“PS to TSF Converter”

Trotec

Version 9.0.1

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1. Introduction

The “PS to TSF Converter” is a programme, which converts files from different formats into the “Trotec Spool File” format, so that it can be used in “Trotec Job Control” for engraving your orders. The following file formats are supported:

The EPS and PS postscript formats from the pre-press stage, the PDF data interchange format and the BMP, JPEG and TIFF uncompressed image formats.

Please note that the “Trotec Engraver” printer driver must be installed in order to make the converter functional.

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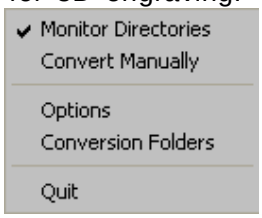
2. Operational Mode

There are two different operational modes: Special directories are monitored in the automatic mode, in which you copy your files to be converted. Different directories are available for different settings, e.g. one for stamps and one for 3D engraving. The stored files are now automatically converted. Select one or more files in the manual mode, specify the settings (similar to the “Trotec Engraver” printer driver) and the converted files are stored in the Trotec spool directory.

2.1. Automatic Operational Mode

Different directories are monitored in the automatic operational mode. Each directory is allocated a specific parameter set. Thus you could have, for example, one directory for normal stamps and another for 3D engraving. When you copy a file here in one of the aforementioned formats, it is always automatically converted into the “Trotec Spool File” format and subsequently saved in the Trotec Job Control spool directory. If desired, a copy of the original is stored in an archive folder. The names of directories and parameters of the graphics to be processed are specified in an INI file (see chapter 3). It is necessary to specify a temporary directory. Files which arise during the programming process are stored temporarily in this directory.

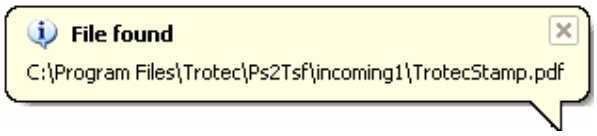


This pop-up menu is activated by right-clicking on the symbol in the system tray

The directories are monitored automatically after the first run of the programme. You can identify this by the animated eyes in the system tray near the clock. A menu opens if you right-click on this symbol. You can temporarily turn off the monitoring process here, by removing the tick before “Monitor Directories”. Please note that directory monitoring is not

started automatically the next time the programme is started, if you end the programme with the option turned off. By clicking on “Manual Conversion”, a window opens in which you can convert individual files. You can learn more about this feature in the next sub-chapter.

If you click “Options” a new window opens, in which you can customise your preferences. If you remove the tick before “Animated Icon”, the eyes stop moving. This also applies when directory monitoring is re-activated.



If you place a tick besides “Display Files Found”, a small balloon opens each time a file has been copied into a monitored directory, which displays the file name. If you wish to end the program simply click on “Exit”.

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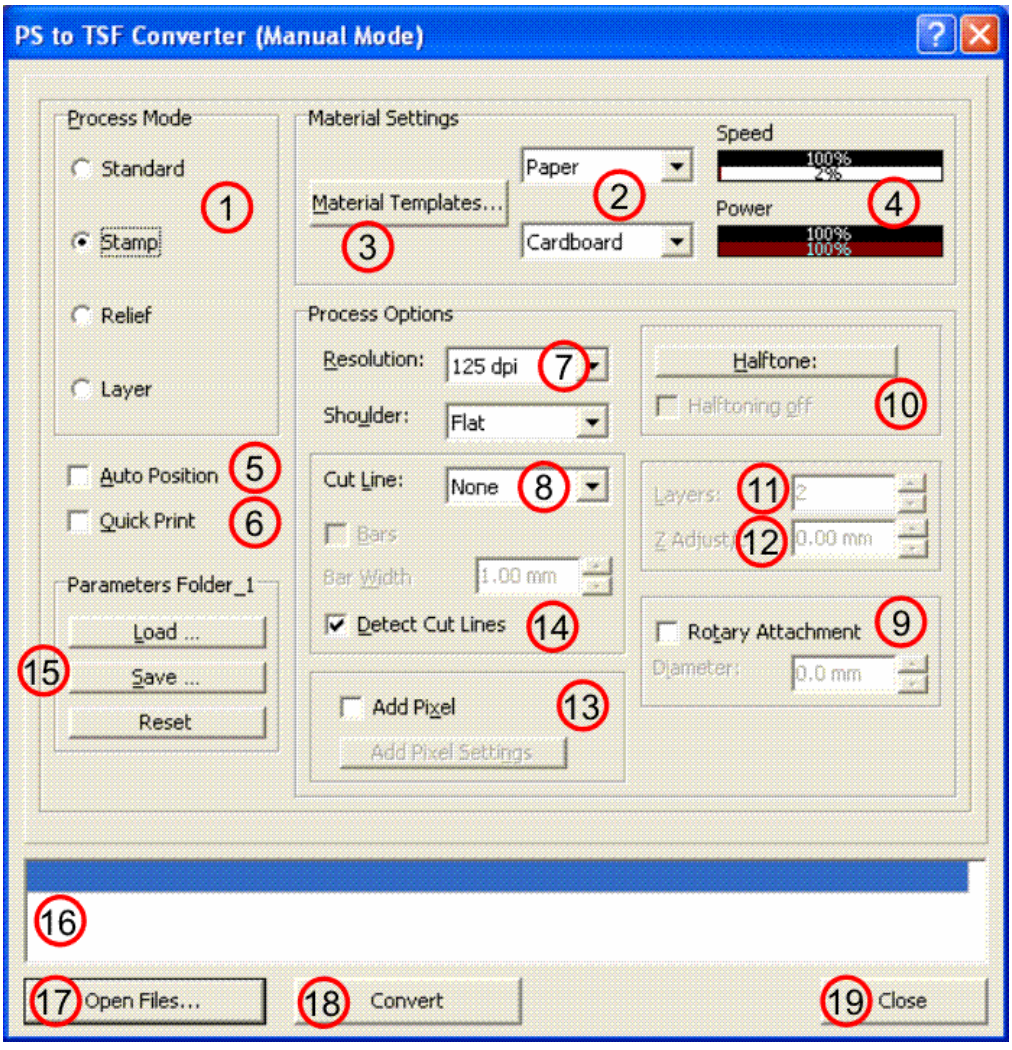
2.2. Manual Operational Mode

In the manual operational mode load one or more files, enter the desired parameter information and convert your files into files in the “Trotec Spool File” format. In this way you can influence how individual files are processed.



The feasible individual settings in this window are clarified below. Many settings correspond to those in the “Trotec Engraver” printer driver. More

precise explanations can be gathered from reading this instruction manual (page 3 onwards).

Set the process mode under 1. “Standard” is a standard process which is used for the majority of routine engraving and cutting operations. With “Stamp” the objects are mirrored, reversed and provided with an edge. “Colour Stamps” are treated in a similar way to “Stamp”, but here additional process parameters for the different colours can be chosen via the colours. “Relief” generates a 3D engraving. The laser output is thereby proportional to the grey tone of the corresponding section of the image. “Layers” generates a 3D engraving in several passes. A greyscale object is also required here. Please observe the respective settings (material dependent) of the engraving and cutting colours.

Select your desired material under 2. If this is not yet available you can call up the dialogue for material templates by clicking on 3 to create a new material template. For details on this dialogue please refer to the instruction manual for the “Trotec Engraver” printer driver (page 7). The speed and performance settings of engraving and cutting the selected material are displayed under 4. The files processed with “Auto Position” 5 are arranged automatically on the plate for subsequent processing. If “Quick Print” 6 is activated, the files are automatically arranged on the plate and engraved immediately.

7 Set the resolution in dpi with which your file is to be engraved under. Higher resolutions produce higher quality. The speed must then be simultaneously increased or the laser output (for a higher engraving time) should be reduced.
8 specifies whether an automatic cutting line should be added. These are added to any already existing cutting lines. You have the choice between a rectangular, circular and optimised (irregular, adapted to the contours of the

object) cutting line. If you select the option of “Retaining Tabs”, the cutting lines are interrupted in several places so that the engraving piece is still partially connected to the blank. It is thus firmly attached; however, you can detach it without problem by hand. Enter the width of the retaining tabs under “Tab Width”. In practice a width of approx. 1 mm is proven and tested for rubber stamps. If you would like to process cylindrical workpieces, you must select the “Circular Engraving” 9 option. Enter the diameter of your workpiece.

With “Rasterisation” 10 greyscales and/or colour pallets existing in the original file are converted into black-and-white rasters. This is necessary for e.g. stamps as no greyscales can be processed here. The refinement of the raster can be set in the properties of the “Trotec Engraver” printer (in the Start Menu under printer settings). To do this you have to select the button “Rasterisation” under “Laser” and set the size of a raster cell under “Raster Image Sample”. By selecting “Rasterisation Off” you can stop the rasterisation through the converter. If the process mode “Relief” or “Layers” is not set, all colours in the graphic are then illustrated in one of the 16 Trotec process colours (which is the closest to it). White is always used as background colour which is not engraved.

The “Layer” setting 11 can only be used in the “Stamp” and “Colour Stamp” process modes. You can choose between flat, medium and steep sides. In the “Layer” process mode you can select the number of layers and set how far the table should raise after each layer under 12.

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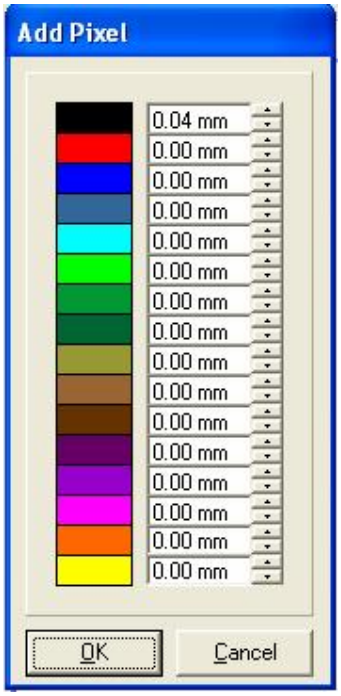
It is possible that narrow sections of the image appear to be too thin e.g. individual letters or letter parts of a stamp. If this is the case “Expansion Pixels” 13 can be added. The window illustrated will appear by clicking on “Colour Settings”. You can choose the colours which expansion pixels are to be used for. You can also specify the size of expansion for each colour. If the “Recognise Cutting Lines” option 14 is selected, the converter tries to recognise the cutting lines by using an intelligent procedure in your template. If the option Use Tracer=0 is set in the parameter set, then the cutting lines must exist as vectors with a template in one of the formats PDF, EPS or PS. The thickness of the line should not exceed the maximum line width, which can be specified in the parameter set. With Use Tracer=1 and the BMP, TIFF and JPEG bitmap formats, the cutting lines are extracted from the bitmap via a tracing procedure and must exist as lines with 1 pixel width. In this case, no cutting colours can be added to the Job Control, because the tracer only searches for colours that are recognised in the converter as cutting colours from the material parameters.



By using the buttons “Open” and “Save” 15, you can save all settings actuated in this window in a file in order to be able to use them again in a later session. You can also use the “Save” button to save a parameter set that is to be used for all files: In the automatic operating mode this is copied into a specified directory (also refer to chapter 2.1).

The names of the files are displayed in the window 16, which are opened by clicking on “Open Files” 17. The conversion process is started by clicking on “Convert” 18. The converted files are copied into the spool

directory of the “Trotec Job Control”. From there they are processed automatically. You can customise these default settings. Specify it in the window and save it in the programme directory of the converter (usually C:\Programme\Trotec\Ps2Tsf) under the name default.tpf. This set is then also loaded each time the programme is started. If you are finished with the conversion process, you can close the window by clicking on “Close” 19 in the manual operational mode. You can also use the key combinations “CTRL+L” for the “Open File” function, CTRL+S for “Save File”, “CTRL+R” for “Default Settings” and “CTRL+Q” to close the window.

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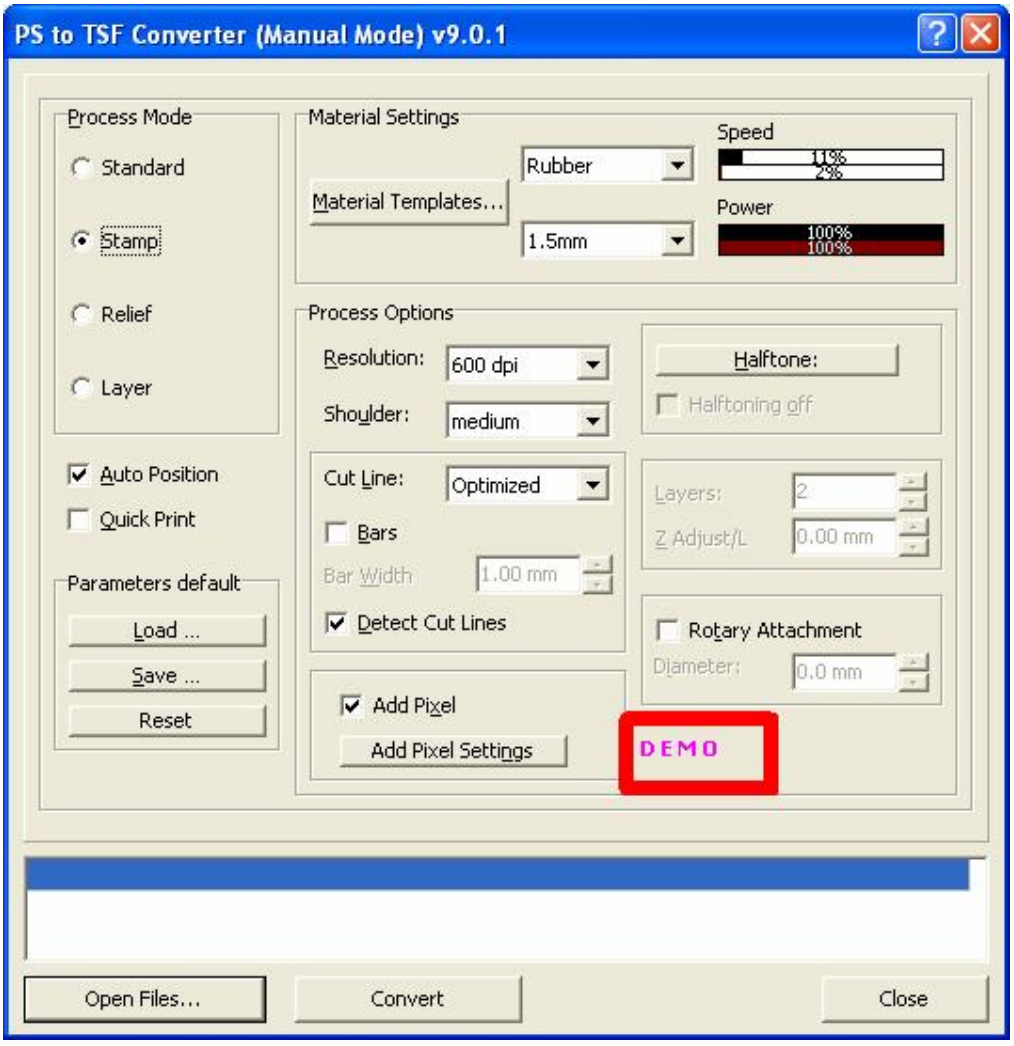
3. Software Keys

Starting with version 9.0.1 the latest PsConverter is now protected with the standard Trotec Software License Keys protection mechanism. In the case of an invalid detected key the converter will start in a demonstration mode, where the resulting job will be changed in some parts.



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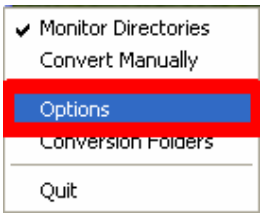
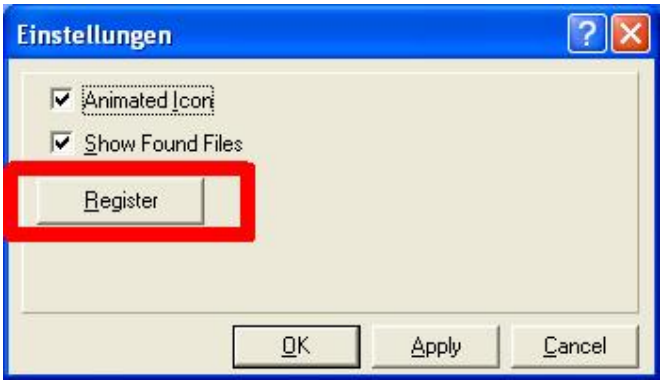
3.1. Code input

The code which you've received from your Trotec retailer, can be entered through context menu of PsConverter. Please make a right mouse click on the system tray icon of PsConverter.



The dialog for registration can be invoked trough "Register" Button.



In order to get a valid license for your PsConverter you've to transmit your serial number **(1)** to your Trotec retailer.

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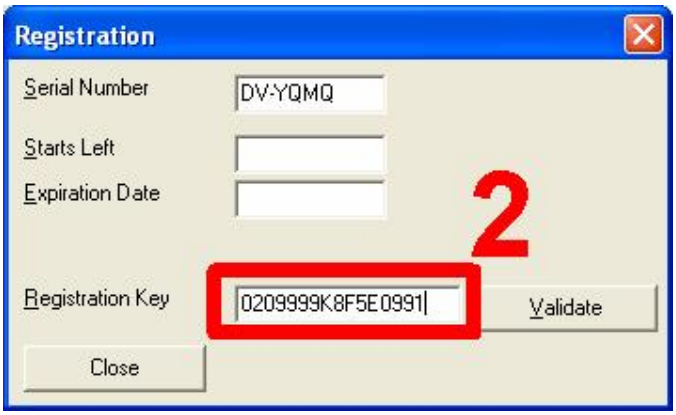
The received code, has to be entered **(2)** as shown below. The entered code get's validated through „Validate" Button.



In this example a code which is limited for 20 program starts has been choosen.

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4. Directory Settings

The file, in which you enter your monitored directory and additionally required settings, bears the name “Directories.ini”. It can be modified by any text editor. For example, you can use the “Editor” for Windows (Notepad), which can be found in the Start Menu under “Accessories”. The file consists of two groups. Each group is characterised by its title enclosed in square brackets. The so-called “Keys” are found within these groups. The name of the key is always located at the start of the line. An equal's sign then appears followed by the equals sign and the value of the key. The path names can be specified absolutely (e.g. “C:\Programme\”) or relatively (e.g. “..\Temp”) Relative paths are always distinguished respective to the programme directory. “..\Temp” thus becomes “C:\Programme\Trotec\Temp” when the converter is installed in the directory “C:\Programme\Trotec\Ps2Tsf”.

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4.1. Main Group

This group starts with the header ”DirectoryMonitorAll”. Here, all those directories are registered that are valid for all parts of directory monitoring.

Key	Meaning	Value
TempDirectory	Name of the temporary directory where the files are temporarily stored during processing	e.g. C:\Temp
ArchiveDirectory	Name of the archive directory where the originals are stored	e.g. C:\Archiv
PreserveCopy	0=Do not keep a copy 1=Keep a copy in archive	0, 1

4.2. Directory Group

Each directory group starts with the header ”DirectoryMonitorDir”. A sequential number is appended to it, which thus develops successive groups “DirectoryMonitorDir1”, “DirectoryMonitorDir2”, etc. Each group contains two keys which are specified below again.

Key	Meaning	Value
MonitoredDirectory	specifies the directory which is to be monitored	**e.g.** C:\Entry1
ParameterFile	Refers to the parameter file that is used for each detailed file	e.g. C:\Parameter1.tpf

You can generate the parameter file via the window of the manual operational mode. Select your desired parameter and then click on “Save” (in the “Parameter” area). Specify the file name (incl. path) in the INI file. There are some parameters which must not normally be altered and which should only be modified by advanced users. These parameters can only be modified in the parameter file itself. Comments are also located there as a brief explanation of the parameter meanings.

5. Appendix

5.1. Example file Directories.ini

```
[DirectoryMonitorAll]
TempDirectory=C:\Temp
ArchiveDirectory=C:\Archiv
PreserveCopy=1

[DirectoryMonitorDir1]
MonitoredDirectory=C:\Eingang-Standard
ParameterFile=C:\Parameter\Standard.tpf

[DirectoryMonitorDir2]
MonitoredDirectory=C:\Eingang-Stempel
ParameterFile=C:\Parameter\Stempel.tpf
```

5.2. Example file Parameter set *.tpf

```
[TsfFileHeader]
; ProcessMode=0 – Standard Mode
; ProcessMode=1 – Stamp Mode
; ProcessMode=2 – Colour Stamp Mode
; ProcessMode=3 – Relief Mode
; ProcessMode=4 – Layer Mode
; described in Trotec Manual
ProcessMode=0

; Resolution in dpi (dots per inch)
; equivalent to the lines to be engraved per inch
; possible values: 125, 250, 333, 500, 600, 1000
; described in Trotec Manual
Resolution=500

; Type of added cutlines:
; Cutline=0 – none
; Cutline=1 – rectangular cutlines
; Cutline=2 – circular cutlines
; Cutline=3 – optimized cutlines
; described in Trotec Manual
```


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Cutline=0

; Slope of Stamp Shoulder
; StampShoulder=0 – steep Shoulder
; StampShoulder=1 – medium Shoulder
; StampShoulder=0 – flat Shoulder
; described in Trotec Manual
StampShoulder=1

; number of Layers in the Layer mode
Layers=2

; only active in Layer mode:
; table height increment between adjacent layers
; described in Trotec Manual
ZAdjust=0

; A number unequal zero indicates that a rotary attachment is
; used. In this case the number represents the diameter (mm).
; described in Trotec Manual
RotaryAttachment=0

; the Name of the material to be used
; representing a set of parameters
; described in Trotec Manual
MaterialName=Standard

; AutoPosition=1 – job is positioned immediately on the plate
; described in Trotec Manual
AutoPosition=0

; QuickPrint=1:
; directly printed to the engraver
; described in Trotec Manual
QuickPrint=0

[TsfConversion]

; HalftoningOff=1 – deactivates halftoning
; described in Trotec Manual
HalftoningOff=0

;TrotecColorMapping=1:
;the resulting 256 color bitmap
;is in corted in a bitmap with the
;16 Trotec colors

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TrotecColorMapping=1

;only active for eps, ps and pdf files and TrotecColorMapping=1:
;UserDefinedColorTable=1:, 256 color palette of the bitmap is mapped to the
;Trotec palette with the entries in ColorTable.ini
;UserDefinedColorTable=0:
;256 color palette of the bitmap is mapped to the
;Trotec palette with a Windows-API function

UserDefinedColorTable=0

; DetectCutlines=1 – detect cut lines in the original file and
; save them as vectors in the TSF file
DetectCutlines=1

; ShowpagePresent is set to 1, if the EPS files do already
; contains a showpage at the end of the file (normally
; that is not). If it's present without this parameter being
; set to 1 the created bitmap is doubled in file size. Correct
; conversion is anyhow guaranteed.
ShowpagePresent=0

; only active for EPS, PS and PDF files:
; UseTracer=1 – The vector extract algorithm for EPS, PS and
; PDF files is not used. Instead the cutlines are extracted
; after the file has been converted to bitmap by using a
; tracing algorithm for 1 pixel lines
UseTracer=0

;only active if DetectCutlines=1 and
; the bitmap tracer is used
;(for eps, ps and pdf files only if UseTracer=1):
;CheckTraceColor=1:
;before tracing cutlines, it will be
;checked if the cutlines are only
;1 pixel lines
CheckTraceColor=1

;only active for eps, ps and pdf files and
;UseTracer=0 or DetectCutlines=0:
;only vectors with width (in mm) <= MaxLineWidth are
;extracted as cutting lines
MaxLineWidth=0.1

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; CutlineWithBars=1 – To keep the stamp in place after the
; cutting is finished 4 fixture points (bars) are placed on
; the cutting path.
CutlineWithBars=0

; only active if CutlineWithBars is used:
; the width of the bars (in mm)
BarWidth=1

; only active if optimized cutlines and CutlineWithBars is used
; for stamps:
; MinimizeEngravedStampArea=1 – The area outside optimized
; cut lines will not be engraved.
MinimizeEngravedStampArea=1

; only active if optimized cutlines and CutlineWithBars is
; used:
; during the optimization process the width of the stamp can
; only be reduced to this fraction
; available values: 0 < ShrinkRes < 1
ShrinkRes=0.3

; only active if optimized cutlines and CutlineWithBars is
; used:
; minimal horizontal gap (in mm) in optimized cutlines not to
; be suppressed
GapSuppression=2

; only active if optimized cut lines and CutlineWithBars is
; used:
; interval (in mm) for evaluation of the moving average
SmoothPar=1

; only active if optimized cut lines and CutlineWithBars is
; used:
; parameter used for vectorizing optimized cutting lines,
; should not be changed
SmoothLineAccuracy=0.8

; only active for BMP, JPEG and TIFF files or if UseTracer=1:
; If single pixel lines in a bitmap are traced for creating
; cutting vectors, small gaps (≤ MaxGapClosed (in mm)) will be
; closed.
MaxGapClosed=0.2

; only active for BMP, JPEG and TIFF files or if UseTracer=1:

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; ClosePolygons=1 – close an eventual gap (≤ MaxGapClosed)
; between the starting and the ending point of a polygon
ClosePolygons=1

; AddPixel=1 – Additional pixels are added for engraving
; not engraved parts of the stamp will get bolder.
AddPixel=0

; only active if AddPixel=1:
; AddPixel<x> (1<=x<=16) indicates the width of ; the additional not engraved ;border (in mm) around the not ; engraved objects of the stamp.
AddPixel1=0.04
AddPixel2=0
AddPixel3=0
AddPixel4=0
AddPixel5=0
AddPixel6=0
AddPixel7=0
AddPixel8=0
AddPixel9=0
AddPixel10=0
AddPixel11=0
AddPixel12=0
AddPixel13=0
AddPixel14=0
AddPixel15=0
AddPixel16=0

;Parameters of Halftone Adjustment **caFlags**=0 **calIluminantIndex**=0
caRedGamma=10000
caGreenGamma=10000
caBlueGamma=10000
caReferenceBlack=0
caReferenceWhite=10000
caContrast=0
caBrightness=0 **caColorfulness**=0

caRedGreenTint=0

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