PLATEPATCHER 26.06

USER MANUAL

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System Requirements

The following minimum requirements must be met:

- Intel Dual Core 2 processor
- 8 GB RAM
- Network board
- screen resolution of 1,280 x 1,024 pixels
- Microsoft Windows 7 64bit
- disabled firewall
- disabled UAC (User Account Control)

The following configuration is recommended:

- Intel i9 processor
- 16 GB RAM
- Hard drives: 512 GB SSD
- 1 GB network board
- Microsoft Windows 11 64 bit

Windows Service and Ports

The service for the *"Digital Flexo Suite"* is started automatically.

The following programs must be enabled:

- **gravurd**
- **cmotsim**
- **cdid**

The Digital Flexo Suite Service "bsl_cdisvc / Esko DFS" and an http server "bsl_http / Esko HTTP" are installed to allow communication with the CDI.

The following ports are used for communication with the CDI:

- Port 5542: gravurd (TCP)
- Port 5543: cmot (TCP)
- Port 5544: cdid (TCP)
- Port 5544: cdid (UDP)
- Port 5580: http server (TCP)

In the firewall, these ports (in/out) must be released on the DFS as well as on the CDI.

First Start-up of the Software

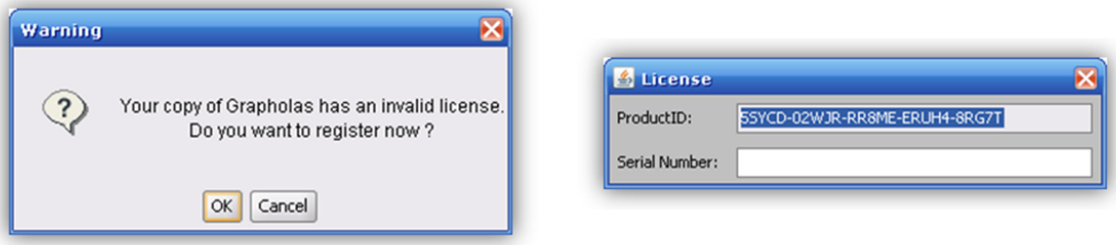
The *"PlatePatcher"* analyses the image content of LEN or TIF files and applies register marks to the determined areas. A file with coordinates is created for automatic mounting. A printout of an ACM or EPS file is used for manual mounting.

The *"Viewer"* is used for viewing and measuring the Len/TIF files. The angle and the rasterization can also be measured.

All important settings are copied over during an update. If the software is being installed for the first time, the network settings must be set.

Entering the License Key

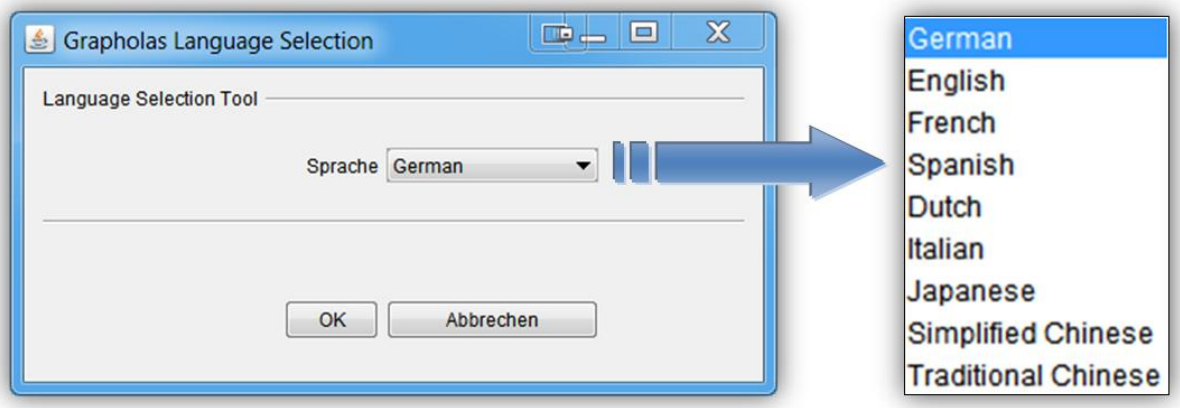
During initial installation or when updating from an older version, the license key must be entered to start the *"Merger"*:



The ESKO-Service provides a serial number for this *"ProductID"* which needs to be entered in the *"Serial Number"* field and confirmed by ENTER. The license can be subsequently changed with the *"New License"* program in the Windows Start Menu under "Esko - Digital Flexo Suite - System".

Setting the Language

The language can be changed in the Windows start menu under "ESKO – Digital Flexo Suite - System – UI Language":



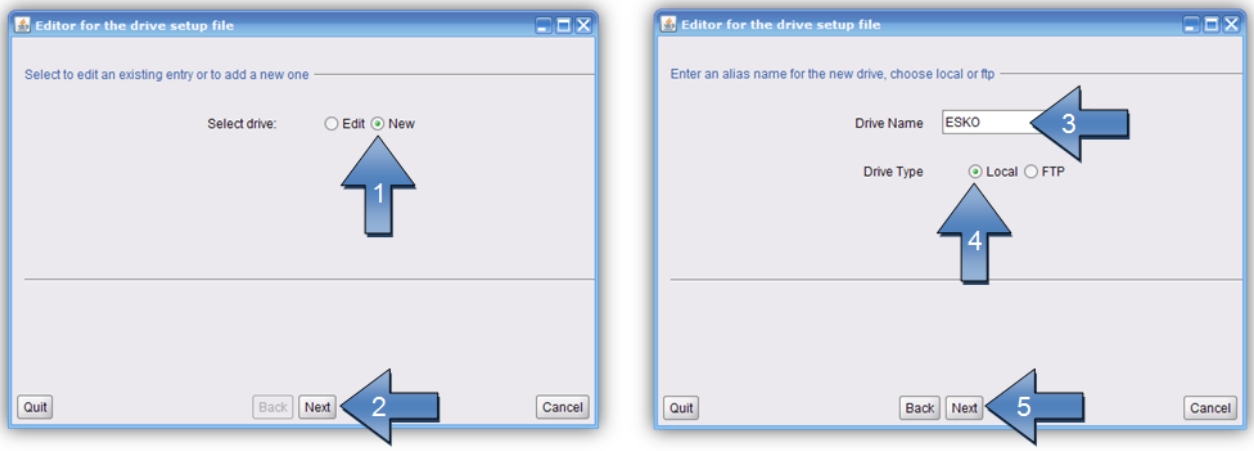
Managing Data Sources

The image data can be loaded from the local hard drive, by means of a network release, or by FTP. Transmission using FTP protocol is generally more secure than using a network release.

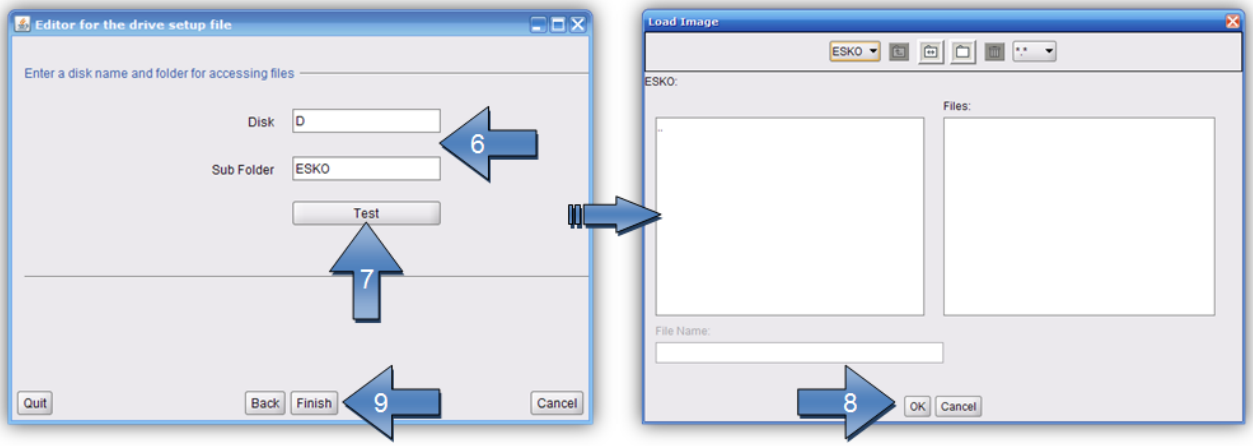
The path entered during installation for the *"User Data"* is already released as a network drive. Additional data sources can be set up under "Edit – Data Source".

Adding a Local Data Source

Local data sources can be located on the hard drive of the computer or accessible in the network via "share" function.



The name of the data source *"Drive Name"* (3) will be shown later in the load dialogue.

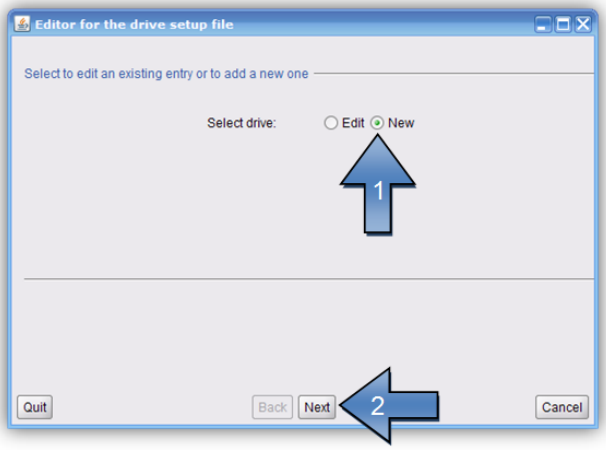


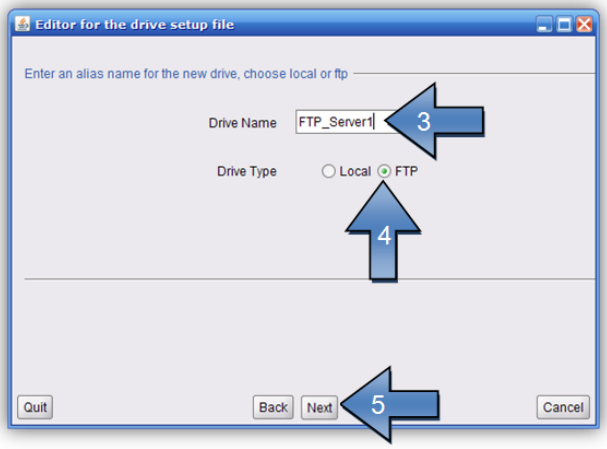
"Disk" and *"Sub Folder"* (6) designate the drive letter and the directory containing the data.

Clicking "Test" (7) opens a new window with the data source set up. "Finish" (9) completes the process. You can always switch to the previous page by pressing *"Back"*.

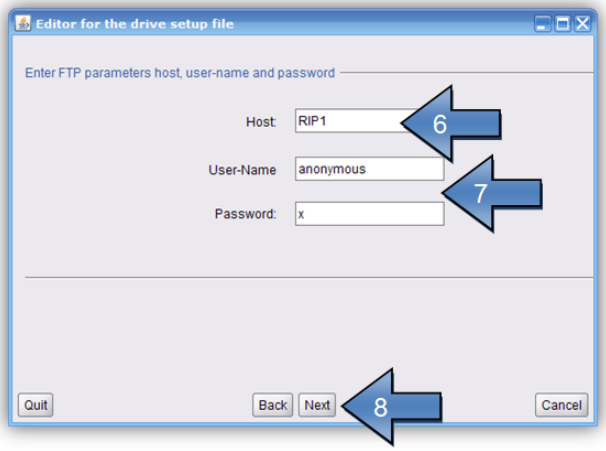
Adding an FTP Data Source

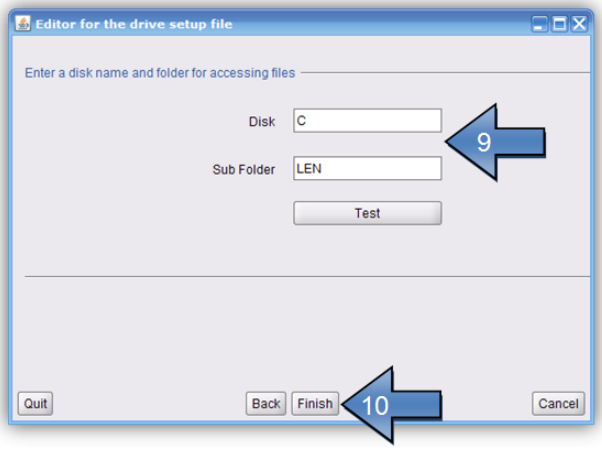
The FTP server of the data source requires a virtual directory. For a detailed installation manual, refer to *"Digital Flexo Suite 101 Installation"*.





The name of the data source *"Drive Name"* (3) will be shown later in the load dialogue.





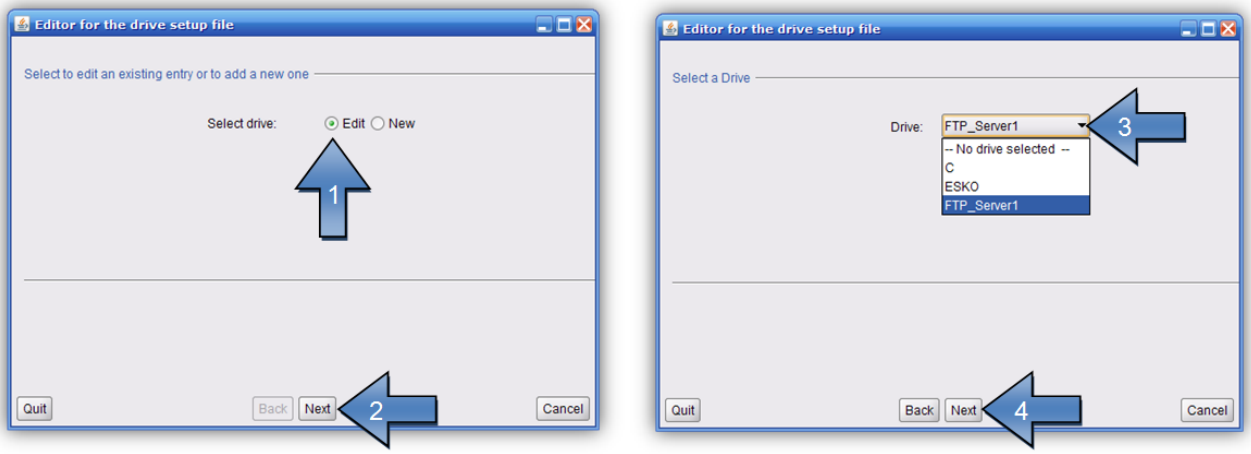
Enter the IP address or the network name in the field *"Host" (6)*. If the FTP server was installed as specified, enter the *"User-Name"* (7) and the *"Password"* (7) as shown in the illustration.

"Disk" and *"Sub Folder"* (9) designate the virtual drive and the directory containing the data. Should no virtual directory be available, leave the *"Disk"* field empty.

Clicking "Test" opens a new window with the data source set up. "Finish" completes the process. You can always switch to the previous page by pressing *"Back"*.

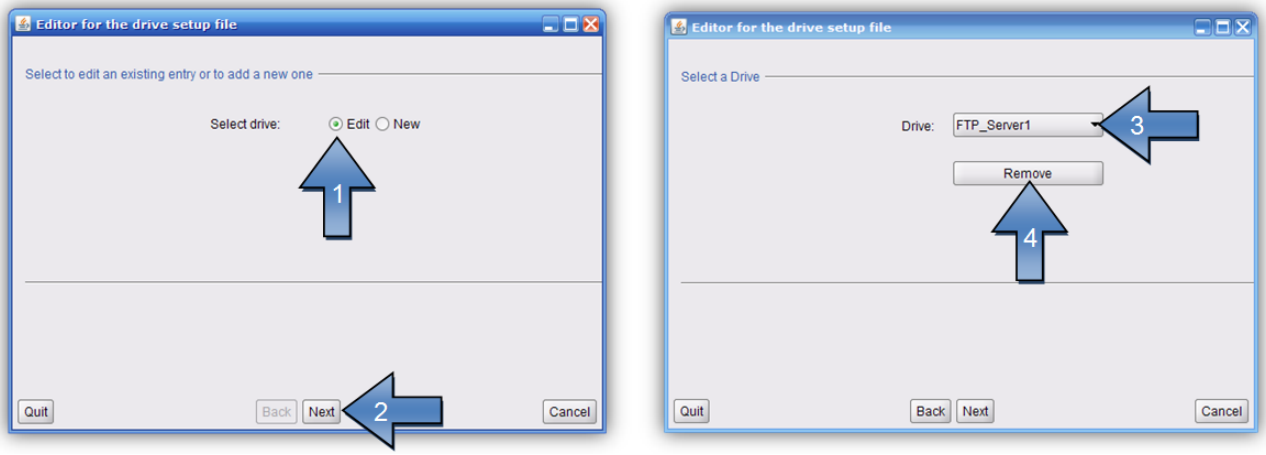
Changing an Entry

The settings of the data source can be subsequently changed.



After selecting the *"Drive"* (3), you can change the following settings.

Deleting an Entry



After selecting the *"Drive"* (3), you can remove it by pressing *"Remove"* (4).

Saving Settings

When you terminate via *"Quit"*, a new window opens requesting whether you want to overwrite the current settings.

Pressing *"OK"* saves the current settings.

PlatePatcher

opens the PlatePatcher in a new window.

The PlatePatcher automatically searches the LEN or TIF files for free areas to cut out the remaining image content. Depending on the output device, the relevant files will be created for subsequent mounting.

For digital mounting, a camera and a mounting file are used to mount the plate pieces with mounting marks on the mounting film. The accuracy is very high.

For analogue mounting, a printout or mounting pins are used to manually mount the plate pieces on the mounting film. The accuracy is low.

Digital output devices:

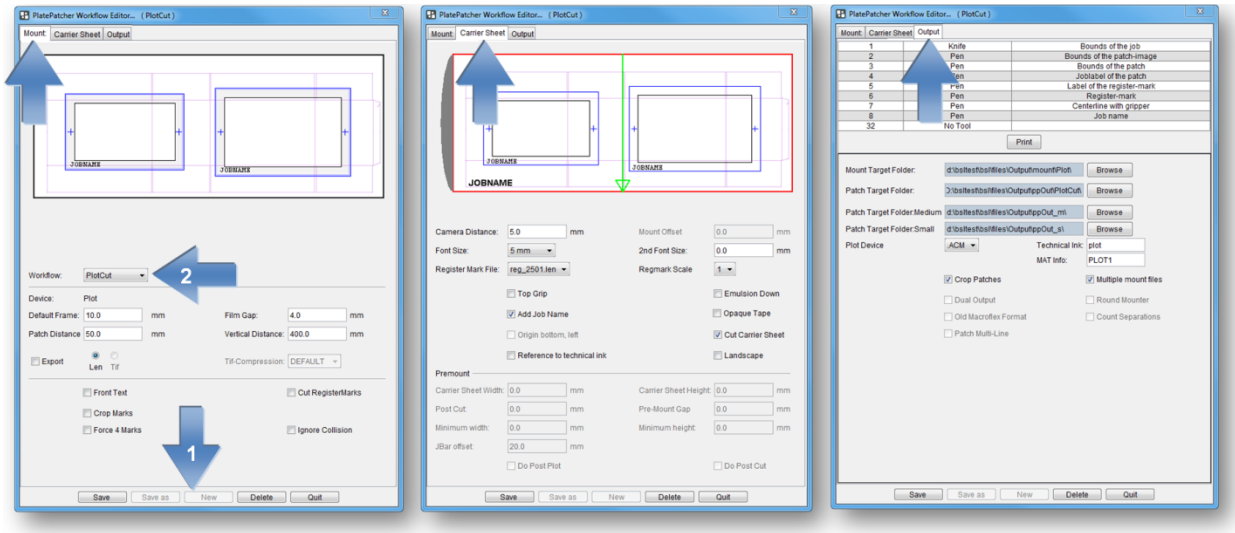
- **"AV Optimount"**
  round mounting and flat mounting possible
- **"AV-Famm"**
  support for FAMM Round and FAMM Flat
- **"Macroflex"**
  flat mounting
- **"Heaford"**
  flat mounting
- **"PreMount" on CDI**
  flat mounting - exposure of the plate pieces on the CDI

Analogue output devices:

- **"ACM-PLOT"**
  cutting and labelling of mounting film
- **"EPS-PLOT"**
  film labelling
- **"Drill"**
  drilling holes into the mounting film and the plate pieces
- **"Bieffebi"**
  labelling of film and camera control

Setting the PlatePatcher Options

Templates are created for the PlatePatcher options by calling up the *"PlatePatcher Workflow Editor…"* under *"Edit"*:



For each mode, the "PlatePatcher Workflow Editor" shows a preview with the currently set values. Irrespective of the output, an ACM file is generated so that the mounting film on the Kongsberg table can be cut and labelled.

On either side, different values are set:

"Mount": setting of the output device

"Carrier Sheet": setting of the mounting film

"Output": setting of the file output

Adding Settings

By selecting *"New"* (1), a new window appears in which you can enter a name for this setting. *"OK"* confirms the input. The new setting is automatically selected.

Adjust the required settings and save them by pressing *"Save"* (1).

Changing Settings

Select the setting (2) and change it. Press *"Save"* (1) to save the setting.

To not lose existing settings, the new settings can be renamed by pressing "Save as" (1).

Deleting Settings

Select the setting (1) and delete it by pressing *"Delete"*.

Possible Settings

Each mounting device can be adjusted individually. Before starting the device for production, these properties must be set and checked during a test mounting. For this purpose, a job which is unsymmetrical in X and Y direction is to be used.

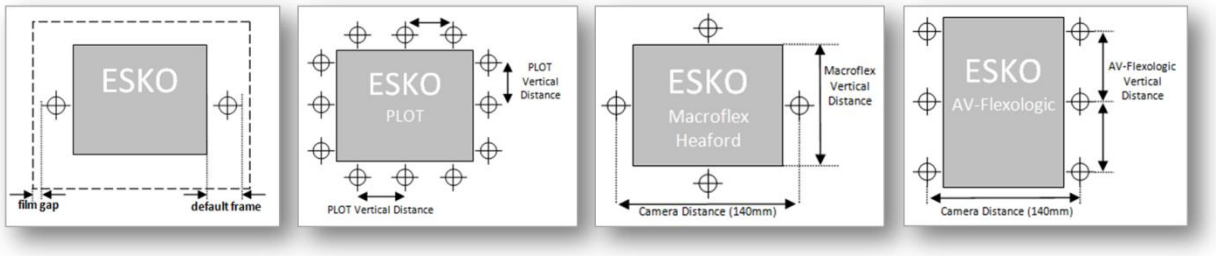
Mount:

"Default Frame": Minimum distance between the "patch" and the border of the created image. If this is set too small, a collision can occur during automatic grouping.

"Film Gap": Distance between the register mark and the border of the image clip. This area is also used for subsequent cuts using the 45° knife.

"Patch Distance": *D*efines the distance between two image elements by compiling them automatically in one grouping. Elements with a larger distance are separated.

"Vertical Distance": Height above which additional register marks are added to the patch.



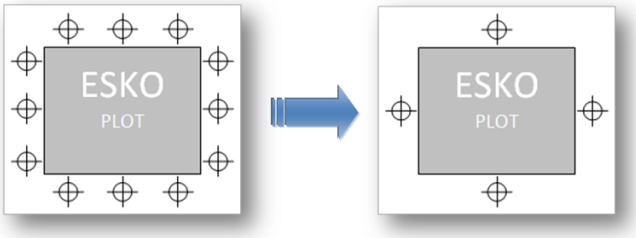
"Export - LEN / TIF": The resulting images are exported directly into directories instead of transmitting them to the Merger. An extra licence is required to output TIFs.

"Front Text": The patch label is not exposed together with the plate but carved into the frame area using the knife on the Kongsberg table. This labelling needs not to be removed afterwards.

"Cut RegisterMarks": For Plot output, the register marks can be carved with the knife. This way, is not necessary to remove the marks later on.

"Crop Marks": Adds guides to the corners of each output file which can be used for manual cropping.

"Force 4 Marks": Always creates four marks in Plot&Cut mode.



"Ignore Collision": Writes register marks even if they overlap with image data. In this case, the marks should be manually moved to a position where they will not interfere later when printing the image.

Carrier Sheet:

"Camera Distance": Determines the minimum camera distance for the selected mounting device. A higher value creates wider patches.

"Mount Offset": With AV Optimount, an upper and lower image border is inserted in the grouping window. This is required when register marks must be positioned above or below the image. The entire co-ordinate plane is moved by this value, which results in a difference to the original gripper distance during the mounting.

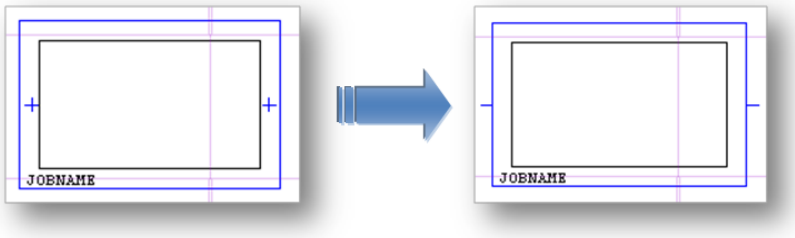
"Font Size": Size of the texts on the mounting film.

"2nd Font Size": Size of the job name. With the setting "0", *"Font Size"* is used.

"Register Mark File": You can select the mounting marks from a list. An overview can be found in the appendix.

"Regmark Scale": Enlarges the mounting marks on the mounting film significantly.

"Opaque Tape": Creates lines on the mounting film outside the image file in Plot&Cut mode so that it can be mounted more easily. This option should be used in combination with *"Force 4 Marks"*!



"Top Grip": Mirrors the output coordinates in the circumference direction. This option has to be activated when the image data is mirrored after patching, which is the case with some other types of CtP exposure units.

"Emulsion down": Rotates the output coordinates by 180°.

"Add Job Name": Automatically inserts the file name under each output file.

"Origin Bottom Left": Places the origin of the coordinates at the bottom left when using Macroflex. The mounting is usually performed from the middle. In this case this option must not be activated.

"Cut Carrier Sheet": Automatically cuts the mounting film on the Kongsberg table after the register marks or mounting holes and the carton cut have been drawn. Depending on the plate distortion, the gripper distance and the height of the mounting film are automatically counted back.

"Reference to technical ink": When activated, the centerline, and for Macroflex also the baseline, is related to the cut***.***

"Landscape": The ACM file for the Kongsberg table is 90° rotated. This is necessary to, for example, cut a 4260 plate on an XL 20 table.

Style - Premount

"Carrier Sheet Width" and ***"Carrier Sheet Height":*** Specifies the desired output format of the mounting film for the PreMount output (see "*PreMount*").

"Post Cut": Distance between the finishing cut and the edge of the plate piece for PreMount. The value "-5" is also suitable for thick plates. The finishing cut removes the edge around the patch which was created during UV exposure.

"Pre-Mount Gap": Enlarges image sections in the mask for plate mounting when using PreMount.

"Minimum Width" and ***"Minimum Height":*** Enlarges small plate pieces to this minimum size for *"PreMount"* output.

"JBar offset": With *"PreMount"* output, the mounting film is labelled. This value indicates the distance of this label from the lower edge of the mounting film, so it will not be covered by the mounting rail.

"Do Post Plot": If available, the carton cut for PreMount can be subsequently written onto the film. It is not written on the mounted plates.

"Do Post Cut": The UV exposure creates an elevated edge around each "patch". This edge is removed in the last step using the 45° knife. The unexposed plates are cut using the straight knife.

If this option is deactivated, a mask is automatically created for the UV exposure. The unexposed plates are then cut using the 45° knife.

Output:

"Mount Target Folder": Is the folder where the mounting file is stored.

"Patch Target Folder": Is the folder where the plate pieces are stored when *"Export"* is selected.

"Plot Device": Sets the output format for the plotter. ACM is always available for the output on the Kongsberg table. EPS output requires an extra license.

"Technical Ink": In order to be able to identify the technical ink (carton cut) at a later stage, the designation must be determined according to the file name (for example, filename_PLOT).

"Mat Info": As an option, the name of the XL-Guide "Job Setups" which will be automatically loaded on the Kongsberg table can be entered in this field.

"Crop Patches": If areas are grouped in different separations in multi patch mode, the resulting patches are reduced to the required size. If this function is deactivated, patches of the same size are created.

"Multiple mount files": Creates a coordinate file for each separation. If this function is deactivated, all coordinates are written into one file.

"Dual Output": When this option is activated, an additional Heaford mounting file is created for the Macroflex output and the AV output.

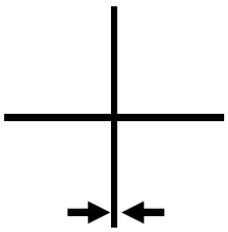
"Round Mounter": For AV Optimount, the coordinate file is counted back to 100%. The distortion values are entered on the mounting device.

"Old Macroflex Format": Writes the DHM file for older versions of Macroflex without line break.

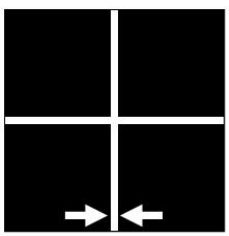
"Count Separations": Enumerates the separations in the Macroflex output file.

"Patch Multi-Line": Creates three lines in the Macroflex output file for each patch. In this way, the upper and lower register marks can be used even with older Macroflex models (see *"Vertical Distance"*).

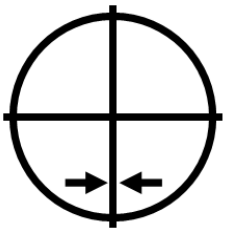
Register and Mounting Marks for PlatePatcher



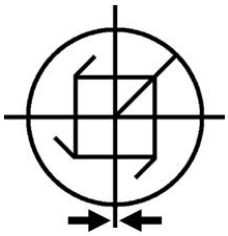
reg_2501	2,5 mm x 2,5 mm	0,5 mm
reg_501	5 mm x 5 mm	0,2 mm
reg_501	5 mm x 5 mm	0,3 mm



reg_5010_Negativ	5 mm x 5 mm	→← 0,1 mm
reg_10010_Negativ	10 mm x 10 mm	→← 0,1 mm



reg_502_c	5 mm x 5 mm	0,2 mm
reg_503_c	5 mm x 5 mm	0,3 mm



reg_5010_M	5 mm x 5 mm	0,1 mm
reg_5020_M	5 mm x 5 mm	0,2 mm

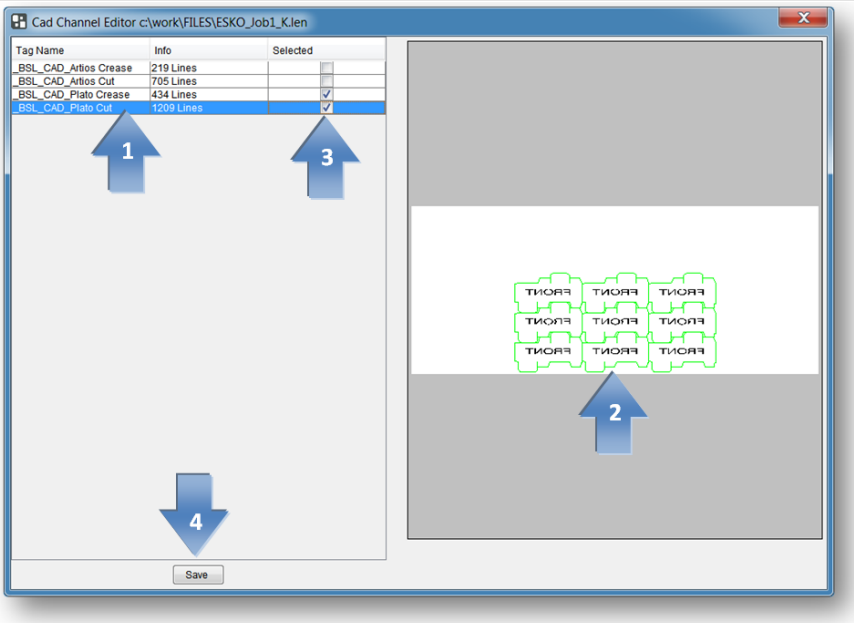
Selecting Technical Inks

Since the Esko Automaton Engine 12, LEN files can be provided with the technical ink. The CF2 file is no longer used in this case.

Depending on the application, the name of the technical ink may be different or several technical inks may exist. For this reason, one or more technical inks can be selected.

When a job is loaded in the PlatePatcher, the LEN files are searched for technical inks and a warning message appears if an unregistered ink is included.

The "Channel-Editor" displays the currently selected file with the included technical inks:



A left mouse click on the CAD channel (1) updates the display (2).

In the "Selected" (3) area, the desired CAD channels can be selected; this selection is then saved in the selected PlatePatcher setting using "Save" (4). Different technical inks can be assigned to each PlatePatcher setting.

Editing a Job

Independent of the mounting machine, patching is always carried out in the same sequence.

The following job "GaelicGhost" with 4 inks plus the technical ink and the CF2 file of ArtiosCAD for the carton cut is used to explain the *patching* of image data.

The PlatePatcher requires the job data in the mounting alignment.

The file names are used to assign the technical ink and the CF2 file to the job. As with the Merger, the names may not include special characters. The ink designation may not include spaces or underscores:

Job:

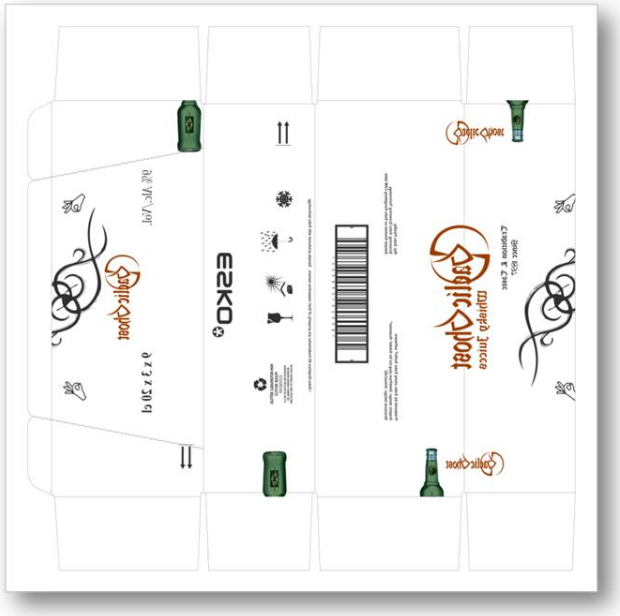
GaelicGhost_c.len - GaelicGhost_k.len - GaelicGhost_y.len- GaelicGhost_1605.len

Technical Ink:

GaelicGhost_PLOT.len

CF2 file:

GaelicGhost.cf2

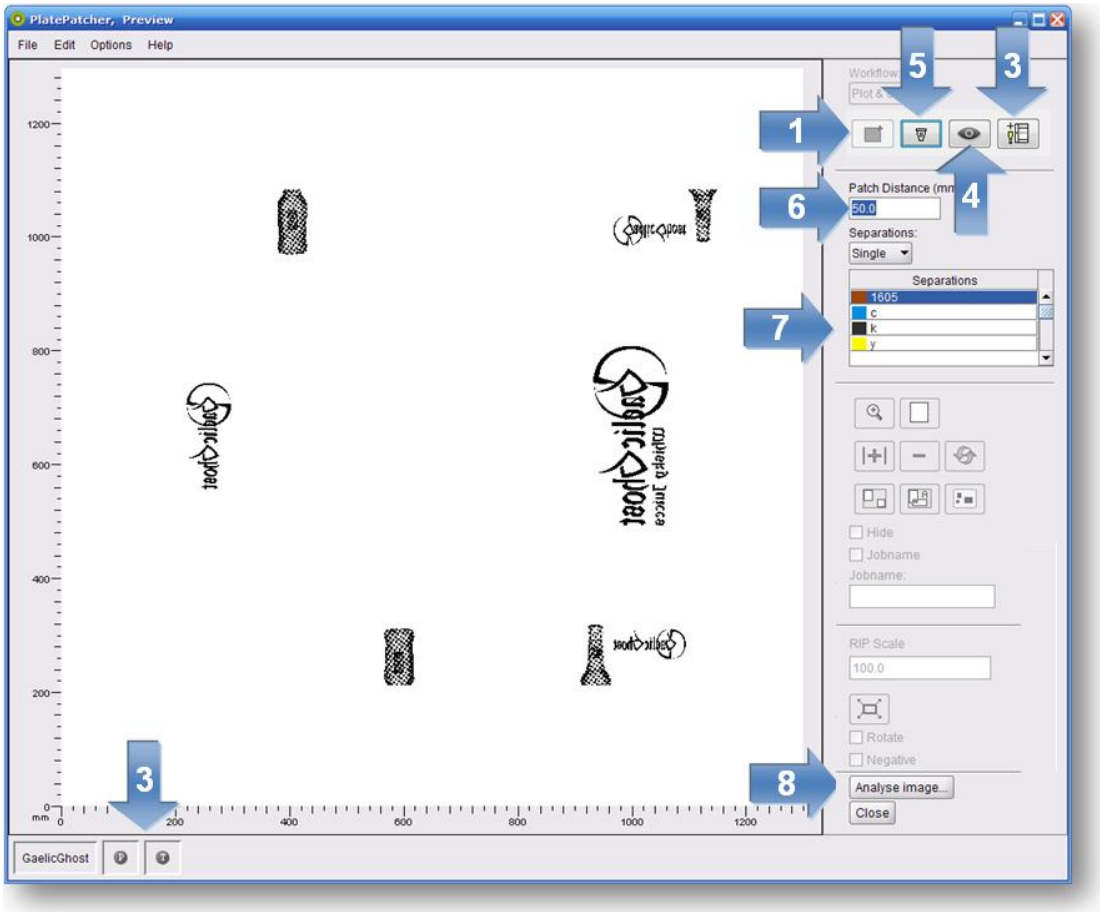


The start occurs in *"Preview"* mode. The Merger remains in the background but cannot be used.

1 Selecting the mounting settings:

2 Load the job.

Select only one separation, then confirm it with *"OK"* or double-click the file to load it. The other separations and control files are automatically copied into the working directory and displayed.



3 Check if the technical ink (P) and the CF2 file (T) were loaded. If these files are missing contrary to expectations, check the file names.

In some cases, no CF2 file is required since the cutting file is already included in the LEN file. If an error message is displayed, the technical colour is to be added as described previously.

4 By selecting *"View…"*, the entire job is opened in the *"Bitmap-Viewer"*.

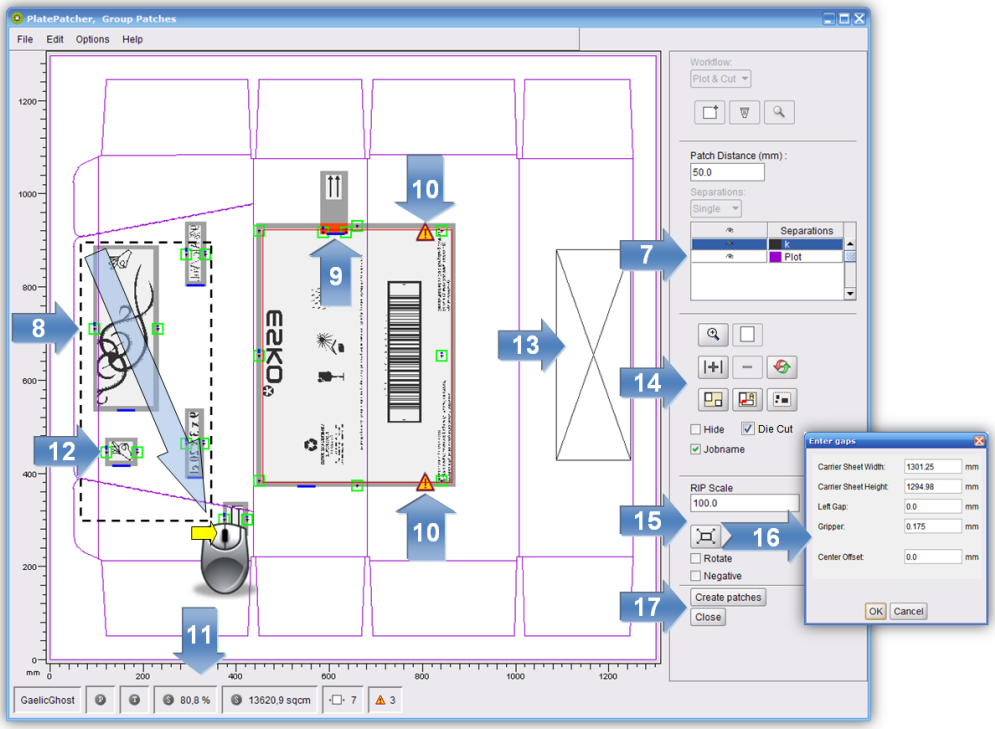
5 Clicking on *"Clear"* removes the images from the display, the options can then be selected again. This step does not delete any data on the storage medium.

6 Under *"Separations"*, the *"Single"* option is to be selected to patch single separations. *"Patch Distance"* defines the distance between two image elements by compiling them automatically in one grouping. Elements with a larger distance are separated.

7 Select the separation. A preview is displayed in the main window.

8 By selecting *"Analyse image"*, the image is analysed and displayed in the grouping window. You can also start the analysing process by double-clicking the respective separation.

"Close" closes the PlatePatcher.



7 Clicking on the eye next to the ink in the table activates or deactivates the display.

8 Several patches can be selected by pressing the "Ctrl" button and the left mouse button simultaneously and then grouped by clicking on *"Group"* (12) or "g".

Alternatively, you can also use the left mouse button to pull a lasso around several "patches".

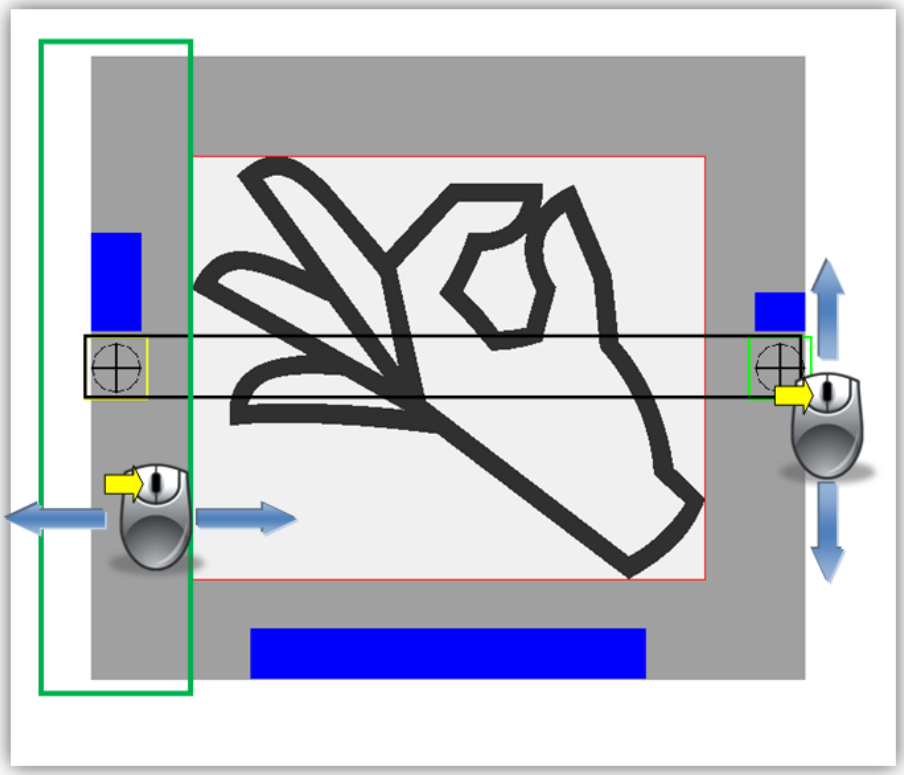
Press Ctrl + a to mark all plate pieces.

9 Overlaying plate pieces are marked in red and listed in the information display (11).

10 Collisions of mounting marks with image data are highlighted with an exclamation mark. The patches can be created but the mounting marks will not be drawn in order to not change the image content.

11 The information field displays the area saved in cm² and as a percentage, the number of plate pieces and the errors caused by overlapping plate pieces or mounting marks.

12 Marks can subsequently be moved. Clicking on the mounting mark once changes the colour to yellow and a green frame is shown. The mark can be move horizontally by holding down the left mouse button in the green frame.



Another click on the yellow mark changes the colour to red. The mark can now be moved vertically with the left mouse button pressed on the mark. The opposite mark is automatically moved simultaneously.

13 Hidden elements are marked with a cross.

14 The arrangement of the plate pieces and the number of register marks can be changed as follows:

groups the plate pieces or ungroups them.

automatically inserts an additional mounting mark between the marks in the centre. To this end, the plate piece must be marked.

inserts an additional drill hole at any position.

After actuating this button, you can select the position by clicking the left mouse button.

removes the selected register mark.

sets the mounting marks for the marked patch back to their original positions.

analyses the currently selected patch with the reset "Patch Distance".

cuts a large plate piece. After selecting the plate piece, this icon is activated. Then left-click the desired cut position within this plate piece. Cutting is not possible in the frame areas.

automatically removes all overlays.

activates the zoom function.

Press and hold the left mouse button to select an area to be zoomed in.

As an alternative, you can use the mouse wheel.

displays the entire image.

"Jobname" is used to add the file name to the lower border of the patch.

"Hide" or *"x"* hides one or more marked patches. This option can be used to hide unnecessary elements.

"Dye Cut" activates or deactivates the output of the technical ink

15 The distortion *"Rip Scale"* is automatically read from the LEN file. For TIF files or if the distortion information is missing, the distortion is calculated based on the size difference between the CF2 file and the technical ink of the distortion. If the information is indefinite, 100.0 is displayed as value but can be changed manually.

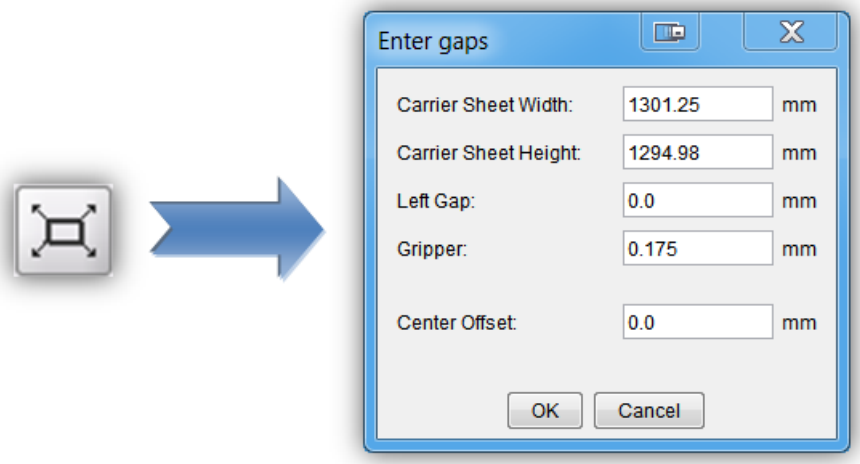
With some mounting devices, *"Mount Scale"* can be used to scale the output file. This is not possible if *"Cut Mylar"* was selected in the PlatePatcher settings.

"Rotate" rotates all output files by 90°.

"Negative" inverts all output files for film exposure units because negative images cannot be edited in PlatePatcher.

The settings *"Negative"* and *"Rotate"* can only be changed in the first separation and are then valid for the entire job.

16 The size of the mounting film can be changed as follows:



The position of the image data can only be set for "*PreMount*" and "Plot&Cut" output.

If these values are not changed, the size of the loaded image file will be used. Depending on the settings, the plate distortion will be taken into account.

The image file is automatically positioned in the centre. As soon as the "*Mylar Width*" is changed, the gap between the image and the left film side is calculated anew in the "*Left Gap*" field.

The centerline, which will be drawn at a later time, can be moved in the "*Center Offset*" field.

The automatically calculated gripper distance can be changed in the "*Gripper*" field. This requires consultation with the design department.

17 *"Create Patches"* cancels the grouping. The requested files are created and transmitted to the merger or a directory. This process may take several minutes, depending on the complexity. Collisions of register marks with image elements and overlays are displayed in a corresponding message window. In general, no image data is overwritten.

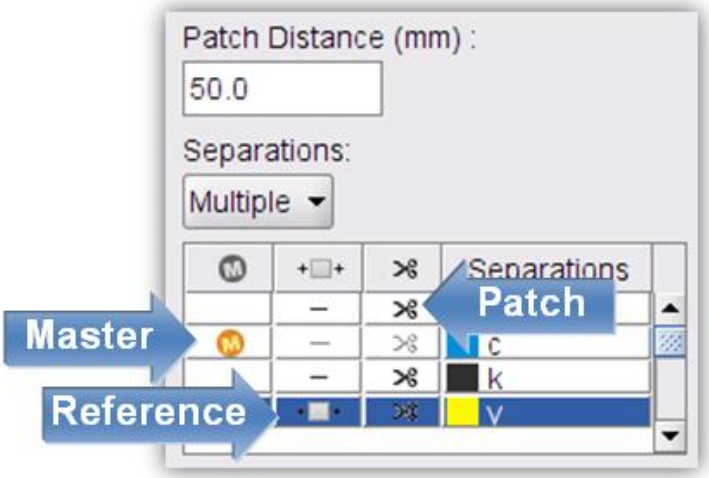
"Close" closes the grouping view without creating files.

All separations are edited in sequence. Select the next separation (5) and repeat the process. Mounting files are always updated when data is created so that all required data is available at the end.

Multi Patch Mode

All separations are displayed and edited together. The selected base separation *"Master"* is not cut and includes the register marks of all other separations after editing. All other separations are based on this base separation on the mounting device at a later time.

If *"Multiple"* is selected, the table with the separations extends:



"Master" selects the base separation from the loaded job. The master must still have sufficient free space to allow the register marks of the other separations to be placed.

"Reference" selects a separation which is not to be cut. For mounting, mounting marks are placed to the left and the right of the image.

"Patch" displays the separations which will be analysed.

Set the *"Patch Distance"* and open the grouping window by selecting *"Analyse image…"*.

The same editing options as in the "Single Patch Mode" are available.

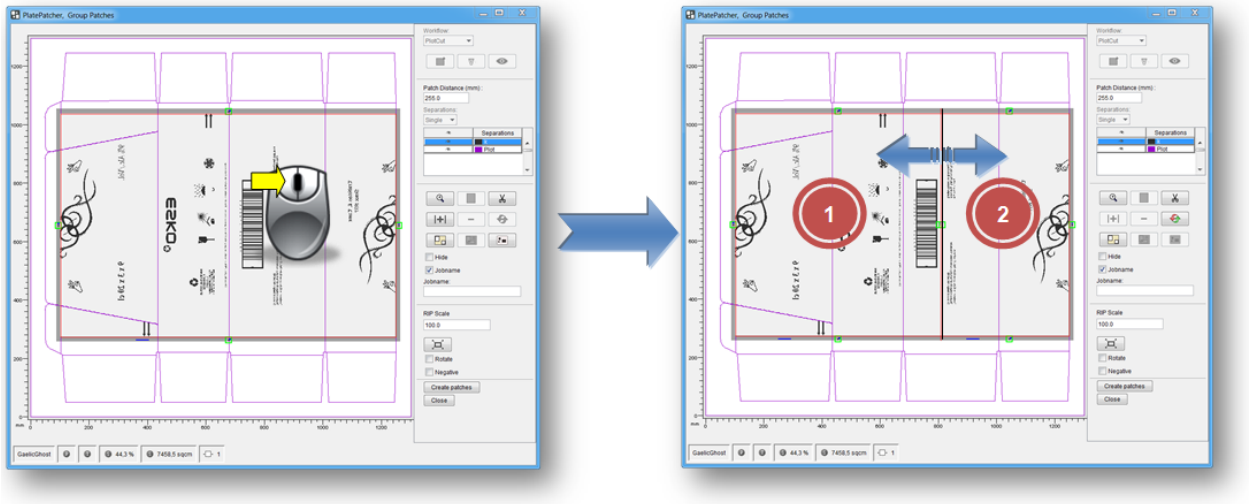
As opposed to *"single patching"*, collisions can now also occur on the *"Master"*. As the separations are still mounted separately, overlays between different separations no longer occur.

Showing and hiding separations facilitates keeping an overview in the event of complex jobs. The reference separation is labelled *"ref",* the master separation *"Master"*.

Cutting Large Plate Pieces

cuts a large plate piece.

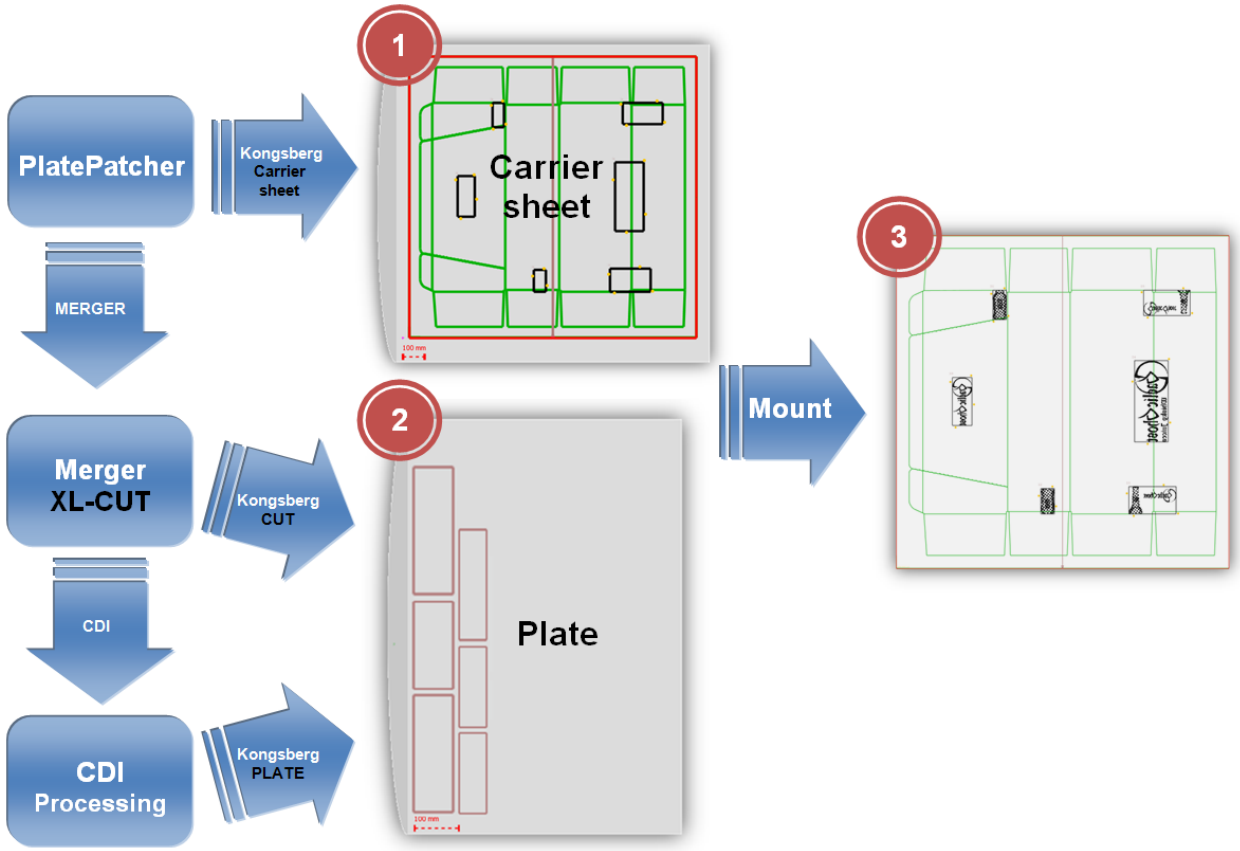
After selecting the plate piece, this icon is activated. Then left-click the desired cut position within this plate piece. Cutting is not possible in the frame areas.



New positioning marks are added to each side apart from the seam. To manually undercut this seam, the two plate pieces overlap. In addition, a mark is added to the top and the bottom of the seam which can be used for manual cutting.

"Plot & Cut" - "Drill"

For "Plot" or "Drill" mounting, the PlatePatcher creates an ACM file for each separation for the Kongsberg table. These ACM files include data for labelling, drilling and cutting the mounting film.



The carton cut, the mounting marks and the guides are drawn first. Then the mounting film is cut to the required size. For the "Drill" output, holes will be drilled beforehand.

As of version 10.0, the output size of the mounting film for the "Plot & Cut" output is no longer determined by the size of the image data. For the "Drill" output, the LEN file and the film size must still be identical.

The option *"Cut Mylar"* must be selected in the settings. This prevents the elements to be placed outside the mounting film.

In addition, the plate distortion for the gripper distance (2) and for the mounting film height (1) are counted back to 100%. The calculated plate distortion should be checked in the grouping window of the PlatePatcher.

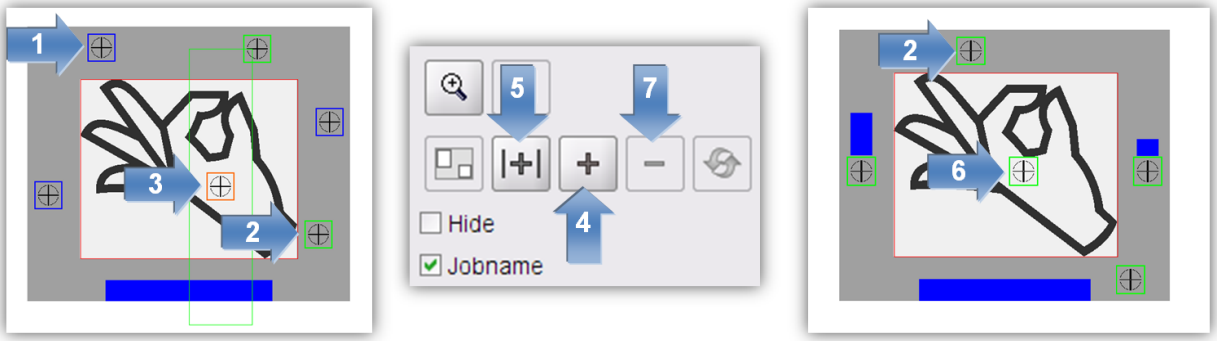
The centerline refers to the centre of the loaded image, except if the option *"Use Cut"* is active. In this case, the centerline refers to the cut.

Green drill holes (2 & 3) can be moved in all directions in the green frame by pressing and holding down the left mouse button and deleted by selecting *"Remove"*. Additional mounting marks in the frame can only be moved to a certain extent.

The frame is automatically filled with drill holes or mounting marks (2). The parameter "Vertical Distance" determines the distance.

Drill holes can be added subsequently at any position (3). For this purpose, select icon 4 and left-click on the position of the new drill hole.

Additional mounting marks can only be added between the two marks in the centre of a patch (6). To this end, mark the patch and click on icon 5. Marked holes can be removed by clicking icon 7.



In order to mount the plate pieces, additional drilling information is added to the LEN files so that the Merger can transmit the drill holes to the Kongsberg when sending the plate job. The option XL CUT must be activated. Each plate piece will have its own drilling pattern in order to avoid confusion during the mounting of the plates. Depending on the size, three or four holes will be drilled. These hole positions cannot be moved in the PlatePatcher.

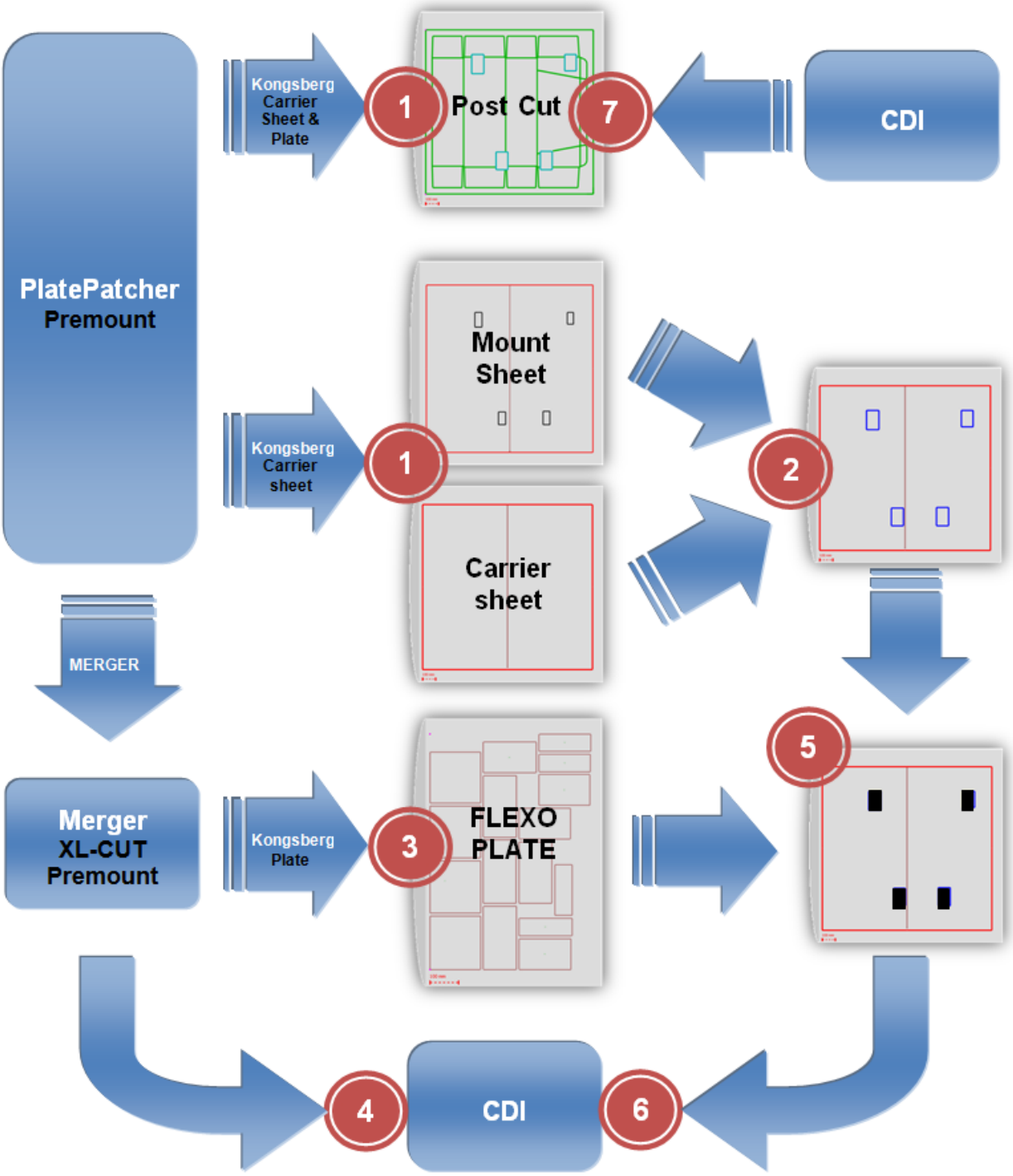
Blue drill holes are automatically added (1). These holes cannot be changed in order to avoid confusion during the mounting.

The number of possible positions of the holes is defined by the hole size and the frame around the plate pieces. If too many small plate pieces were created, it is possible that there are not enough positions for all of them. A message window is displayed. In this case, either the frame or the plate pieces must be enlarged by grouping.

Setting-up the drill hole size must be carried out by a service technician at the location. The *"Flexo Drill Toolkit"* is required for the Kongsberg table.

"PreMount": Mounting with the CDI

For "PreMount" mounting, the PlatePatcher creates plate pieces which are cut out of the unexposed plate. These will be positioned on the mounting film which will then be mounted in the CDI. The mounting accuracy is very high.



1 Processing the image data in the PlatePatcher and output of the corresponding LEN files to the "Merger" or a folder. For each separation, an ACM file containing the cutting and mounting information will be output.

If the carton cut is to be drawn subsequently, the plate pieces are to be edited using the 45° knife or the mounting film is to be cut to the desired size, an ACM file with the "_POST" extension will be created for each separation in addition. This file is used to edit the finished mounting film again just before delivery.

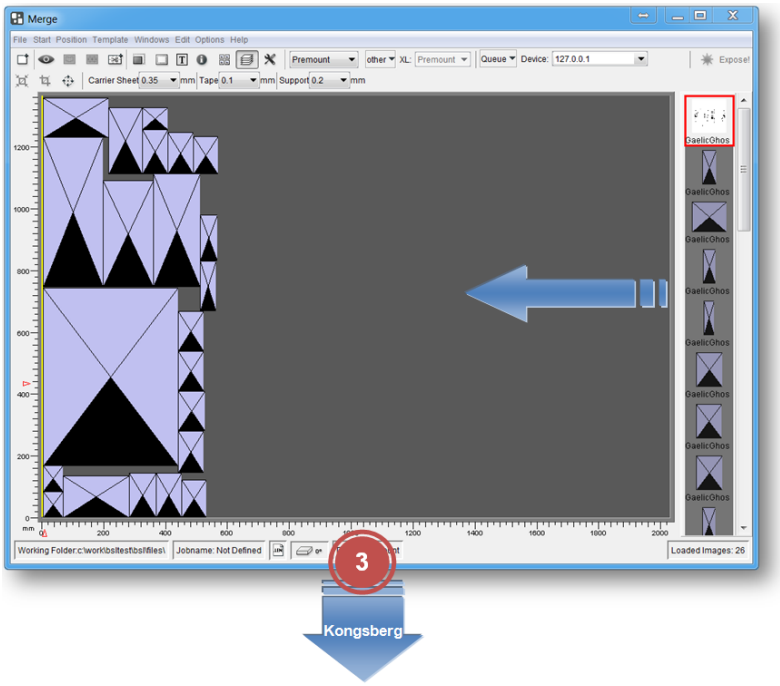
If "Do Post Cut" is deactivated, a mask with the extension "_Mask" is created and used to cover the edges for the UV exposure after imaging. This prevents the formation of an elevated edge.

2 Drawing information for mounting and cutting the films. The film placed on the Kongsberg table should always be a little larger than the desired size.

The 2-point registration is also used in this case so that the width of the mounting film is displayed right at the beginning.

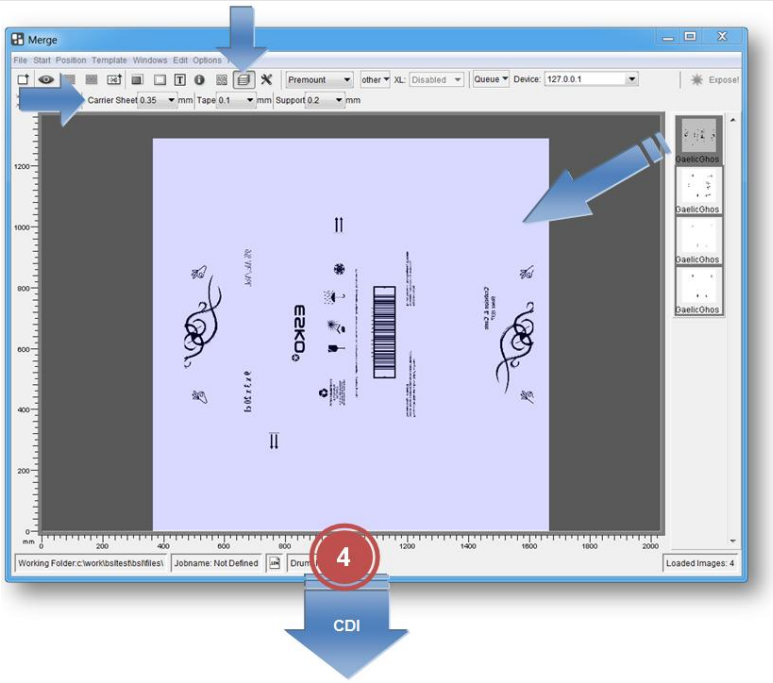
Due to patent restrictions, the positions of the plate pieces must not be drawn on the mounting film. These positions are drawn on another film and then placed under the mounting film to mount the plate pieces. The individual channels are selected on the Kongsberg table.

3 Sending the plate pieces for cutting the unexposed plates on the Kongsberg table. Nothing is sent to the CDI. For this purpose, the PreMount drum must be selected which has been set up by an ESKO technician.



The plate pieces are labelled at the top for subsequent mounting.

4 Sending the "*Master*" file to the CDI. The file is automatically centred and positioned with the desired gripper distance. For this purpose, the PreMount drum must be selected.



In addition, the thickness of the adhesive tape, the mounting film (Mylar) and the support must be entered.

Since the thickness change is known now, the plate type in use can be used as for normal jobs.

5 Positioning the unexposed plate pieces on the mounting film.

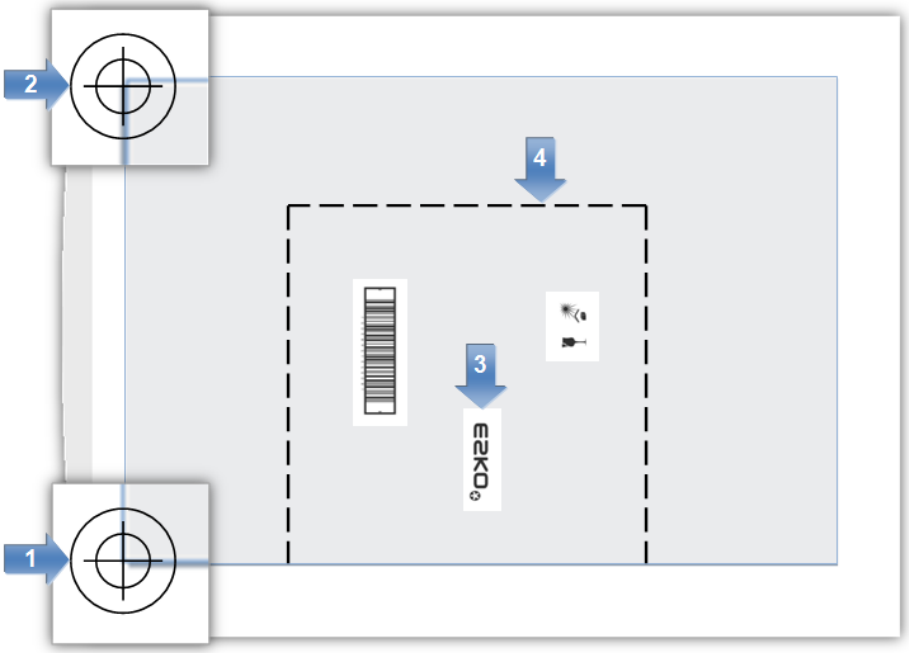
6 Mounting the mounting film on the CDI. The start position is preset.

7 The finished mounting film can be cut to the desired size shortly before delivery.

The "_POST" file is loaded and the two corners of the mounting film (1 + 2) are registered using the camera. This accuracy is very important in case the mounting film is cut to the correct size afterwards (4).

If the plate pieces are not masked during the main exposure, the exposed edges can be removed in this last step using the 45° knife (3).

In addition, the carton cut can be drawn. In this case, the carton cut is not drawn onto the mounted plate pieces.



Recommended Working Mode

The mounting effort on the CDI is minimised if the mounting film is always cut to the entire drum size (50 x 80: 2,030 mm x 1,270 mm).

In order to save mounting film and minimise the washer time, the entire circumference can be used optionally. This is obtained by setting the width of the mounting film to "0".

If it is not required to trim the finished mounting film, the unexposed plates should be cut using the 45° knife and the edges should be masked before the exposure using adhesive tape. For this purpose, a "*Film Gap*" must be entered in the PlatePatcher corresponding to the thickest plate. Otherwise, the data of the unexposed plates cannot be used in the Merger using the 45° knife.

The speed of the 45° knife should be set to "5" when cutting the unexposed plates. In addition, a good vacuum is required. When small plate pieces are concerned, at least one side should be taped.

If it is not required to mask the edges, the unexposed plates should be cut using the straight knife so that the exposed edge can be removed afterwards using the 45° knife.

In general, it is recommended to leave a margin around each plate piece of at least 15 mm. The thinner this margin, the more accurate the plate pieces must be positioned on the mounting film.

Macroflex

All coordinates of the Macroflex output refer to the loaded image. When a cutting file is available, the *"Use Cut"* option can be activated. When activated, all coordinates refer to the baseline and to the position of the cut.

AV-Optimount

To be able to place registry crosses underneath or above the image, a lower or upper edge is required respectively. This edge is set up with *"Mount Offset"* as described in the mounting settings.

This creates an offset in circumferential direction which has to be subtracted from the desired gripper distance (black area) for the mounting:

Example:

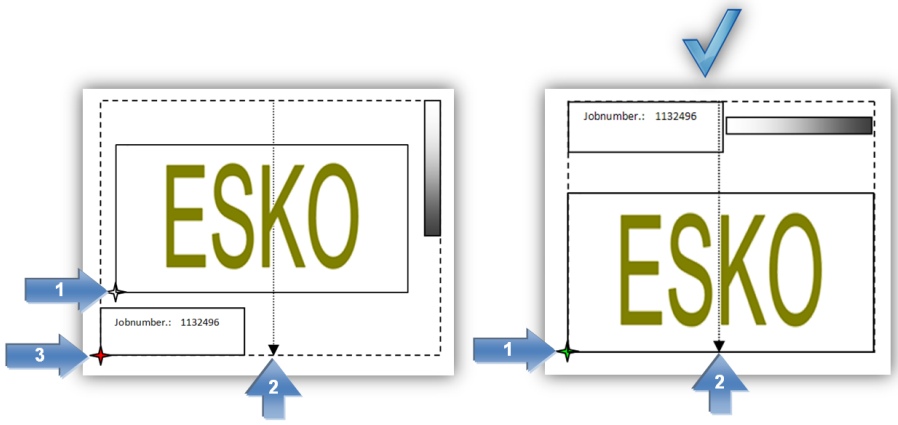
"Mount Offset": 20mm

Desired black area:100 mm

Required offset: **80 mm** (100 mm – 20 mm)

Zero Point for AV Optimount, Macroflex and Heaford

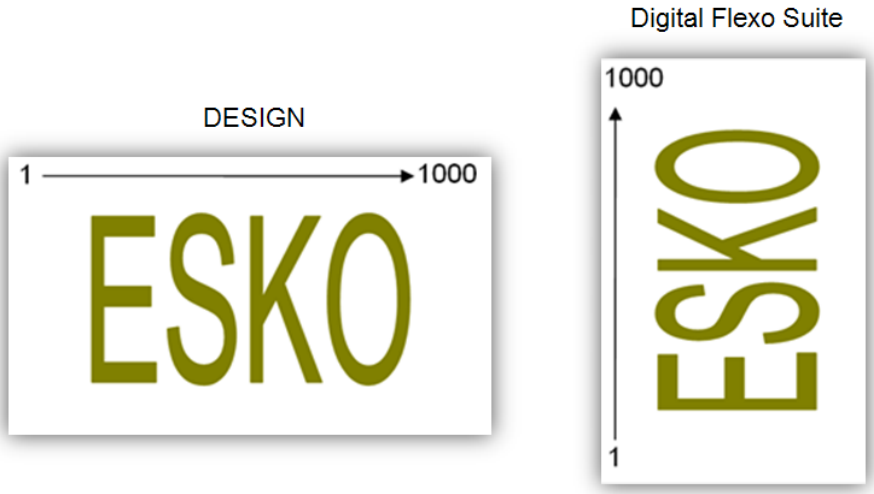
The PlatePatcher places the zero point in the bottom left corner of the ripped LEN or TIF file or the cut. If, in addition, job information and screen wedges are set in the customer's job, an offset to the desired zero point is created in the X and Y directions. In most cases, this offset is varies, which may lead to incorrect mounting.



The required zero point **(1)** is moved in the wrong design **(3)**. In addition, the screen wedge outside the image width displaces the mounting centre **(2)**. This can be avoided by extending the image symmetrically to both sides.

Loading TIF Files

TIF files are normally read from left to right. Because of the technical requirements of imaging, Digital Flexo Suite read TIF files in from the bottom to the top. This rotates the display accordingly:



The alignment of the images in PlatePatcher has to match the alignment in mounting. The image has to be rotated **90°** in the design for exporting.

Writing TIF Files

TIF files can be exported directly from PlatePatcher using the TIF export function. The TIF data is exported with the alignment as described in the previous chapter which results in a rotated display in other programmes.

The software of some of the CTP exposure units available on the market displays the TIF data with the same alignment as in the design, even though the data must be read from the bottom to the top for exposure.

This is caused by the different alignment between drum and image. The Merger assumes that the height corresponds to the circumference of the drum and the width corresponds to the width of the drum. The drum may be shown rotated by 90° in the displays of other CTP exposure units.

Using PlatePatcher LEN and LENX files in Device Manager

The output files from the PlatePatcher can be set in Device Manager so that they are sent to the CDIs automatically.

The LEN or LENX files must be output to a folder on the Device Manager via the *"Export"* function in the *"PlatePatcher Workflow Editor"*.

As the PlatePatcher does not have any information about the plate material being used, a dedicated PlatePatcher workflow with different output folders must be created for each plate type.

Output Directories

In order to output mounting and preview files, the PlatePatcher needs pre-defined directories.

The mounting settings can be called up under *"Options – Preferences – Folder"* in the "Merger".

The PlatePatcher options provide more settings.

Job information

For every job, an HTML file with the original file name is saved in the "*Patcher Redo*" directory. All important information concerning the job is stored in that directory. The output directory "d:\files\output\PatcherRedo" is preset.

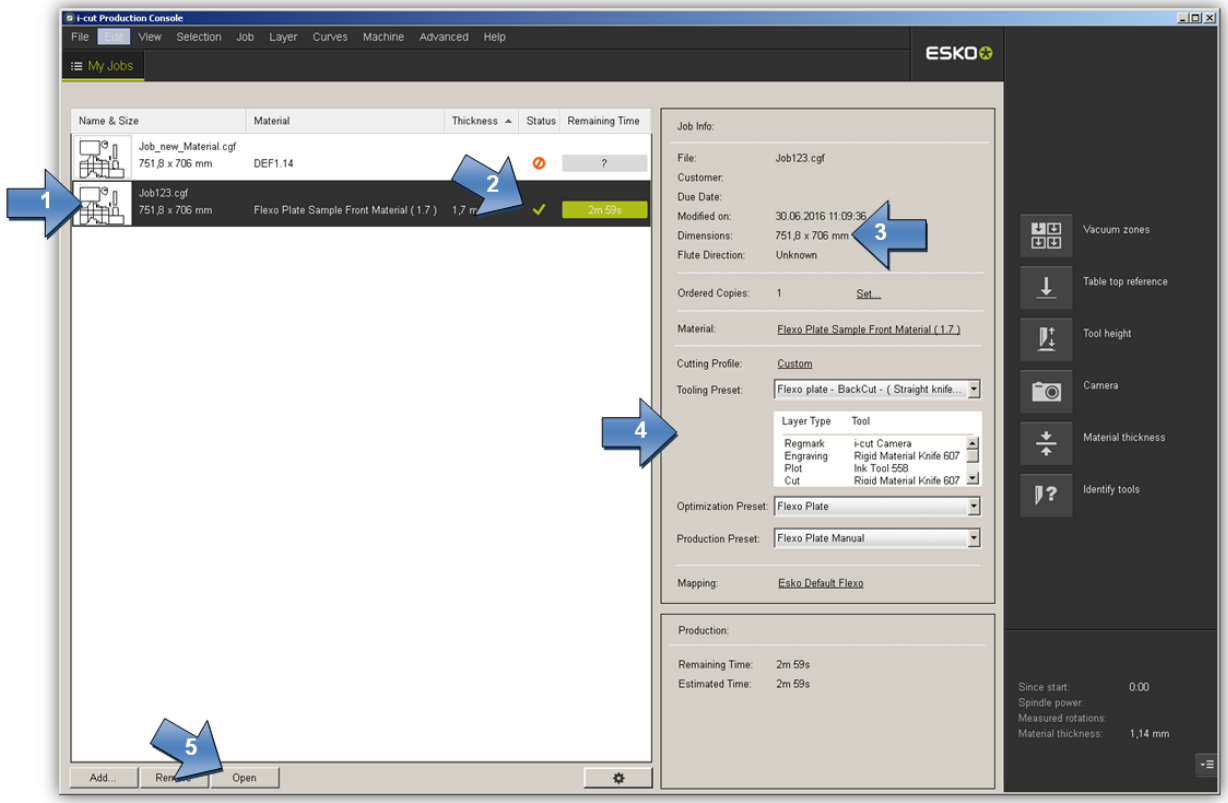
Loading Images via "*Drag & Drop*"

Image files (LEN and TIF) can directly be dragged into the "PlatePatcher" from the Windows Explorer or from the "Len Explorer". First, the data is copied into the working directory, then it is loaded.

Kongsberg IPC

For correct operation with DFS IPC 2.0 needs to be installed.

New jobs are imported automatically via the KBQS system to IPC and will be shown in “My Jobs”



1 Preview of the job

2 Status of the job

3 Size of the job

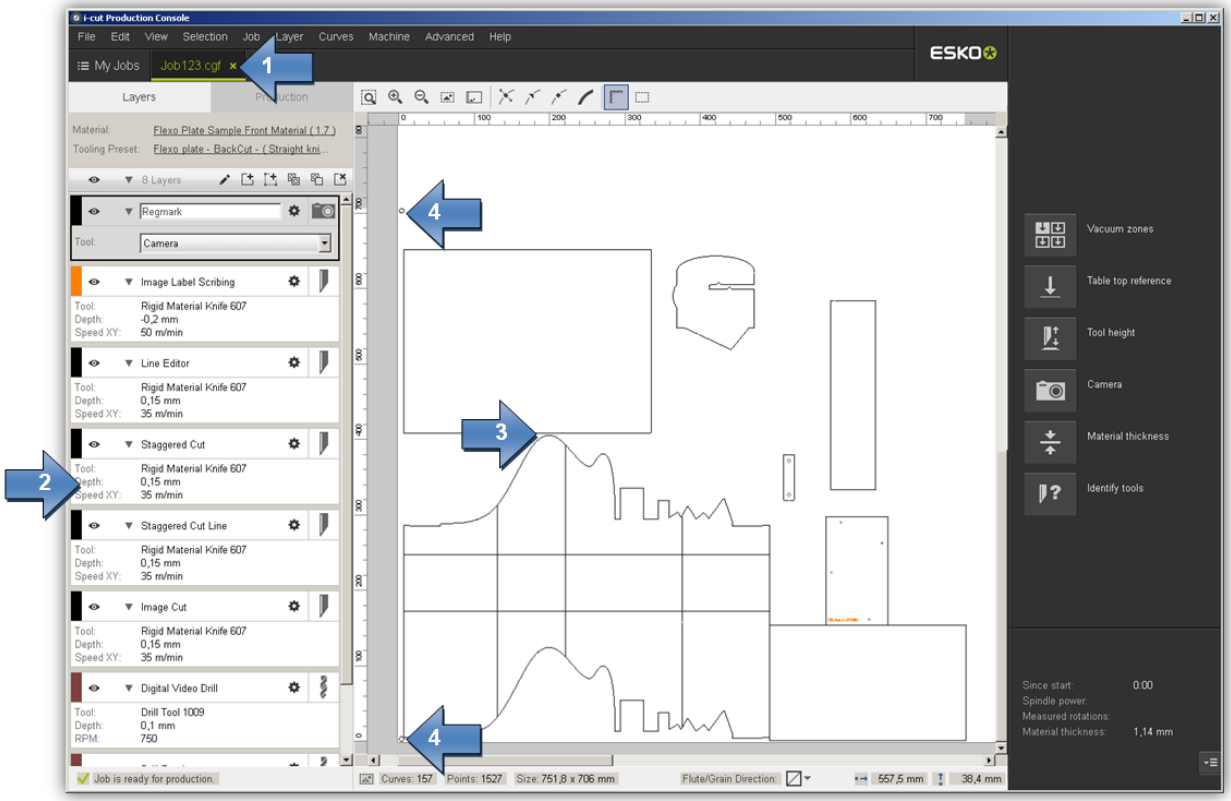
4 Parameters of the job

5 Open job

The status shows if the job can be executed. In the case of an error it might be that the wrong tools are inserted or that the material is not setup correctly.

Load a job

With “Open” the selected job will be opened in a new window:



1 Job in a new window

2 Used layers for this job

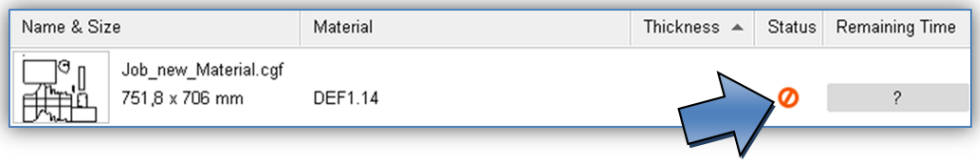
3 Large preview of the job

4 Registermarks

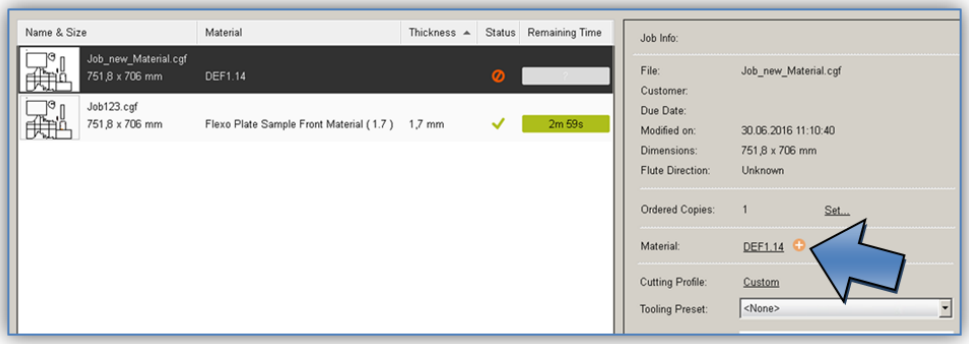
Positioning the plate and starting the job is explained in a different chapter.

Setup a new material

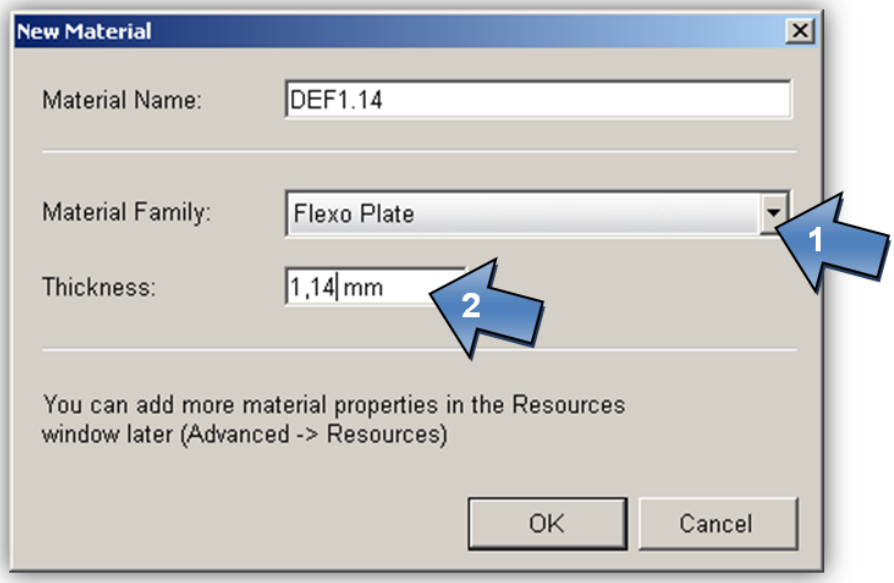
A job with a unknown material will show a error status:



The new material can be setup with a click on the plus symbol on the right side of the screen:

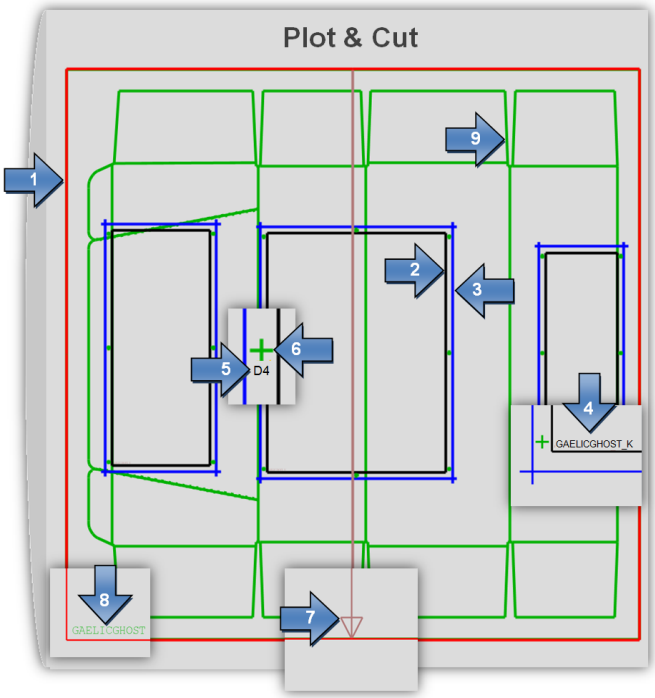


In the new window „New Material“ the „Material Family“ „Flexo Plate“ (1) needs to be selected and the plate thickness needs to be entered in „Thickness“ (2):

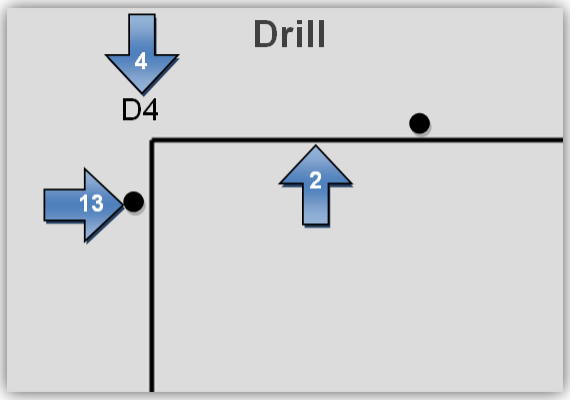


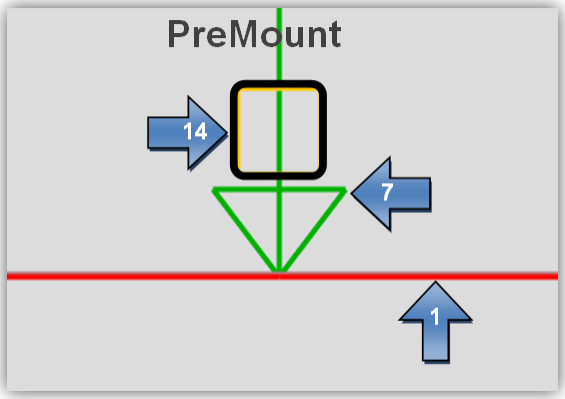
IPC output layers of the PlatePatcher

Depending on the selected output device, the PlatePatcher uses up to nine lyers.



1 – „Carrier Sheet“:	Contour of the mounting film
2 – „Image Position“:	Contour of the image
3 – „Patch Position“:	Contour of the "patch"
4 – „Patch Label“:	Label of the "patch"
5 – „Registermark label“:	Label of the mounting mark
6 – „Registermark“:	Mounting mark
7 – „Centerline“:	Centerline with arrow for gripper
8 – „Job Name“:	Job name
9 – „Dye Cut“:	Carton cut





13 – „Patch Drill“: Holes for "Drill"

14 – „PreMount Clamp“: Mounting holes of the drum for "PreMount"

16 – „PreMount Post Cut“: Finishing cut of plate pieces for "PreMount"

32 – „Reference: „**IGNORE**“

Kongsberg XL Guide

If PreMount output or 6064-point registration is used, at least XL Guide version 4 must be installed on the Kongsberg table.

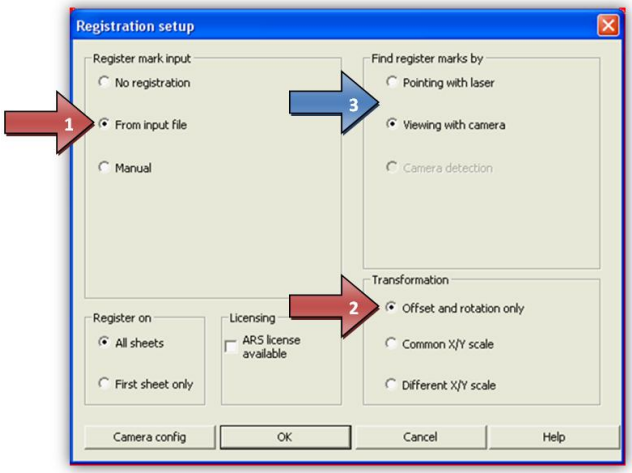
If an ACM file created with XL CUT or PlatePatcher in XL Guide is opened, the global setting is automatically changed to "Ctp Flexo".

The cut and sequence optimization is deactivated in this setting. If set in the Digital Flexo Suite, *"Job Setup"* is loaded additionally.

The interface of the version 6064 slightly changed. It is no longer necessary to select the positions of the register marks. Furthermore, the register wizard is compiled in one window.

Registration

By left-clicking on this icon, a new window with the option to change the registration behaviour is opened:



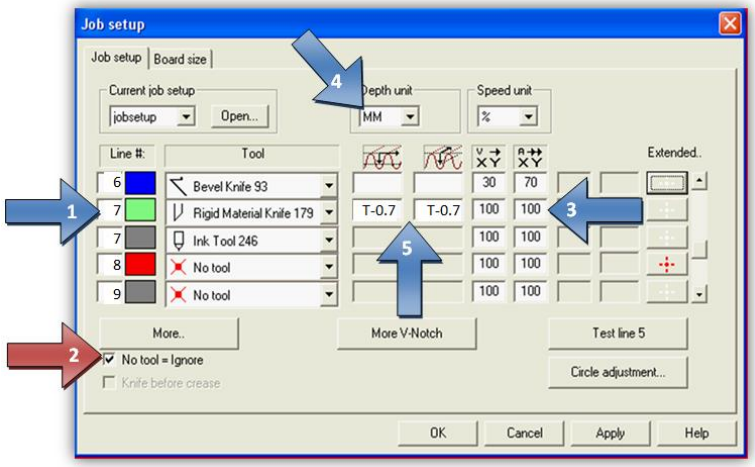
Under *"Register mark input"*, the option *"From input file"* (1) must be activated, otherwise the plate cannot be cut correctly.

Under "Transformation", the option "Offset and rotation only" (2) must be selected to ensure that the cut is not distorted during the registration.

It is possible to register using the laser pointer or the camera (3). The cutting accuracy of the camera is higher.

Setting the Tools

The knives can be set in the *"Job Setup"* window which is opened via the *"Options"* menu. Each element in the ACM file is assigned to its own channel (line) (1). The speed and the acceleration (3) must be determined on site.

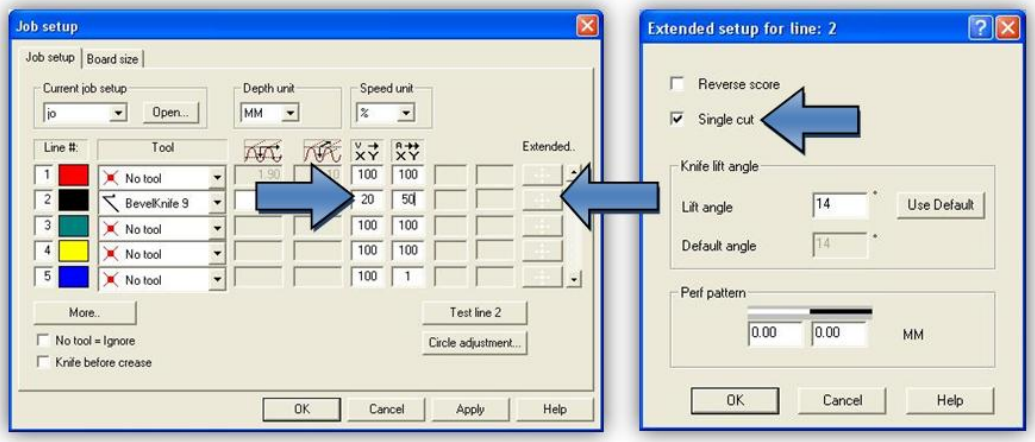


Since Digital Flexo Suite 7.5, the ACM file contains more channels which can be selected at the Kongsberg table.

Therefore, the *"No tool = Ignore" (2)* option must be activated.

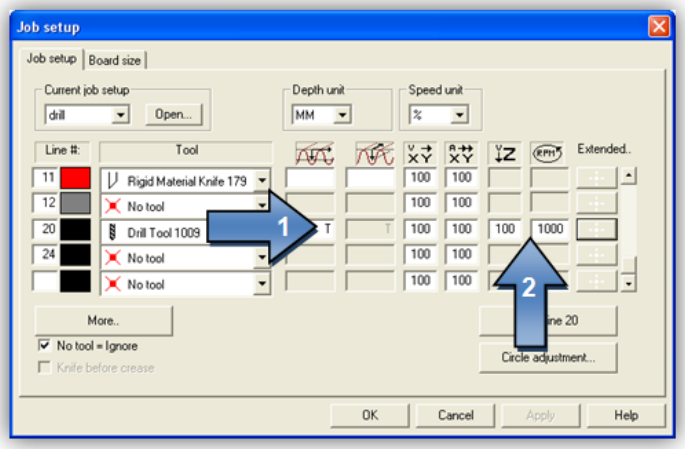
Setting the "Bevel Knife" (45° Knife)

Before using the *"BevelKnife"* (45° knife), the option *"Single cut"* must be activated in *"Job Setup"* under *"Extended Setup …"* as otherwise the step will not be performed properly. The knife speed for the *"BevelKnife"* should not exceed a value of "30".



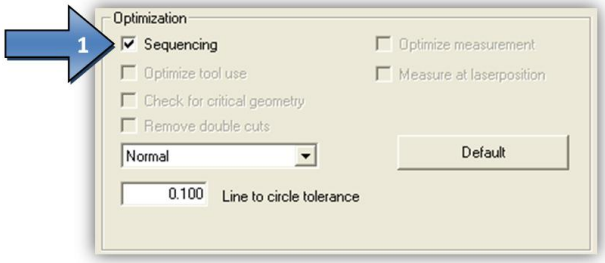
Drill Setup

In order for the drill to drill - independent of the plate thickness - to the table top, the drilling depth must be limited by entering "T" (1). The speed should be set to "1000" (2).



Optimisation

To use the cutting lines at best, the option *"Sequencing"* should be activated in the XL Guide settings:

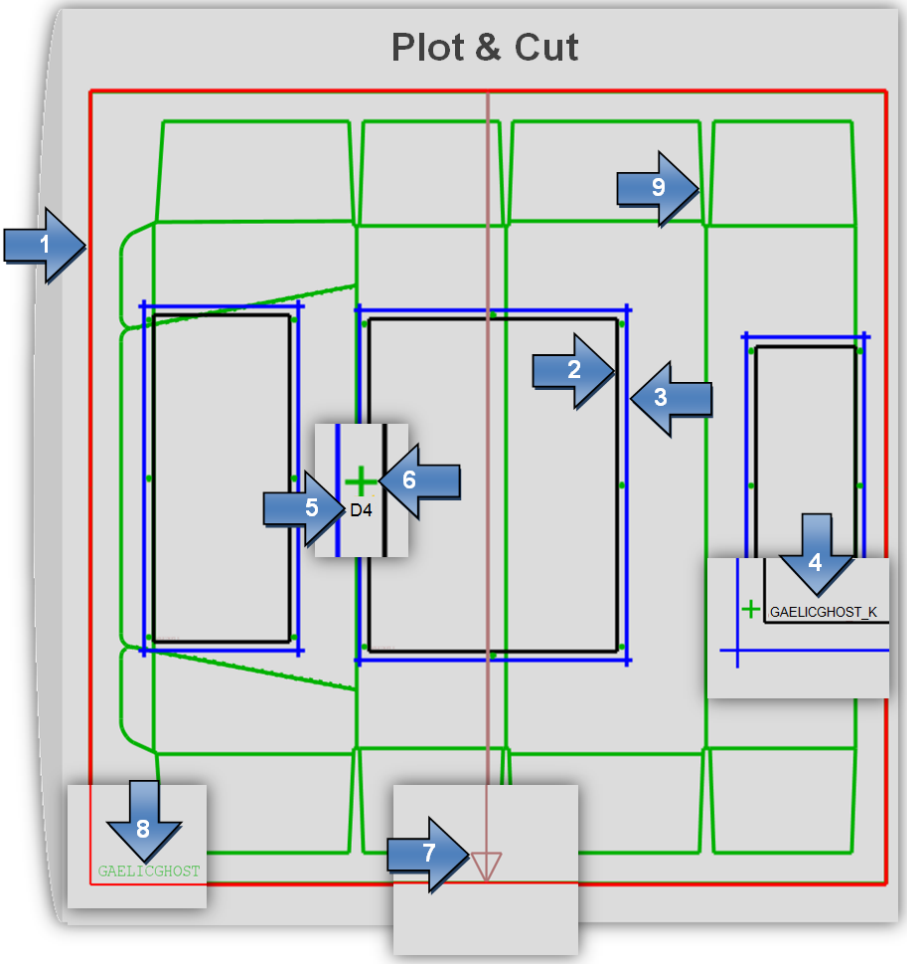


Assignment of the Output Channels

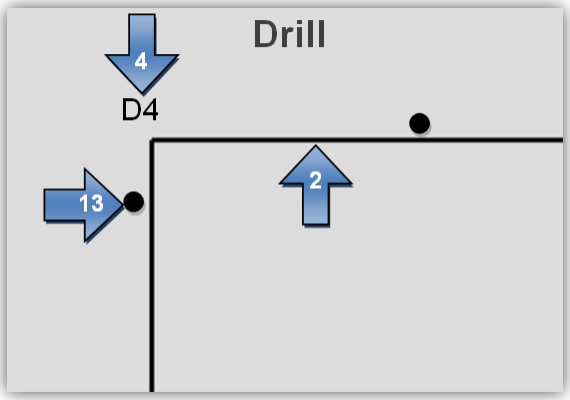
Each element in the ACM file is assigned to its own channel (line). The channels cannot be defined or hidden in the Digital Flexo Suite. This has the advantage that the operator of the Kongsberg table can change the output quickly.

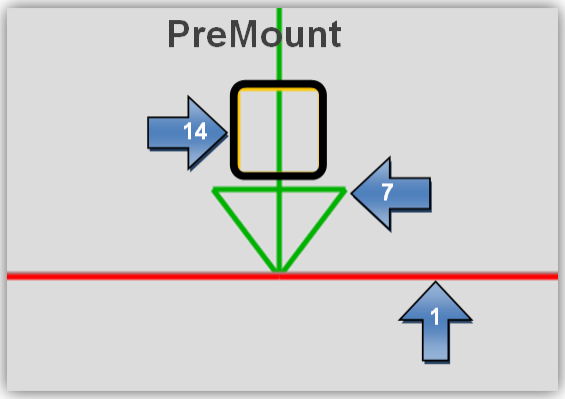
Output Channels of the PlatePatcher

Depending on the selected output device, the PlatePatcher uses up to nine channels. Only the required channels are set up in the "Job Setup" window. All other channels must be set to *"No Tool"*. In addition, the *"No tool = Ignore"* option must be activated.



Channel **1**: Contour of the mounting film
Channel **2**: Contour of the image
Channel **3**: Contour of the "patch"
Channel **4**: Label of the "patch"
Channel **5**: Label of the mounting mark
Channel **6**: Mounting mark
Channel **7**: Centerline with arrow for gripper
Channel **8**: Job name
Channel **9**: Carton cut
Channel **13**: Drill holes for "Drill" mounting
Channel **14**: Mounting holes of the drum for "PreMount"
Channel **16**: Finishing cut of plate pieces for "PreMount"
Channel **32**: "**IGNORE**"





Channel **3**: "Kiss Cut" – "Microcross" from front side

Channel **8**: pen – "Microcross" from back

Channel **8**: knife – "Microcross" from front side

Channel **20**: drill – "Digital Video Drill"

Operating the Kongsberg table

Cutting and labeling of a carrier sheet

The start point of a carrier sheet cut needs to be done manually.

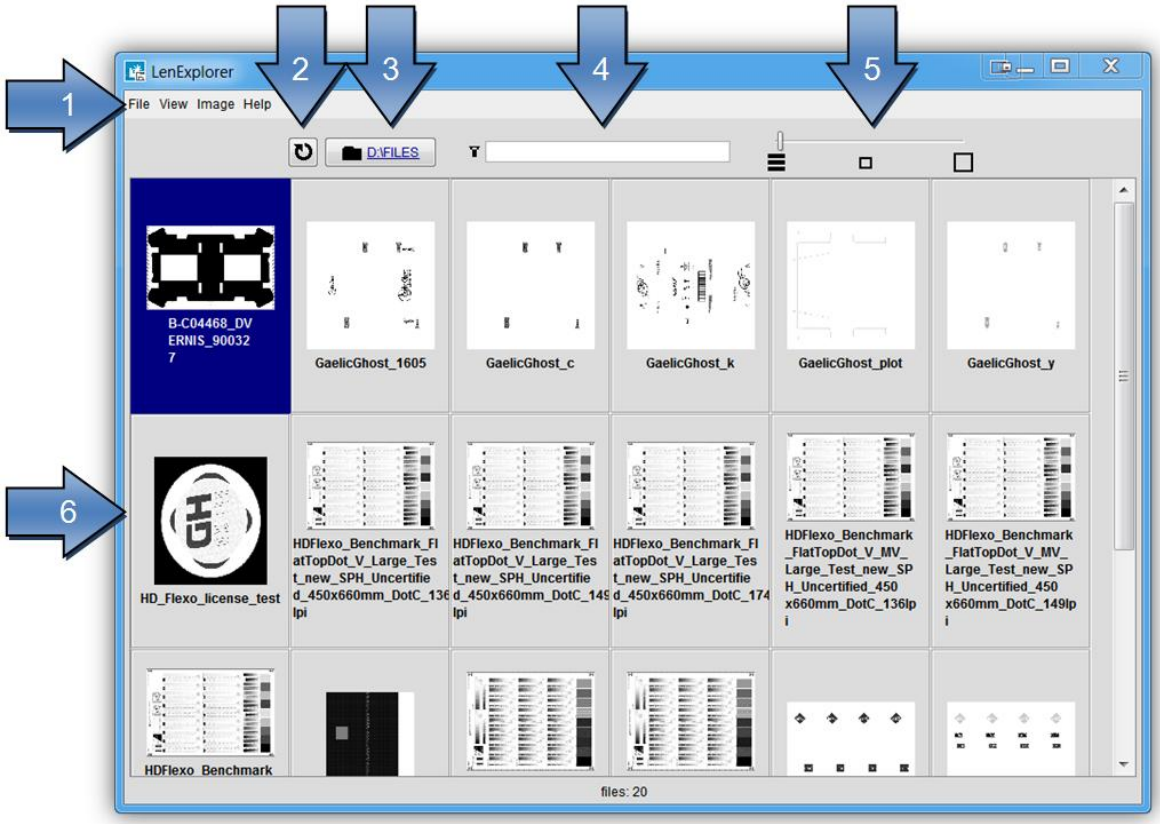
1 Move the laserpointer the start on the carrier sheet

2 Set the zero point

3 Start the job with „**I**“

DFS Explorer

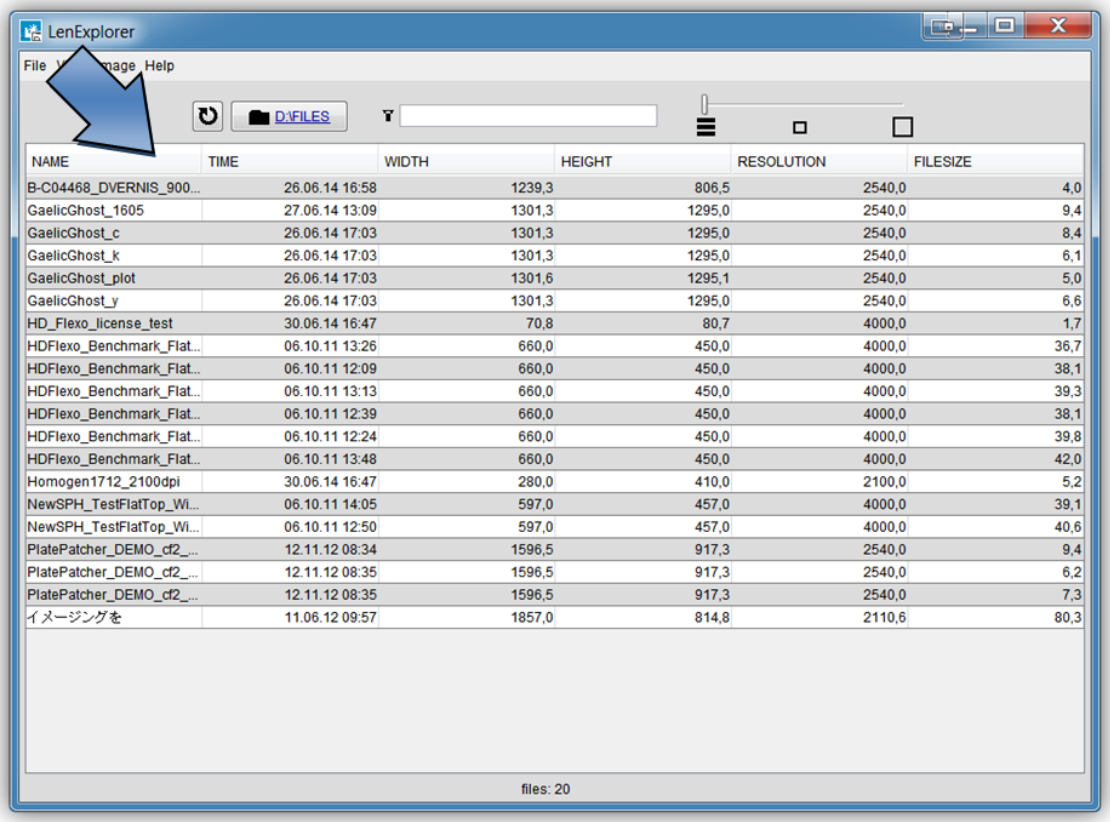
The "Len Explorer" is an add-on product used to display LEN, TIFF and ACM files. In addition, LEN and TIF files can be directly drawn from the "DFS Explorer" into the Merger or the PlatePatcher via drag & drop.



1 menus for additional functions
2 file reread
3 display and selection of the folder
4 display filter
5 Changing the View
6 file preview

Changing the View

The slider can be used to change the view from detail (far left) to large preview (far right).

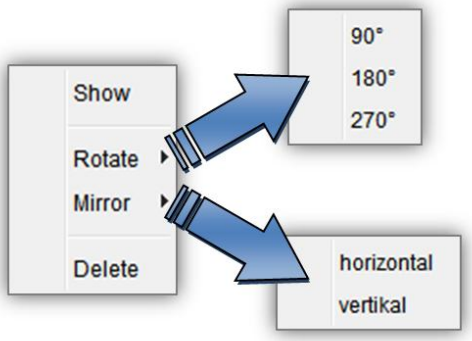


NAME	TIME	WIDTH	HEIGHT	RESOLUTION	FILESIZE
B-C04468_DVERNIS_900...	26.06.14 16:58	1239,3	806,5	2540,0	4,0
GaelicGhost_1605	27.06.14 13:09	1301,3	1295,0	2540,0	9,4
GaelicGhost_c	26.06.14 17:03	1301,3	1295,0	2540,0	8,4
GaelicGhost_k	26.06.14 17:03	1301,3	1295,0	2540,0	6,1
GaelicGhost_plot	26.06.14 17:03	1301,6	1295,1	2540,0	5,0
GaelicGhost_y	26.06.14 17:03	1301,3	1295,0	2540,0	6,6
HD_Flexo_license_test	30.06.14 16:47	70,8	80,7	4000,0	1,7
HDFlexo_Benchmark_Flat...	06.10.11 13:26	660,0	450,0	4000,0	36,7
HDFlexo_Benchmark_Flat...	06.10.11 12:09	660,0	450,0	4000,0	38,1
HDFlexo_Benchmark_Flat...	06.10.11 13:13	660,0	450,0	4000,0	39,3
HDFlexo_Benchmark_Flat...	06.10.11 12:39	660,0	450,0	4000,0	38,1
HDFlexo_Benchmark_Flat...	06.10.11 12:24	660,0	450,0	4000,0	39,8
HDFlexo_Benchmark_Flat...	06.10.11 13:48	660,0	450,0	4000,0	42,0
Homogen1712_2100dpi	30.06.14 16:47	280,0	410,0	2100,0	5,2
NewSPH_TestFlatTop_Wi...	06.10.11 14:05	597,0	457,0	4000,0	39,1
NewSPH_TestFlatTop_Wi...	06.10.11 12:50	597,0	457,0	4000,0	40,6
PlatePatcher_DEMO_cf2_...	12.11.12 08:34	1596,5	917,3	2540,0	9,4
PlatePatcher_DEMO_cf2_...	12.11.12 08:35	1596,5	917,3	2540,0	6,2
PlatePatcher_DEMO_cf2_...	12.11.12 08:35	1596,5	917,3	2540,0	7,3
イメージングを	11.06.12 09:57	1857,0	814,8	2110,6	80,3

In the detailed view, a left mouse click on the respective field sorts the table by name, date, width, height, resolution or file size.

Rotating, Mirroring and Deleting Files

In the DFS Explorer, several files can be selected and rotated, mirrored or deleted with a right mouse click.



Displaying Data

Double-clicking the file opens the Bitmap viewer for LEN or TIFF files and the ACM viewer for ACM files.

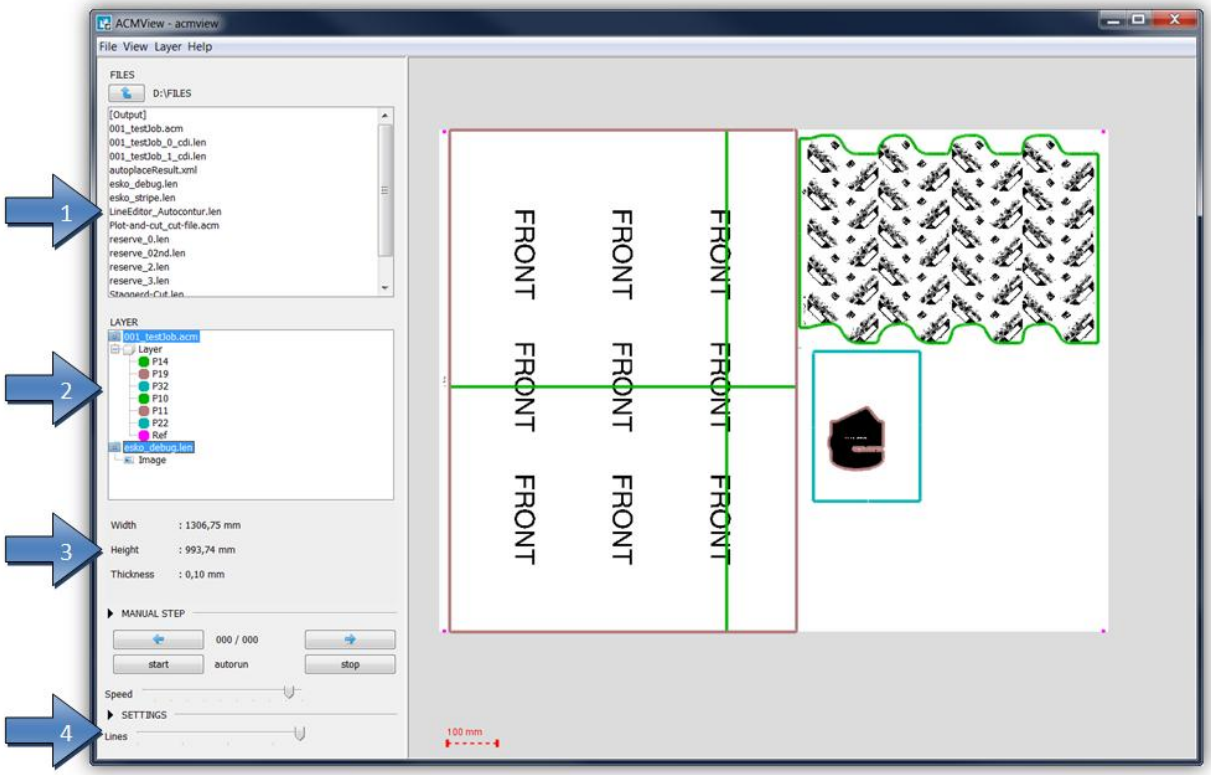
ACM Viewer

This program is used to display and control the output files which were created by using the Digital Flexo Suite. In addition, LEN files are displayed with the cuts (Staggered Cut, Line Editor, etc.) that they contain.

After the Digital Flexo Suite installation, all output files are automatically linked to the *"ACM Viewer"* .

Simulation in DFS Merger

Simulation of the cutting job is started in the "Merger" with Ctrl+R. All output files are generated and superimposed on top of one another in the ACM Viewer:



1 Content of the active directory

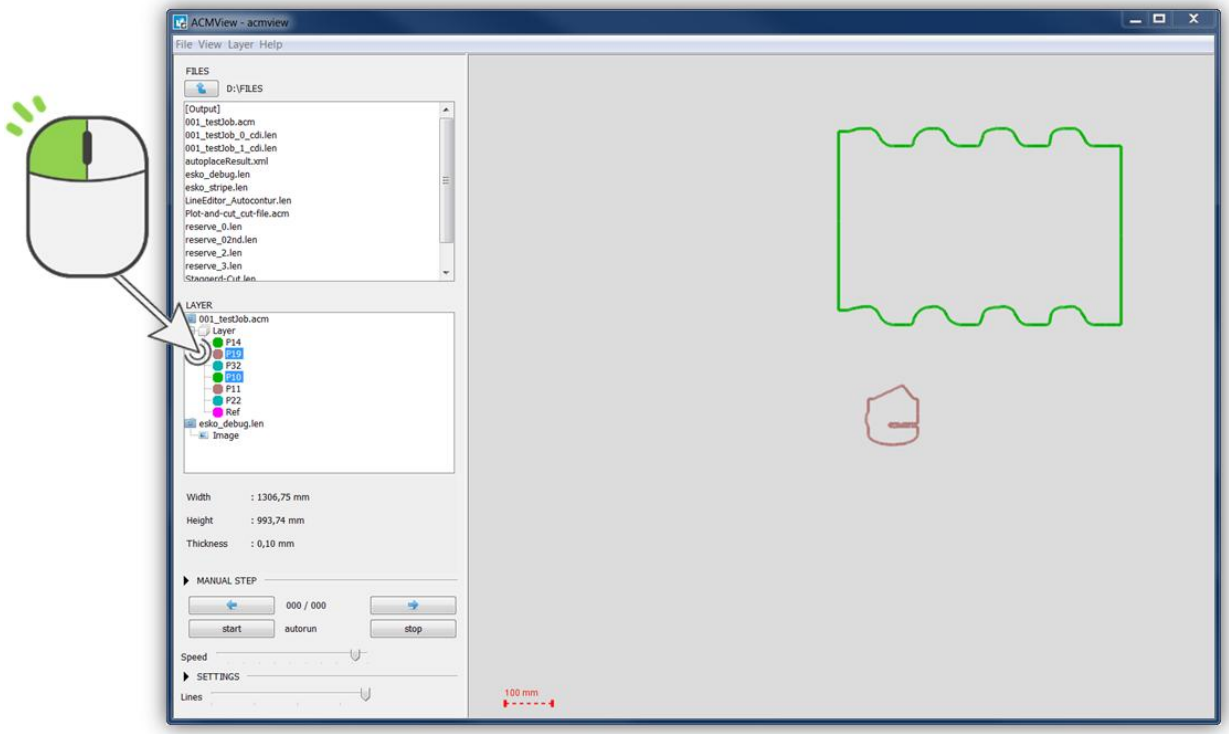
2 Loaded files with the cut contours they contain

3 Information on the loaded files

4 Adjustable line thicknesses

Displaying Individual Cutting Channels

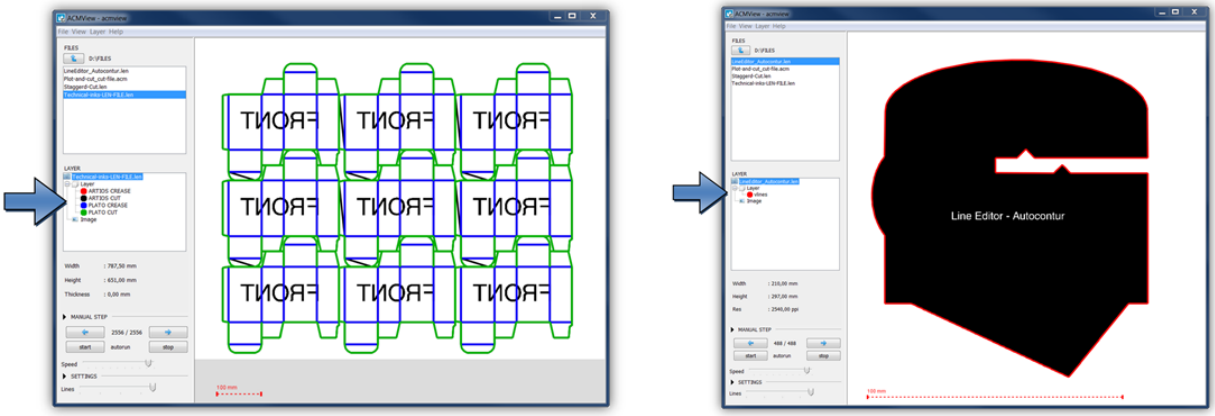
An individual cutting channel can be selected for display in the "LAYER" section. Additionally holding down the Ctrl button on the keyboard allows multiple channels to be selected:



The LEN file is displayed with the selection "Image".

Displaying LEN Files

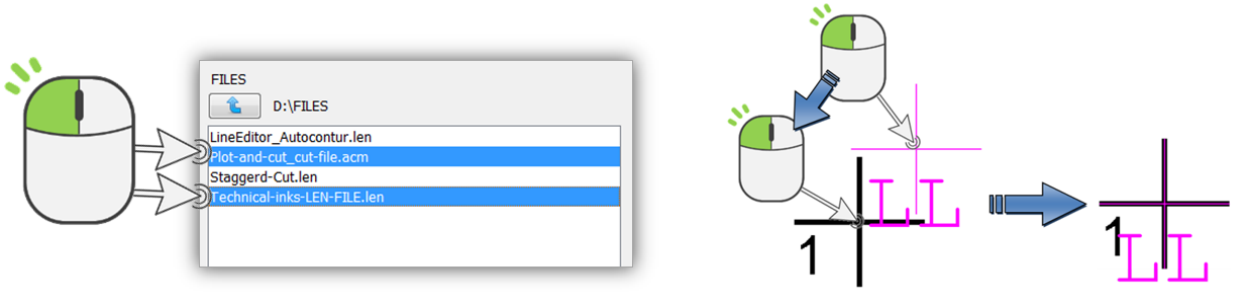
When the ACM Viewer is opened, the LEN files can also be displayed. Cutting information is stored in some LEN files, which is displayed under "LAYER":



Overlaying Multiple Files

By holding down the "Ctrl" button on the keyboard, multiple files can be displayed at the same time in the active directory.

LEN files from the Merger which were created with a cutting file contain a minimum of two register marks. In order to verify the correct cut, the correct register must first be checked.

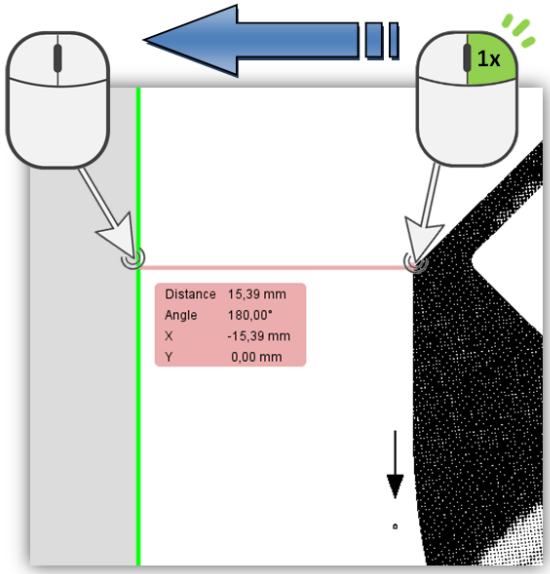


By holding the "Ctrl" button on the keyboard, you can move the contour of the ACM with the left mouse button until both register marks are above each other. Only the cutting file is moved.

Enlarging, Moving and Measuring

The display can be enlarged and reduced with the mouse wheel. Holding down the left-hand mouse button moves the content.

The measuring function is activated by pressing the right-hand mouse button at the point to be measured. The distance and angle to the current mouse position are now displayed permanently.



Support

Contact information can be found on www.esko.com.