# GRAVOPLY 1

## *ENGRAVING TIPS*

Updated : 11/07/00

**Gravoply 1 is notable for its resistance to scratches and chemical agents. This is a supple easy to engrave material.**

## CUTTING GRAVOPLY 1

Use a 'plastic' type table shear or a saw.
Made of 2 supple layers, gravoply 1 can be cut with a Stanley® knife

| Table shear | Circular saw |
|---|---|
| # 06 351 000 | VA 1 : # 68 000 000<br>VA 11 : # 68 001 000 |

## ENGRAVING GRAVOPLY 1

Always work on a clean surface.

- **CLAMPING GRAVOPLY 1 :** 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 batch production, use the mechanical stop which is located on the jigs.
  **➜ Carefully grip the piece : enough in order not to eject and not much not to bend it.**

Caution **:** when you engrave several lines on an 0,8 mm thick little piece of material, the regulating nose can hit the sides of the jigs. Thus the top part of the letters would not be engraved. You must remember to turn the jigs on the side where the shoulder is the lowest ( 0,8 mm high ).

- **ENGRAVING WITH A CUTTER :** Preferably use **a regulating nose**
  You chose your regulating nose according the engraving width, the tools and the letter to be engraved.
  The use of a swarf extractor is advisable with Gravoply 1
  A standard spindle is used
  - Engraving with a pantograph : You should not apply strong pressure on the spindle in order not to scratch plate with the regulating nose
  - Engraving with an electronic machine : Ensure that the spindle spring is released for the spindle to remain supple ( by using strong pressure, the regulating nose may scratch the plate )

**TOOLS :**

**Cutter** :

- steel
- carbide ( more resistant on the long run )

| Grinding | |
|---|---|
| Cutting angle | **40°** |
| Half-taper angle | **18°** |
| Tip angle | **7°** |
| Clearance angle | **15°** |

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

| Type of tools | Steel | Carbide |
|---|---|---|
| ∅ 3,17 | 05 576 xxx | 05 410 xxx |
| ∅ 4,36 | 58 106 xxx | 58 101 xxx |
| TwinCut® Insert | - | B7 300 xxx |

**NB** : The size of the tip depends on the engraving width you wish to obtain.

## MACHINE PARAMETERS:

| | Speed (mm/s) | | | Dwelling time | Engraving depth |
|---|---|---|---|---|---|
| | Z | X-Y | Rotation (Revolution / mn) | | |
| CUTTER | 35 | 35 | 18 à 20 000 | 0 | 0,3 mm |

Number of passes : 1

## MATRIX

The Matrix function that is used for engraving and cutting plates produced in series is found in the Gravostyle'98 software ( optional on Discovery level and integrated in higher levels ).

Special care :
For total cutting : engraving- pause- cutting : 2 tools and 2 cutter settings are required.

❶ For the engraving cutter ( see table of references above )
❷ For the cutting cutter ( see table of references above ; for steel use a 15°cutter : 58 106 015 )

➢ To set the tool : Screw the cutter knob ( caution : left thread ) and position the tool in the spindle in order to make contact with the Gravoply 1 ( usually check through the little openning of the regulating nose that the cutter is really down ) Save the position of the spindle ( little pressure with Gravoply 1 ). Validate the Z axis.

➢ Select the engraving depth by turning the micrometric vernier, knowing that :
4 scales = 0,1 mm thus **1 spin = 0,62 mm**

➢ **At the break** : Select the cutting depth as previously.
It is necessary to add pressure when cutting at the beginning.

*Profesional tips*

If you wish to obtain a bevelled edge on a Matrix application, all you have to do is program a cutting depth according to the aspect you want to obtain and finish by « breaking » the plates off manually. We advise you to set the bevel depth to 2/3 of the plate thickness.

| Cutting depth / Thickness | 0,8 | 1,6 | 2,4 |
|---|---|---|---|
| mm | 0,5 | 1 | 1,6 |
| Vernier divisions | 20 | 40 | 64 |

Recommanded cutters :
- Steel : 58 106 045
- Carbide : 58 101 045
- TwinCut® : B7 315 345
  Livrés par 3

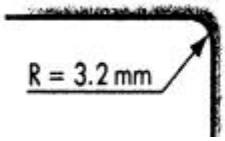
➢ With Matrix all you have to do is « break » the plates off manually.

## FINISH

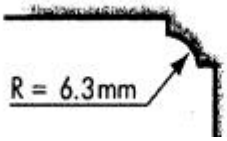
❖ **BEVELLING** : we can use the B4 or B6 machines to enhance the finish of the plate,to obtain different types of bevelling according to your requirement.
Examples :

B4 : # 00 014 001
B6 : # 00 014 101

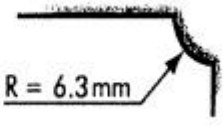
❖ **CORNER CUTTING :** if you want to cut special corners, use the CSC table shear.
See examples bellow :



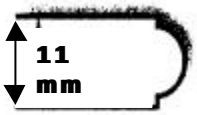

Blade N°1




Blade N°5




Blade N°8




Blade N°11 Different measures exist for various radius and width.