



# GRAVOBRASS

## ENGRAVING AND COLORATION TIPS



Updated : 17/11/00

Gravobross, commonly named brass, is traditionally used for high quality sign making.



When engraving, always take care not to SCRATCH the plate.

### CUTTING GRAVOBRASS



Use a saw.  
For a 1 mm thickness, we can use the 'metal' type table shear.

"metal" type table shear # 06 352 000	Circular saw VA 1: #68 000 000 VA 11:#68 001 00
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### ENGRAVING GRAVOBRASS

- **CLAMPING THE PRODUCT** : It can be clamped according to its shape and dimensions on a **clamping table** or **vacuum table** or else **on a vice with celoron or aluminium jigs** ( for a small piece of material). For batch productions, use the mechanical stop located on the jigs.

Caution : when you engrave several lines on an 1 and 1.5 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).

- **ENGRAVING WITH A CUTTER** : Use a standard spindle **without regulating nose**.  
Caution :
  - engraving with a pantograph : you must **not press too much** on the spindle
  - engraving with an electronic machine : **release the spindle spring as much as possible** in order to make the spindle more supple.

NB : You can use a high frequency spindle or a collet spindle.



- **ENGRAVING WITH DIAMOND** : ( in this case, the engraving depth only enables colouring with Gravoxide ).The pressure of the spindle spring defines the width of engraving.
  - engraving with a pantograph : **constant average pressure**
  - engraving with an electronic machine : we advise you to release the spindle spring **half way**.



Caution : Do not use a regulating nose when using diamond



### TOOLS :

- **Cutter** : In steel or in carbide

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

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

Warning : these parameters are only valid with Gravograph standard cutters.

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

- **Diamond** : tracing diamond

Type of tools	Diamond
Ø 3,17	05 412 317
Ø 4,36	58 102 436
TwinCut® Insert	B7 600 xxx

### MACHINE PARAMETERS:

CUTTER DIAMOND	Speed (mm/s)		Rotation (Revolution / mn) 20 000 Motorless	Dwelling time	Engraving depth
	Z	X-Y		0 0	0,25 to 0,3 mm Spindle pressure
	10 35	From 10 to 20 35			

We advise you to make **one pass at the whole depth**, whatever tool you use.

## COLOURING GRAVOBRASS

In order to achieve a lasting and aesthetic result, coloration with paint is recommended on plates engraved with a cutter :



- ❖ **Paint** : Apply with a flat spatula that will not scratch ( a piece of Gravoply or bristol )



#### Never apply 2 coats

Clear away the excess **with a clean spatula**  
 Leave to dry for 40 mn  
 Clean with application diluant \*  
 Leave to dry for a few hours.

**WARNING** : check that the filling does not contain any air bubbles.

\* Soak a piece of soft cloth , without wool, with application diluant. Lightly rub down your plate to clear away the excess paint.

We recommend the use of Gravograph's paint to avoid an ink or paint incompatibility with the protection varnish.

Gravolaque  
# 87 400 0xx

Application  
diluant  
# 87 413 000

Professional  
tip

Other techniques can also be used :



- ❖ **Cold wax** : ( on plates engraved with a cutter, mainly for small characters )

First lightly heat the tip of the wax to soften it and apply on the characters

Clean with absorbent paper ( such as kitchen paper )

Or wrap a piece of soft cloth that will not scratch round a wedge.

- ❖ **Hot wax** : (on plates engraved with a cutter / minimum engraving depth : 0.5 mm)

Heat the plate on a source of heat ( electric hob, blowtorch, ... )

Instead of holding the engraved brass plate with pliers, which may scratch the plate, we advise you to use oven gloves.

Apply the hot wax stick on the warm plate.

Wax is going to liquefy at the touch of warm plate.

With a sheet of bristol paper, apply the liquid wax on the characters and clear away the excess wax.

After the wax is dry in the engraving, clean the wax burr with a soft cloth (without wool) wrapped round a wedge and soaked with methylated spirit.

In order to give a glossy effect to the wax on the engraving (which has disappeared after having applied spirit), we advise you to heat the plate a second time. The wax will liquefy once more and become glossy again.

- ❖ **DRILLING** : We advise you to use a special drill for brass ( with a longer flute )

- ❖ **BEVELLING** : Use the B4 or B6 machines (depending on the thickness) to enhance the finish of the plate, to obtain different types of bevelling according to your requirement.

Examples :



TIP : Several passes are recommended for large brass thickness.

**REMARK :**

Some oxidation stains may show on the back of brass plates. These marks are not a quality problem but a natural oxidation of the alloy in contact with air.

**You can clean them** by applying an all purpose metal cleaner with a soft and dry cloth, insisting on the stains. Dry and polish immediately.

Cold wax  
# 06 710

Professional  
tip

Hot wax  
# L0415000  
L0414000

Professional  
tip

**FINISH**

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