



ENGRAVING and COLORATION TIPS



<u>Updated</u> : 17/11/00

The Gravoglas 2 is made up of clear Poly Methyl Methacrylate layer (PMMA) over which is superimposed a layer of coloured opaque acrylic. It is available in matt and in glossy.

When engraving, always take care <u>not to SCRATCH</u> the plate. (Methacrylate is very sensitive to scratches.)

CUTTING GRAVOGLAS 2 SUB-SURFACE

Use imperatively a **saw** for Gravoglas 2 sub-surface. Be careful to check the blade quality and not to move the saw carriage too quickly in order to avoid chips.

Circular saw VA 1 : # 68 000 000 VA 11 : # 68 001 000

ENGRAVING GRAVOGLAS 2 SUB-SURFACE

Keep the protective film on the side that will not be engraved during the engraving.

CLAMPING GRAVOGLAS 2 : It can be clamped according to its shape and dimensions on a clamping table or a vaccum table or else on a vice with celoron or aluminium jigs (for a small piece of material).

For batch production, use the mechanical stop located on the jigs.

ENGRAVING WITH A CUTTER: This material is intended for a sub-surface engraving, the engraving depth depends on the character height and the colouring. It gives more or less relief depth to the text engraved.

The use of a regulating nose is recommended. The choice is done according to the engraving width, the tools and the letters to be engraved.

We advise you to use a swarf extractor with Gravoglas 2 sub-surface.

A standard spindle is used

- <u>engraving with a pantograph</u>: You should not apply strong pressure on the spindle in order not to scratch the plate with a regulating nose, but enough to ensure that you will get the depth you wish to obtain.



Remember to use a sub-surface font (use a mirror, direct it towards the line that you engraved to check your text).

- engraving with an electronic machine :
- With a regulating nose : we advise you to release the spindle spring half way



<u>Without a regulating nose</u> : Ensure enough pressure is used in order to have a regular engraving depth.

Remember to selecting the reverse mode in the parameters of the engraving software used.

NB : You can use a collet spindle or high frequency spindle (but watch out for the spindle electric wire) TOOLS

Cutter :

- In carbide (more resistant at use)
- In steel

Grinding					
40°					
18°					
7°					
15°					

Type of tools	<u>steel</u>	<u>Carbide</u>
Ø 3.17	05 576 xxx	05 410 xxx
Ø 4.36	58 106 xxx	58 101 xxx
TwinCut® Insert	-	B7 301*xxx

Caution : these parameters are only valid with Gravograph's standard cutters.

<u>NB</u>: The size of the tip depends on the engraving width you wish to obtain.

* for best results

If you want to obtain a beautiful relief effect for single line (only), use a cutter with a round tip: # 58 106 9xx. (caution : character over 7mm high. The use of this cutter on multi-lines fonts is not advised as the engraved characters would show grooves as the bottom of the engraving).

MACHINE PARAMETERS :

	Speed (mm/s)			Dwelling time	Engraving depth
	<u>Z</u>	<u>X-Y</u>	<u>Rotation</u> (Revolution / mn)		
CUTTER	20 to 35	< 20	18 to 20 000	0	0.25 to 0.3 mm

Number of passes : 2, one for the engraving and one to clean the bottom of the engraving. The 2 passes are necessary to have a polished aspect without facet (essential with the gold paint otherwise furrows are visibles)

COLOURING GRAVOGLAS 2 SUB-SURFACE

This Gravoglas is intended for sub-surface engraving. When applying paint on the engraving, colour will show on the surface through the clear layer.

VERY IMPORTANT : Remember to drive out the swarf with a little soft brush (the one delivered with the machines for instance).



 Paint : Apply it with a flat spatula that will not scratch (a piece of Gravoply or bristol) or fill the engraved characters using a syringe.

 Never apply 2 coats

 Clear away the excess with a clean spatula

 Caution : check that the filling does not contain any air bubbles

 Leave to dry for a few hours.



B4: # 00 014 001

B6:#00014101

CSC Table shear

D4 000 000

Professional

tip

FINISH

• **BEVELLING**: we can use the B4 or B6 machines to enhance the finish of the plate, to obtain different types of bevelling according to your requirement.

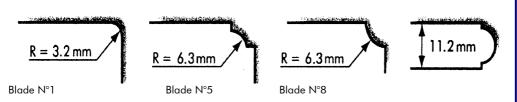
Examples :

 $\dot{\mathbf{v}}$



 CORNER CUTTING : if you want to cut special corners, use the CSC table shear (only on 1.6mm material).

See examples bellow :



Different measures exist for various radius and width.

If you want a perfect presentation, stick down an equal size plate of 0,8 mm thick material or Gravofoil (Gravograph product) on the back of the engraved plate.