked. There must be a minimum distance of 1 o 1,2 mm between the cutting lines in a interior cutting. The more thick and hard is the material, the larger could be the minimun distance.

Bridges or breaks

If you have little pieces it would be convenient to make a little bridge/break to avoid the falling of the piece. This bridge must be of 0.8mm and only be used in cardboard, balsa and plywood.

Drawing line

The lines must be POLYLINES

The thick: DEFAULT

Topographics

- Create 5 layers (1-2-3-4-5) with autocad basic colors (red-yellow-cyan-green-dark blue)
- Change color layers and contours in this order: contour 1 - layer: red contour 2 - layer: yellow contour 3 - layer: green contour 4 - layer: cyan contour 5 - layer: dark blue contour 6 - layer: red and so on ......
- Make 5 copies of the drawing in a file. Leave the original.
- Drawing 1: Block layers 1 and 2 and delete the rest.
- Drawing 2: Block layer 2 and 3 and delete the rest.
- Drawing 3: Block layer 3 and 4 and delete the rest.
- Drawing 4: Block layer 4 and 5 and delete the rest.
- Drawing 5: Block layer 5 and 1 and delete the rest.
- In each of the 5 copies must remain two layers.
- Create three new layers: Engraving: dark blue. Interior cut: red Exterior cut: yellow In each of the drawings do the following:
- Drawing 1: Change the layer (put the 1st layer as an interior cut layer - red - , and the 2nd layer as an engraving layer -dark blue-).
- Procedure: Block layer 1 and change layer 2 into engraving layer (dark blue), firtly the first curve and then brush the rest Block layer 2 and change layer 1 into interior layer (red), firstly the first curve and then brush the rest.
- Do the same with each of the drawings bearing in mind that the name of the layers is different in each one.

III matèria PRIMA

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