

Automation Engine 21

Tasks and Workflow Controls

12 - 2021

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1. Add Dynamic Marks

Concept

Use this task to add a set of **Dynamic Marks** to the input PDF file.

Such a set of marks can be created in ArtPro+ and also in Adobe Illustrator by using the [Dynamic Marks plug-in](#).

Input - Output Files

- **Input files:**

This task uses the [NDL graphics kernel](#) from ArtPro+. So it supports all types of PDF files.

Note: Just like in ArtPro+, normalized PDF files will first be made self-contained, then the marks are added and then the file is output again as Normalized PDF.

- **Output files:**

The output file is the same type as the input file: PDF or normalized PDF. The output file will contain all the information from the input file (for example object based screening in a PDF+ file).

Note: In case your output is a native PDF file but your workflow requires a normalized PDF, then use the task **Normalize PostScript / PDF / Illustrator file** as the next workflow step. However, make sure that, in the **Inks** tab, you select the option **'Use rulings, angles and dot gain compensation from file'** to preserve the screening parameters.

General Behavior

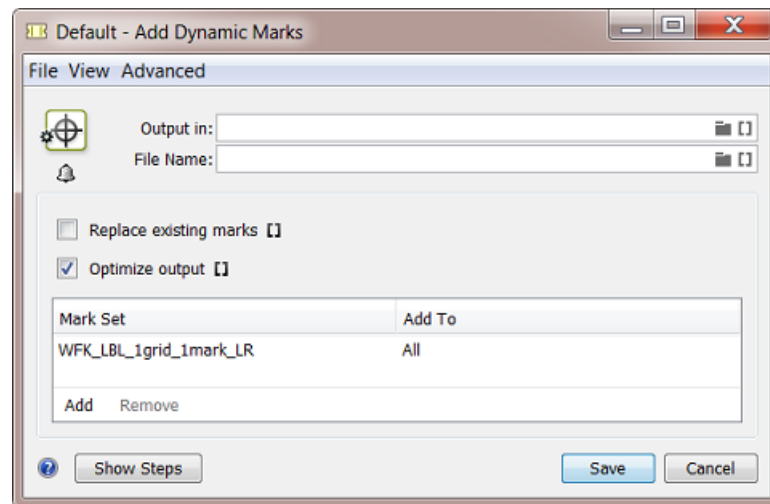
- A task is started for every input file.



Attention: When you don't specify a different output file name or folder, this task will overwrite the input file!

- When the Dynamic Mark set(s) that you add adds extra separations (for example a Dynamic Mark with static colors), the XMP ink set of a normalized PDF will be properly updated.

Task Settings



- **Replace existing marks:**

Select this to remove all Dynamic Marks already present from the input file while adding the new set of Dynamic Marks.

Note: When selected, this will also remove marks that are unknown or from a too old or too new version.

Note: When selected, this will not replace any SmartMarks, only Dynamic Marks.

When you want to set the value via a SmartName, this option will be enabled when the resolved value starts with a 'Y' or 'y' or '1'. Any other starting character will resolve to disabling this option.

- **Optimize output:**

This option can be useful when PDF+ marks need to be added to many pages. The optimization is mainly in the speed of this task itself. The size of the output file may also be a bit smaller. And there will also not be a significant change in RIP'ing time.

Note: In case of VDP jobs (which also have many pages), it is more common to add marks during the Step & Repeat part of the workflow.

- When **not selected**, the task adds and evaluates the added marks on each page separately. The marks also stay live objects: when you open the output in ArtPro+, you see the marks' properties and you can modify them.

Note: Only ArtPro+ PDF+ Marks stay live objects. DMK mark sets made in DeskPack will here always be expanded (become dead objects).

Note: This option was formerly named "Calculate for each page (more accurate)".

- When **selected**, the task evaluates the marks only once and then copies them to all pages. In the output file, all marks (all types) are then stored as dead objects.

Be aware of this possible effect: When a mark places all ink names, then it will on all pages show all the inks from the complete document, even when some pages may use only a subset of those inks.

Note: This option was formerly named "Calculate once and copy (faster)".

Note: Selecting this option will make the task fail when the input file contains a Plate ID object (mark). This type of object may not be expanded before it was applied to a LENX file. Learn more in [Working with Plate ID](#).

- **Mark Set:** In this table, you define which dynamic mark set you **Add To** which pages. Learn more about adding mark sets below.

Adding Mark Sets

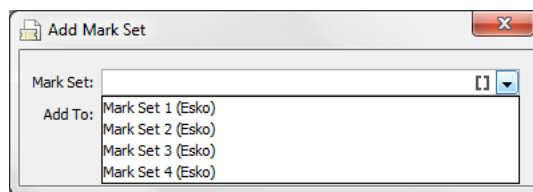
- Click **Add** and specify the **Mark Set**. Select it from the list, or type its name or use SmartNames.

The list will show

- DMK files, normalized marks from DeskPack
- PDF files with PDF+ marks, created in ArtPro+.

Note: Adding a combination of these mark types is supported but not recommended.

In '**Add To**': Specify on what page(s) the mark set should be applied: **All, Even, Odd, First** or **Last page**.



- Use the buttons **Remove** and **Edit** to further manage this table.

2. Add Ink Eaters

Ink Eaters help to achieve a constant ink consumption over the width of the plate. This makes it easier for press operators to set the **ink keys**, and results in a faster setup time for the press.

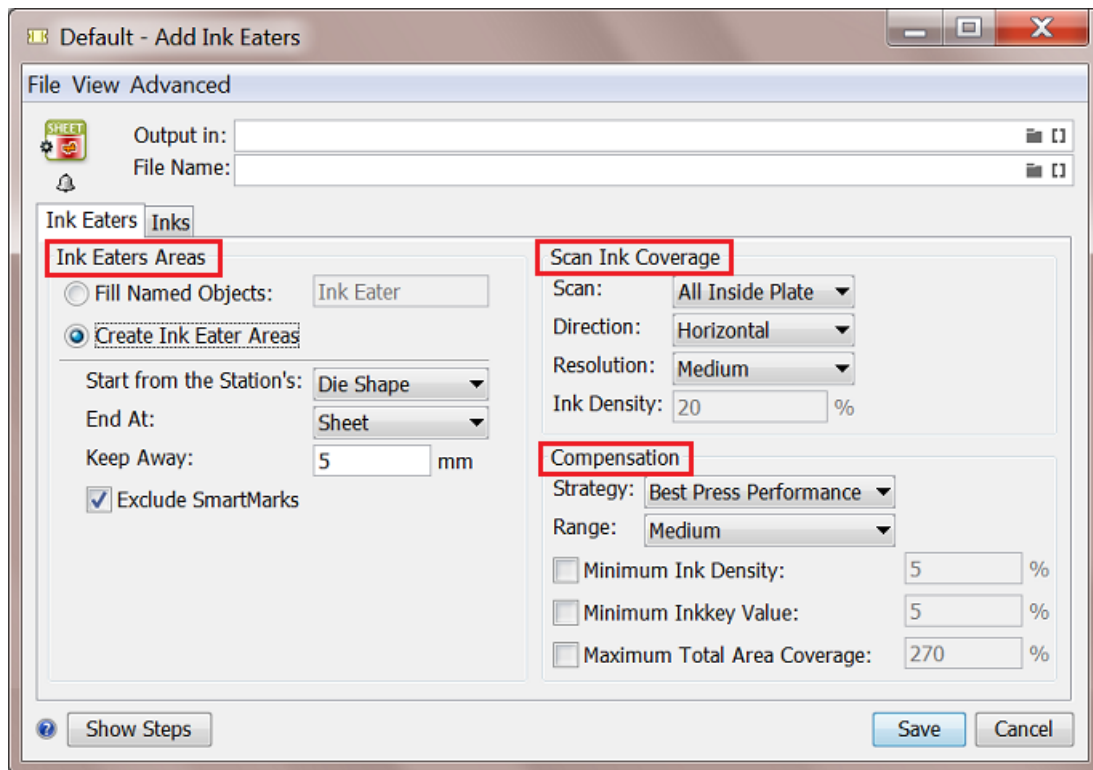
Ink Eaters are typically added to non-printed areas outside the printing job. These areas can be left-overs that will be cut off or the white spaces next to or even in between the one-ups.

Ink Eaters help to avoid excess ink build-up by stabilizing "peaks" and "lows" in the ink key **histogram**. This prevents spilling of excess ink onto the printed zones of the actual printing job. You can flatten the ink key histogram by filling non-printed zones with a gradient. A gradient helps to avoid hard edges in the compensation object. You can specify a minimum ink density and a minimum ink key value. You can request warnings when the maximum Total Area Coverage (TAC) is too high. These areas are then compensated (filled with ink) depending on the strategy settings.



The task settings allow you to determine where the ink eater areas should be and with what they should be filled:

Ink Eaters tab



- **Ink Eaters Areas**

- **Fill Named Objects:** Type in the name of the **Named Object** as you defined it in Esko Plato for example.
- **Create Ink Eater Areas:** Specify the start and end of the areas:
 - **Start from Station's**
 - **Die Shape:** Select this to start from a die shape (for example pre-defined in Plato).
 - **Trim Box** or **Media Box:** Select this to start from the Trim or Media Box of the one-up on the plate. Media Box is larger and it contains the Trim Box.
 - **Die Annotation:** Select this to start from the object that was marked as a die (for example in Plato).
 - **End at:** Specify what should be used as the end of the area.
 - **Keep Away field:** Fill in a distance to set an offset for the Ink Eater object in relation to the die shape or Trim Box.
 - Select **Exclude SmartMarks** if you want to exclude SmartMarks from the Ink Eater object.

- **Scan Ink Coverage:**

When you selected a contour object or a group of objects for ink coverage, select one of these options:

- **Scan:** Specify what area needs to be scanned:

- **All Inside Sheet** (Sheet View): To scan within the sheet and exclude objects outside the sheet.
- **All Inside Plate** (Sheet View): To scan all objects on the sheet and plate. Objects that extend the plate area or are outside the plate are not included.
- **Direction**: This is the scanning direction. **Horizontal** means that the ink zones are vertical on the plate and the ink histogram is on the horizontal base of the document. The direction of the compensation gradient in the ink eater area is horizontal.
- **Resolution**: This defines the number of intermediate steps of the gradient to be used as compensation. Use **Very Low** for 5 steps, **Low** for 15 steps, **Medium** for 30 steps, **High** for 45 steps and **Very High** for 60 steps.

Note:

You can achieve **global compensation** by defining a low resolution value (for example 5 gradient steps). This gives a very smooth compensation gradient along the length of the press. The ink histogram zones are then very wide.

You can achieve **very local compensation** by defining a high resolution value (for example 60 gradient steps). This results in a gradient with more banding.

- **Ink Density**
- **Compensation**
 - **Strategy and Range**: This defines how the Ink Eater areas should be filled.
 - **Economic**: This minimizes the use of ink.
 - **Intermediate**: This optimizes ink use to result in a medium performance in print..
 - **Best performance**: This maximizes the use of ink to give the best print performance.
 - **Minimum Ink Density**: Select this option to define a minimum density.
 - **Minimum Ink key Value**: Select this option to define a minimum ink key value for the ink eater area. The ink density of the gradient will be adjusted to make sure the ink key value is higher than this setting.
 - **Maximum Total Area Coverage**: Select this option to define a maximum total area coverage (for example 270%). You will then get warnings when in those areas of the histogram where the total ink coverage exceeds this limit.

Inks tab

- Select **Non-process**, **Opaque** and/or **Varnish** inks if you want to **Exclude** them from being used in the ink eaters. .
- Select **Keep similar inks in their original separations** to keep the original separations in the output file.

3. Add Marks to Imposition

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

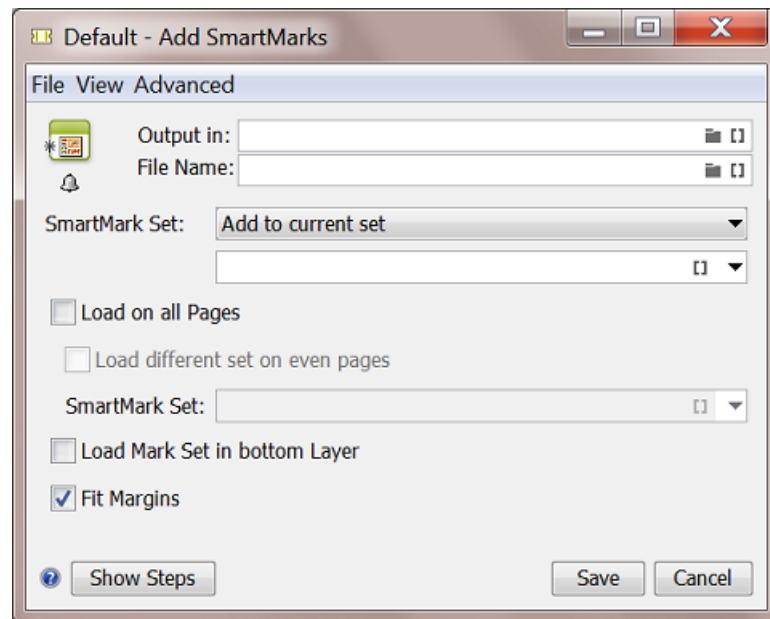
4. Add Margins to LEN File

This task is documented in the chapter [Flexo CTP Device Workflow](#). Find a direct link [here](#).

5. Add SmartMarks

Add SmartMarks

This task applies a set of SmartMarks to a PDF file. A SmartMark set is a group of marks that can be created in PackEdge, Plato or i-cut Layout. Learn more about creating them in the user manuals of these editors.



Your input file may already have SmartMarks. You first need to decide what to do with those:

- **Add to current set:** This merges the new SmartMark set with any already present SmartMark sets.
- **Replace current set:** This replaces any already present SmartMark sets.

Note:

- Since only a normalized PDF file can contain SmartMarks, **Replace current set** is not relevant for native PDF files.
- When applying a SmartMark set on a native PDF file, the task output file will also be a native PDF. Any applied SmartMark set will be converted into normal PDF objects. Learn more about native and Normalized PDFs in [File Types and How they are Recognized](#).

Load on all Pages: This loads the selected SmartMark set on all pages of a multi page input file.

Load different set on even pages: This loads a different SmartMark set on the even pages of a multi-page input file. For example on the backside of a layout. When selected, define the name of the extra set.

Load Mark Set in bottom Layer: This allows you to choose if the marks should be applied on top of the graphics or if the graphics should be on top of the marks.

Fit Margins: Depending on the setup of your SmartMark set, marks can be (partially) positioned outside the PDF's Media Box. Select this option to extend the Media Box to all visible content outside the Trim Box.

6. Add to Pages View

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

7. Add To Products

This task is documented in the chapter [Products](#). Find a direct link [here](#).

8. Adjust PDF Screening

This task serves to apply rule-based modifications of screening parameters. One rule could be enough to accommodate various specific requirements, but if needed you can add an elaborate set of rules (see an example below).

You can preview the **Separation Details** when a file is selected. This will display the results for the specified set of rules in the current file.

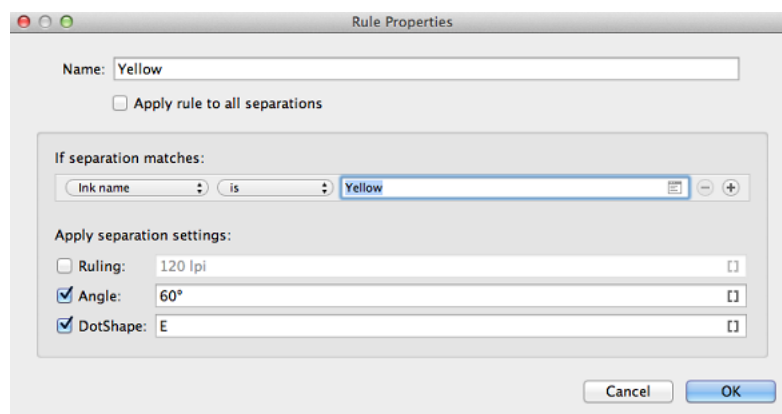
Some example applications:


- You can also criteria like **Ink Book**, **Printing Method** or **Ink Type**. For example: when the printing method is **flexo**, set the **Dot shape** to "F".
- Or use SmartNames. For example: if the ink name is "Cyan", "Magenta", "Yellow" or "Black", set **Dot shape** to [mydotshape] .
- A more elaborate example when using **Object Based Screening**: when the name is "Cyan" and angle is between "0" and "45", then set the angle to "30" and **Dot shape** to "R".

Note: In native PDF, the screening parameter '**DotShape**' does not exist. Instead there is a '**SpotFunction Name**', which can have a limited number of values like **SimpleDot**, **Ellipse**, or **Square** which are mapped to the Esko dot shapes "C", "E", "S" respectively. Other **SpotFunctionName** values are mapped to "C".

When reading Native PDF files, the task **Normalize PostScript / PDF / Illustrator File** does not take account of the DotShapes (SpotFunction Name) values. You need to adjust the PDF Screening parameters during or after normalization.

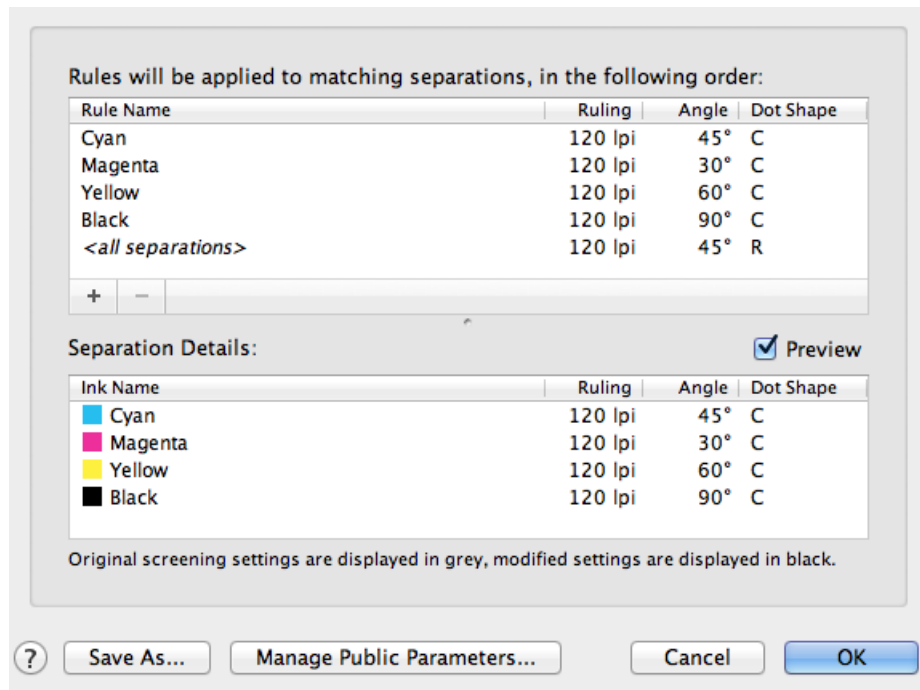
1. Click **Add** to define a rule.



2. Enter a **Name** for the rule. For example the name of the ink that you here adjust.
3. Select '**Apply rule to all separations**' when this is what you want.
4. Define a condition under '**If separation matches**'. You can choose from **Ink name**, **Ink book**, **Ink type**, **Printing method**, **Ruling**, **Angle** and **Dot shape**. Set the condition and enter a related text in the field. Click  to pick a separation name from those found in the input file. If needed, add more criteria by clicking on '+'.

Note: Setting up these rules is very similar to creating filters in Views. Learn more in [Using Filters and Creating Smart Views](#).

5. Define what you want to adjust in '**Apply separation settings**'. You can specify **Ruling**, **Angle** and/or **Dot shape**.
6. Click **OK**.
7. Repeat steps 1-6 to add more rules.



Rules are applied from top to bottom. When a separation was already handled by a rule, it will not be handled again by a lower set rule. In above example screenshot, the rule "<all separations>" will only be applied to all *other* separations that were not handled by any rule set above.

When an input file was selected, you can click **Preview** to see what the above rules will result in.

8. Click **OK** to save the ticket.

9. Apply ArtPro Action List

This task is documented in the dedicated chapter [ArtPro automation - ArtPro Action Lists](#). Find a direct link [here](#).

10. Apply PDF Action List

Concept


This task executes a PDF Action List on PDF files. The PDF Action Lists (*.pal files) are created in [Esko ArtPro+](#). This allows to automate a linear series of functions that you would otherwise execute within ArtPro+.

The actions are done on a selection of the objects in the PDF. This could be all objects (default) or a specific subset. When the action is done, the selection contains the objects that were modified by the action.

Learn all about creating PDF Action List files in [the documentation of ArtPro+](#).

Important: Always test the action list in ArtPro+ first before running it as a task on the server.

Task Settings

- **Action List:** Click  and select an Action List. Or define one via a SmartName. In the UI of ArtPro+, these are called **Server Action Lists**.

Note: The server action list files (*.pal) need to be in the folder \\<Name-of-AE-Server>\bg_data_custom_v010\dat\PDF Action Lists.

- **Options:** When the Action List contains 'Action List Parameters', they will show up here as options and you can change their value. Such parameters are added in [Esko ArtPro+](#).
- **Description:** This shows the user and the software version that created this .pal file. A later version of ArtPro+ will allow you to add other info.
- **Apply on Pages:** Leave this empty to have the action list applied on all pages.

Extra Output Pin

When used in a workflow, this task provides an extra output pin named 'Extra'. This is where extra output files will appear.

Currently, only the action **Extract embedded images** places the extracted images on that separate output pin. This allows to collect these image files for any further processing.

About Types and Units

In the **Options** panel, when you type in values for the Action List Parameters, it is important to know which type that parameter is and which unit will be used.

Each Action List Parameter has a type. This type is defined by ArtPro+, based on where the parameter is used. There are several parameter types:

- **Text:** Can for example be used to define the name of a layer or separation. Any UTF-8 string can be used in this type.

- **Number Without Unit:** Can for example be used to define the miter limit of a stroke.
- **Number With Unit:** Can be used to define distance, size, resolution, angle or percentage.

Different parameter types use different units:

Table: Defaults Units in Action List Parameters

| | |
|-------------------|---------------------------------------|
| Length | Millimeters |
| Stroke | Millimeters (represents stroke width) |
| Font | Points (represents font size) |
| Area | Square Millimeters |
| Resolution | Pixels per Inch |
| Percent | Float number where 100.0 means 100 % |
| Count | Whole number without a unit |
| Number | Float number without a unit |
| Angle | Degrees CW |
| String | A string (no units) |

When you want to use a different unit, type it in as well. Press 'Tab' to see its conversion to the default unit immediately.

When using a SmartName, it has to resolve in:

- either in a value without units, then the default will be taken.
- or in a value that also specifies the units, for example: "4.5 in".

11. Apply Creep

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

12. Apply PantoneLIVE Condition

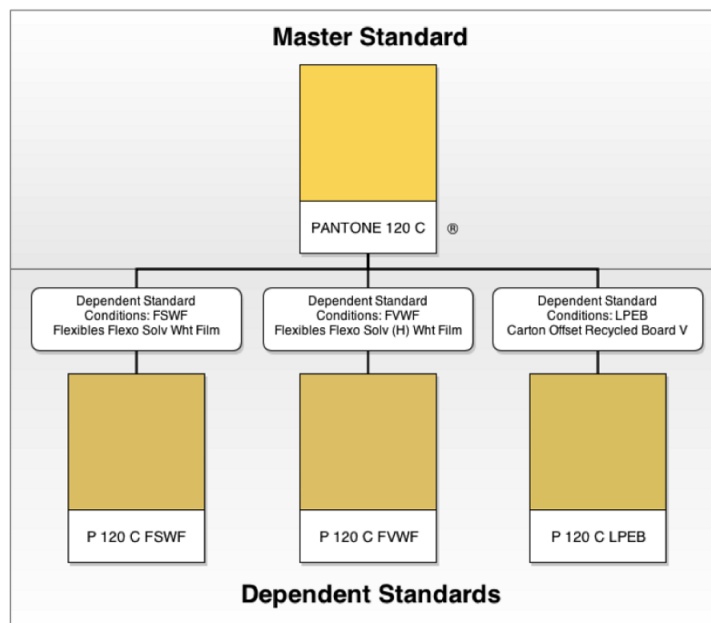
Concept

Important: This task requires you to be familiar with **PantoneLIVE**. PantoneLIVE ink books are ink books that take into account on what substrate an ink will be printed on. These books are stored in the cloud. Learn more in the [user guide of the Color Engine Pilot](#) (chapter 'Inks').

This task replaces all Pantone inks in the file with inks from the selected PantoneLIVE **Dependent Standard Condition** (that you already downloaded). Only the ink name and ink book changes. Other ink settings (ruling, angle, dot shape, ink type and printing method) are not changed.

Note: This kind of ink mapping is what users of PantoneLIVE do interactively in Esko PackEdge. This task may be a more productive way.

See this figure showing several inks of the **identity 120** :



Possible Mappings

This task can change

- any Pantone (or PantoneLIVE **Master**) ink to the corresponding ink in the selected target '**Dependent Standard**'.
- any PantoneLIVE Dependent Standard ink to the corresponding ink in the (other) target dependent standard.

Note: If the input file contains a PantoneLIVE dependent ink and a Pantone (or PantoneLIVE master) ink with the same identity (for example P307C FSGB and PANTONE 307 C), and if the dependent standard of the ink in the file corresponds with the target dependent standard, then both inks will be merged (in our example they are merged to P307C FSGB).



Attention: This task does not change:

- any non Pantone inks found in the input file
- any CMYK process inks found in the input file.

13. Apply Plate ID to LENX file

This task resolves the metadata describing the Plate ID into the LENX file's pixels. It uses a pattern that is fit for the selected type of flexo plate.

This task is described in the chapter [Flexo CTP Device Workflow](#).

Find a direct link [here](#).

14. Archive Job

This task is documented in the [separate chapter about Jobs](#). Find a direct link [here](#).

15. Assign PDF Pages to RunList

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

16. Calculate Ink Key Settings (InkPlanner)

This task creates CIP3 files (mainly PPF) which contain all necessary data for the printing and further processing of a job.



Attention: This task is valid when you RIP'ed files using an Esko FlexRip. If you are using *Esko Imaging Engine*, use the task *Calculate Ink Key Settings (CIP3)*.

Note: This **InkPlanner** ticket cannot be launched separately. It always needs to be part of a 'task chain' preceded by an **Expose to FlexRip** ticket. It cannot be connected to Proof or Approval tickets.

Select the **Plate Setting File** (*.ini), which contains specific information for the CIP3 generation, like image position, rotation, compensation, etc.

Select the **Press Configuration File** (*.dat), which contains data about the press and the InkPlanner output.

Note: Both above mentioned file types are created using the **CIPress Setup** tool (installed with FlexRip).

The name entered in the **Output File Name** will be used for making files created by InkPlanner. This InkPlanner output will be stored in the 'output directory' that was specified in the 'Press Configuration File' (*.dat).

Page Side: select **Automatic, Front** or **Back**.

Note: The option selected here has priority over the page side option selected in the 'Plate Settings' file.

Tip: In case of an imposition file, select **Automatic**. This will process the page side settings typical of the imposition file.

CIP3

These fields enter administrative data in the output file. This information is used further processing CIP3 files.

- **JobName:** (required) If nothing is specified, the default job name will be used.
- **SheetName:** (optional)
- **JobCode:** (optional) is the code used for the job identification.
- **Make:** (optional) refers to the make of expose device.
- **Artist:** (optional) refers to the person who created the sheet.
- **Customer:** (optional) refers to the target customer.
- **Software:** (optional) refers to the software used to create the sheet.
- **Paper Weight:** (optional) the weight of the paper to be used.
- **Paper Thickness:** (optional) the thickness of the paper to be used.

- **Paper Grade:** (optional) the grade of the paper to be used.

Note: If you do not enter anything in these CIP3 fields, the corresponding input fields in the 'CIP3' tab of the 'Plate Settings' tab in the 'CIPress Setup' tool will be checked.

17. Change Imposition Layout

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

18. Check Dynamic VDP Database

Concept

This task validates a VDP database before running the **Expand Dynamic VDP Data** task. Although the same checks are done as in the **Expand Dynamic VDP** task, this **Check Dynamic VDP Database** task faster because it does not generate any output.

This task analyzes all entries from the database using rules stored in Variable Data Template (VDT file).

Note: When used in a workflow and the check succeeds, the task will produce a database CSV file which can be used as input for the next workflow step. When the check fails, the task delivers a report file listing the detected issues.

This task requires

- a CSV file as input
- a VDT file as mandatory parameter.

Task Settings

- **CSV File Encoding:** Specify the wanted character encoding. The default encoding is **UTF-8**. This is also the recommended encoding.
- **Field Separator:** Let the task **Detect automatically** or choose **, (Comma)**, **;(Semicolon)**, **Space** or **Tab**.
- **Empty lines:** Choose what needs to happen with empty lines in the input CSV file. Only lines ending with CR, LF or CR LF can be detected as an empty line (it is possible to mix different line endings in a single file). All empty lines at the end of the file are skipped.
- **Field Names:** Field names map data chunks from the database entry to its corresponding VDP template items. Choose from:
 - **From CSV File:** When selected, the task will extract **Field Names** from the first record of the CSV file by default.



Attention: Field Names can only contain the following characters: lower- or upper-case ASCII letters ("a-z, A-Z"), digits ("0-9") or underscore ("_").

- **From Header File:** When selected, define a **Header File** that contains the **Field Names**. Such a file
 - should contain a single line specifying the **Field Names**
 - should have a **Field Name** corresponding to each column in the CSV file.
 - and the CSV file must use the same delimiter and encoding.
- **Template:** browse to the Variable Data Template file that contains the rules to check the database validity. Such a template is created and exported using the **Dynamic VDP DeskPack Plug-in** for Adobe Illustrator.

19. Check Job Parameters

This task is documented in the chapter dedicated to [Jobs](#). Find a direct link [here](#).

20. Check Print Rules (PRC)

This task is documented in the chapter [Quality Control tools](#). See [Check Print Rules \(PRC\)](#).

21. Check Product Parameters

This task is documented in the chapter [Products](#). Find a direct link [here](#).

22. Check Technical Inks

This task checks if the input file (Normalized PDF, PDF or Plato File) or any of its external references contains objects that have a technical ink set in knockout.

When it finds such objects, the task allows you to decide if it then should fail or only end with a warning.

Learn more in the chapter [How to?](#), on the page [How to Work with Technical Inks](#).

23. Compare PDF

This task is documented in the chapter [Quality Control tools](#). See [Compare PDF](#).

24. Convert CMYK Colors

This old technology is still supported but no longer commercially available.

Please find its documentation in the [manual of Automation Engine 14.1 or older](#) (as part of the Reference Guide).

25. Convert Colors for Digital Printing

This task is documented in the chapter [Digital Printing Workflow](#). Find a direct link [here](#).

26. Convert Colors with Equinox

You can use this task to convert PDF files' colors using [Equinox](#).

Equinox is Esko's award winning **expanded gamut printing** solution. Expanded gamut printing is using a standardized set of 5, 6 or 7 inks for printing, instead of CMYK plus different spot colors for each print job.

Equinox functionality is available in Automation Engine, [ArtPro](#), [PackEdge](#), the [Color Engine Pilot](#) and as a plug-in for Adobe Photoshop.

Learn more in the [Equinox user manual](#).

Use Cases

Use this task to convert your file's colors to prepare for expanded gamut printing, especially in these cases:

- You don't have ArtPro or PackEdge and you work with regular (native) PDF files.
With this task, you don't need to convert your file to an ArtPro file or a Normalized PDF file before conversion, but you can get the same results as if you did.
- You do have ArtPro or PackEdge, but you want to automate the conversion.

You can, for example:

1. Set up an Equinox color strategy in the Color Engine Pilot (see the [Color Engine Pilot documentation](#) for details).
2. Use that color strategy to experiment with Equinox conversion in ArtPro or PackEdge, and make small adjustments to the conversion until it is exactly the way you want it.
3. Then use the adjusted color strategy in this **Convert Colors with Equinox** task to automate the conversion of all your file's variants or "SKUs" (Stock Keeping Units), for example for different languages, sizes, flavors...

This task takes both PDF and Normalized PDF files as input. When working with regular PDFs, it will automatically normalize them using the **Normalize ticket** that is selected in the **Configure** tool's [Processing Preferences](#).

This task keeps your file's metadata intact (for example CAD information).

Tip: We recommend you place this task towards the end of your workflow, as close to the output device as possible.

Parameters

1. Select the **Color Strategy** you want to use for the conversion. This must be an **Equinox Color Strategy** that you have created in the Color Engine Pilot.

Typically, your color strategy doesn't only contain general color conversion settings, but also specific color builds, for either the spot colors you use the most, or for a whole Pantone book.

These color builds determine the exact percentages of the available output inks that will be used to print the corresponding spot colors. These have often been adjusted by your color expert to give you the spot color simulation you want.

2. In **Undefined Spot Colors**, choose what to do when the file contains a spot color for which your color strategy has no color build.

- Select **Do not convert (keep in output)** if you want to leave the spot color untouched in the output file. Do this for example if you are using certain spot colors as extra output inks (typically white or metallic inks).

In this case, the task will end in a warning.

Tip: Consider setting up your workflow so that:

- the output file gets sent to the next task automatically (if you are sure that those spot colors are extra output inks),
- further processing of the output file is paused, so that you can check whether those spot colors are actually extra output inks.

- Select **Convert** to convert that spot color to the color strategy's output profile using the strategy's general color conversion settings (see the [Color Engine Pilot documentation](#) for more information about color strategy settings).
- Select **Generate error** if you don't want to convert the file at all, and instead have the task end in error.

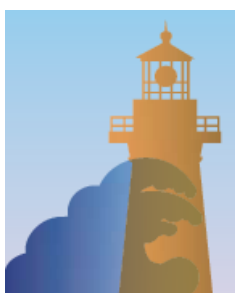
Do this if you always make a color build for each spot color, so in this situation you want to stop the workflow and investigate why this is not the case. You may want to either replace the spot color in your file, or add a color build for that spot color in the color strategy.

3. Select **Hide Technical Inks** if you want to keep technical inks out of the conversion.
4. Select **Flatten document** if you are experiencing unexpected color results when converting files containing overprints, transparencies or vignettes.

Flattening your file resolves its overprints and transparencies, and converts its vignettes to images.

In the example below, the original file contains three objects:

- the background (sky),
- the lighthouse, which is knocking out on the background object,
- the wave, which is overprinting on both the lighthouse object and the background object.



Flattening your file replaces the parts of objects that were overprinting or transparent by other objects. Those new objects have the color that was resulting from the overprint/transparency, but are not overprinting or transparent.



Attention: We recommend that you:

- flatten files with overprints, transparencies or vignettes,
- don't flatten files that you still need to trap or edit afterwards.

If you need to both flatten and trap your file, make sure to do your trapping first, and place the **Convert Colors with Equinox** task towards the end of your workflow, as close to the output device as possible.

5. For CMYK objects, you can choose to **Convert** either:

- **Images and Linework,**
- **Linework only.**
- **Images only.**



Attention:

- If your file contains a **Device N** image (an image that contains one or more spot colors), its spot color(s) will be converted even if you select **Convert Linework only**.
- Flattening your file converts vignettes into images. This means that:
 - If you selected **Flatten document**, vignettes will be color converted when you chose to **Convert Images and Linework** or **Images only**.
 - If you didn't, they will be converted when you chose to **Convert Images and Linework** or **Linework only**.

27. Convert IMP file to Normalized PDF

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

28. Convert JSON to XML

This task is documented in the chapter [Integrating with External Systems](#). Find a direct link [here](#).

29. Convert Selection

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

30. Convert to ARD/MFG

Concept

This task serves to convert a CF2 one-up design to an ARD file or a CF2 layout file to an MFG file and then (optionally) register them in the ArtiosCAD (enterprise) database.

It is mainly used in system integrations where the user of the MIS can trigger this task. This kind of CAD automation for example enables

- the CSR (MIS user) to make a layout based on a one-up CF2 received from the customer.
- to convert an incoming layout CF2 to an MFG to be used in ArtiosCAD for tool-making.

Task Settings

- **Use custom tuning file:** A **Tuning File** helps in mapping lines and parameters between CAD files from two different platforms.
- **Board Code:** A board code is a group of settings that tells ArtiosCAD various things about the material used to manufacture the design. This can include information such as the thickness of the board, its weight, cost, inside loss, outside gain, scant, and allowance.
- **Board Description:** This is the description of the paper.
- **Grain Direction:** **Vertical** or **Horizontal**.
- **Print Side:** Define if the output is to be the **Inside** or **Outside** of a design.

31. Convert XML to JSON

This task is documented in the chapter [Integrating with External Systems](#). Find a direct link [here](#).

32. Contourize & Clean

This old technology is still supported but no longer commercially available.

Please find its documentation in the [manual of Automation Engine 14.1 or older](#) (as part of the Reference Guide).

33. Copy Inactive Job to Jobs

This task relates to near-line storage for AE SaaS customers.

Learn more in the chapter [AE SaaS: When your AE is in a Data Center](#), in the section about [Inactive Jobs](#), on the page [Task 'Copy Inactive Job to Jobs'](#).

34. Copy or Move File

This task copies or moves the input file or **Marked** files to a new location.

Note: To **Mark** a file, insert the [Mark File](#) workflow control in your workflow. Learn more in [Mark File and Select Marked File](#).

You can also launch this task on folders.

- Select the option if you want the task to **fail when the file to be copied or moved already exists in the output folder**.
- You can also choose to **not take over the Extension of the Input file in the Output file**.
- **Include View Data:** Choose if you also want to copy or move the View data. These are the [prepared view files for the Automation Engine Viewer](#). This also includes the XFDF annotation files that were created by any [Inspection task](#) that you launched on the files that you here copy or move.

Note: Before v21.07, the view data were always included.

Tip: When you are copying or moving a file to a hot folder, you most probably do not want to include this view data.

35. Create ArtiosCAD Layouts

What?

This task provides optimized nesting solutions including output metadata that allows a business system to estimate the cost for these nesting solutions.

The task requires a design name, format class, MFG template, sheet size, nesting type, number of one-ups, sheet trim, gutter, margins etc. Output parameters includes metadata such as number of ups, blank size, waste percentage, rule length, etc.

It also accommodates the functionality of running a command script after layout is created. The task supports both Enterprise and Standard ArtiosCAD.

More Info

This task is set up by an Esko Solution Architect. Learn about Esko Solution Services on <https://www.esko.com/support/solution-services>.

For more information, search for online articles on this topic in the [Esko Knowledge Base](#).

36. Create ArtiosCAD Report from XML

What?

This task exports a 'report' of a design or layout to PDF, CF2, DCM and more file formats (configured in ArtiosCAD Server). The output 'report' file is written onto an external folder where it can be picked up to be interpreted by a business system or by a Kongsberg table.

This task takes an XML input file that describes a layout.

Note: This task can also print out this report.

Note: This technology was formerly known as 'Speclink' or exporting a 'shop card'.

More info

This task is set up by an Esko Solution Architect. Learn about Esko Solution Services on <https://www.esko.com/support/solution-services>.

For more information, search for online articles on this topic in the [Esko Knowledge Base](#).

37. Create Design (DesignWizard)

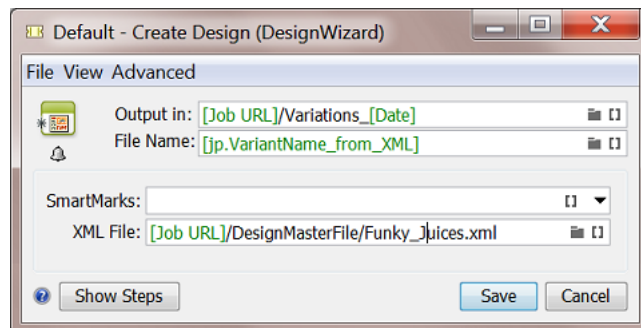
This task creates variants of a template design. The differences in the variants are described in an external file.



Attention: The template design needs to be made in Esko PackEdge.

This template design contains objects generated by SmartMarks (text, colors, objects, external files)

The DesignWizard task regenerates the SmartMarks using different data sets. These data sets can come as a field in a database (accessible from the Automation Engine server through ODBC), or they can come from fields in an XML file.



An example: These resulting juice designs vary in color, text and barcode. External references can also vary (images, logos).



The task used this XML file that describes their differences.

```

<?xml version="1.0" encoding="UTF-8"?>
- <dataroot xsi:noNamespaceSchemaLocation="Funky_juices.xsd"
  xmlns:xsi="http://www.w3.org/2000/10/XMLSchema-instance"
  xmlns:od="urn:schemas-microsoft-com:officedata">
  + <Funky_juices>
  + <Funky_juices>
  - <Funky_juices>
    <Design_Number>799884</Design_Number>
    <Product_Name>funky southern</Product_Name>
    <Litre_Size>2 LITRES</Litre_Size>
    <B_Number>B21-j134</B_Number>
  + <Ingredients>
  + <Packed_In>
    <Servings>10</Servings>
    <Serving_Size>200mL</Serving_Size>
    <Energy_Per_Serve>270kJ</Energy_Per_Serve>
    <Energy_Per_100>165kJ</Energy_Per_100>
    <Protein_Per_Serve>Less than 1g</Protein_Per_Serve>
    <Protein_Per_100>Less than 1g</Protein_Per_100>
    <Fat_Total_Per_Serve>Less than 1g</Fat_Total_Per_Serve>
    <Fat_Total_Per_100>Less than 1g</Fat_Total_Per_100>
    <Fat_Saturated_Per_Serve>0g</Fat_Saturated_Per_Serve>
    <Fat_Saturated_Per_100>0g</Fat_Saturated_Per_100>
    <Barcode>5010784005240</Barcode>
    <ink3>512</ink3>
    <ink4>356</ink4>
  </Funky_juices>
  + <Funky_juices>
</dataroot>
    
```

Learn more about how SmartNames can retrieve values from an XML file or directly from an external database in [Using SmartNames in a DesignWizard template](#) on page 62.

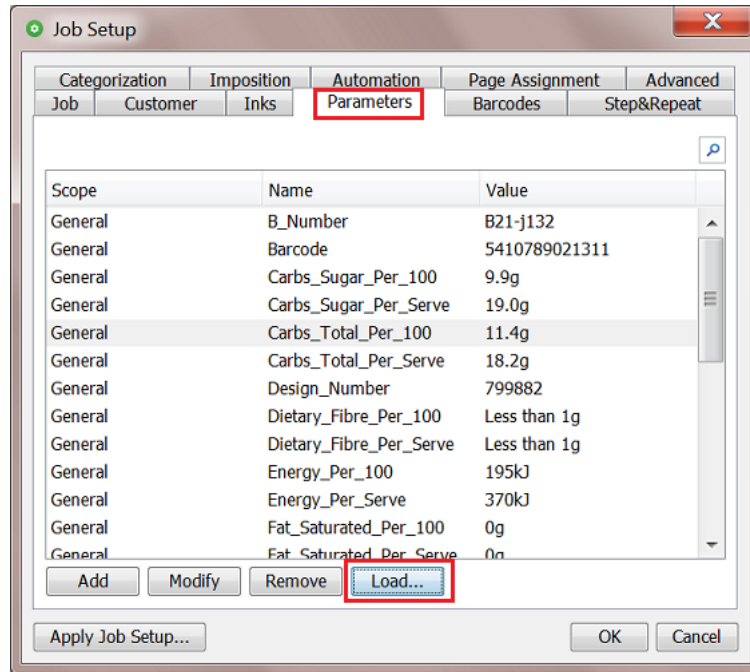
37.1. Using SmartNames in a DesignWizard template

The DesignWizard template picks up the variant values via SmartMarks that use SmartNames.

In the case of a live connection to a database, you create and use [Database Query SmartNames](#).

In the case of XML files, the XML file is expected to have a similar format as when saving a database query into an XML file. This means the data can either be split over 1 file per instance (i.e. each XML file contains all the data for 1 variant) or there can be multiple sets in 1 XML file (see [this example](#)).

To get SmartNames out of such an XML file, you need to **Load** it into [Parameters tab of the Job Setup](#). Each new Job Parameter so automatically becomes available as a SmartName (inside this Job)



38. Create IMP File

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

39. Create Imposition from JDF Layout

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

40. Create Imposition from RunList

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

41. Create Job task

This task is documented in the chapter [Integrating with External Systems](#). Find a direct link [here](#).

42. Create Merged Plate

This task is documented in the chapter [Flexo CTP Device Workflow](#). Find a direct link [here](#).

43. Create Master DCS File

This old technology is still supported but no longer commercially available.

Please find its documentation in the [manual of Automation Engine 14.1 or older](#) (as part of the Reference Guide).

44. Create or Modify WebCenter Project

This task is documented in the chapter [Integrating with WebCenter](#). Find a direct link [here](#).

45. Create Packshot from XML

Concept

Using an XML as input file, this task links one or more artwork files (PDF) with printable parts of a structural design file. A structural design file describes a 3D object.

Such XML is created by Esko WebCenter.

In this XML (in WebCenter), the user can specify:

- a scene and view preset. This determines at which angle one looks at the 3D object, if the 3D object should cast a shadow, which lighting environment is chosen etc.
- A finishing profile. This determines which special finishing operations should be visualized. For example a varnish, a holographic foil etc.
- The output file type: a TIFF, PNG, JPEG or Collada file.

46. Create PAF / JPG / XML (LinkEdge)

Note: The name of this tool refers to "LinkEdge", an old interactive tool that was used to transfer files from the editor PackEdge between different sites.

This task packs the graphics data all its references in one file. It is also used to unpack that set of data, possibly at another site. This task is not just a form of Esko-'Zip': The (un)packing process also communicates with central resource folders (colors, fonts).

The task also offers to create a preview (JPEG) and/or a description of the file (XMP-XML).

You can also use the task to for example only create one of those 3 types of data.

46.1. Pack/UnPack

- Select **Create Packed File** to create a Pack file from a Normalized PDF or Plato PLA file (and legacy file formats GRS and GRQ).

When your ticket does not yet have an input file selection, you still need to choose the **Action**:

- **Pack File:** This creates a .PAFSC file (.PAF when input file was a legacy .GR* file)

Note: 'PAF' refers to Packed Archive File'. The 'SC' refers to 'Scope', a term used in old Esko workflow setups.

- **UnPack File:** The output file is written in the ticket's **Output** folder. Where the referenced files are written depends on the option 'Unpack in...' below.
- You can choose to **Include Fonts**. When unpacking, the task first checks if the font is installed centrally. If so, the graphics file will refer to that central font. Otherwise, the font is installed locally.
- **Unpack in Local Directory:**

The **Local Directory** is the output path in the ticket. When none was specified there, it is the folder of the input file. This option is important when there are referenced files:

- When this option is not selected, the task will try to restore the original file structure. When a path to a reference is no longer relative but refers to other disk drives, these data will be put in a subfolder 'External'.
- When this option is selected, all elements of the packed file will be unpacked in the same output folder.

An example:

Suppose you packed a Normalized PDF (D: / Jobs / 2345banana / 2345_50ml . pdf) which has one referenced image that resided in a subfolder (D: / Jobs / 2345banana / images / banana . eps). When you unpack the PAFSC file and there select **Unpack in Local Directory**, the task will write all files in the same folder. If you unpack without that option, the task will try to re-create the same subfolder and put the image there. In this case, again in a subfolder / images .

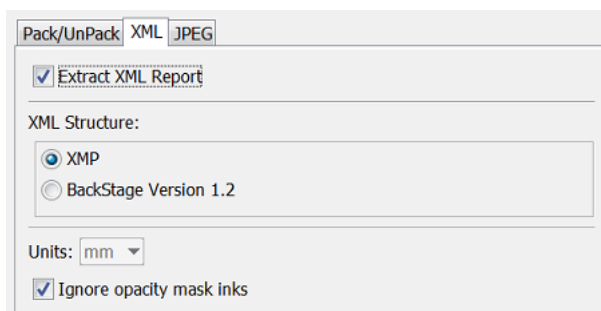
- Add a **Password** to protect the Packed file. The user that unpacks that file will be prompted to enter the password (using a task ticket or using an interactive tool).

46.2. XML

Select **Extract XML Report** if you (also) want to create an XML description of the file's XMP metadata (job and customer data, references, inks, barcode, etc.).

Note: Native PDF data will first automatically be normalized according the ticket configured [here](#).

XML Structure: choose between standard XMP and the old **BackStage Version 1.2** (also based on XMP, but contains less information).



Note: Learn more about Esko XMP in the white paper "XMP Metadata". Find it under "Related Documentation" [next to the Automation Engine documentation](#).

Choose the **Units** that should be used in the XML file.

Select **Ignore opacity mask inks** if you do not want information about such inks in the XML. Learn more about **opacity mask** in the user manuals of Esko or Adobe editors.

46.3. JPEG

Select **Extract JPEG Preview** if you want the task to (also) create a preview file of the (unpacked) input file.

Note: Native PDF data will first automatically be normalized according the ticket configured [here](#).

- Define an **Image Resolution**.
- Alternatively, you can define the JPEG's **Width** and **Height** in **pixels**. If your ticket already has an input file, these fields will already be filled in. Changing these fields may automatically reduce the chosen resolution.
- Alternatively, you can set **limits** to the JPEG's **Width** and **Height**. Changing these fields may automatically reduce the chosen resolution.
- Choose a **Compression** from the drop-down list.
- **Anti-aliasing** smoothens the staircase effect you get in the generated images of line-art objects. If you select it, also select its quality.
- Select **Account for Margins** if you want the JPEG to also contain data from outside the file's Trim Box ('borders'), so up to the file's Media Box ('margins').
- Select **Use varnish inks in output** if you want the inks with the attribute 'varnish' to be included in the JPEG file.
- **Page Range:** Choose if you want a JPEG of **All** pages or of a specified range of pages (for example '2-3, 5-6').

47. Create PDF File from JDF RunList

48. Create PDF File from RunList

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

49. Create PDF Report

Concept

This task is used to automate the creation of 'print cards'(in French: "fiche technique", in German: "Druckkarte").

These file reports typically contain a preview of the design and then lists extensive details of graphics and CAD and further information related to the job-order, customer, etc. It can even be extended to show separations or include 3D objects. Such file reports is what many prepress operators created manually and then printed to use as proofs or to store in some paper archive.

The task makes a report based on a **Report Template** that was made earlier in ArtPro+ and saved as a PDF+ file.

Example

See this example of an output report PDF. Its format and content is decided by the **Report Template**, also the amount of pages. In this example the template had a second page where marks placed a closer view at some important details:

| | | | | |
|-----------|------------------|------------|-------------------------|--------|
| Report | 15.06.2020 10:44 | File: | GetWell_Syrup.pdf | 35.59% |
| Customer: | GetWell bvba | Associate: | BCSYSTEM | |
| Job Name: | Medicine_Syrup | Size: | 364.50 x 261.00 mm | |
| Job Cat.: | Prepress | CAD: | MEDIGIN_CARTON_OPEN.ARD | |
| Due Date: | 09/26/17 | | | |

| | | |
|--------------|--------|-----|
| Opaque White | Crease | Cut |
| | | |

| Plates: | Inks: | Process: | Coverage: | Structural: | Barcode: |
|--------------------------------------|------------------|---------------------|-----------|--------------------------|----------|
| 1 | Opaque White | Unknown (0.00%None) | 4.59% | Crease | |
| 2 | Black | Unknown (0.00%None) | 1.73% | Cut | |
| 3 | PANTONE 172 C | Unknown (0.00%None) | 3.03% | emboss-deboss - detailed | |
| 4 | PANTONE Silver C | Unknown (0.00%None) | 0.58% | | |
| 7 | Gloss Varnish | Unknown (0.00%None) | 4.59% | | |
| Details: | | | | | |
| Software: Automation Engine 20.0.572 | | | | | |
| Last modified: 15.06.2020 | | | | | |
| Product ID: GetWell_Syrup | | | | | |
| Product Name: GetWell_Syrup | | | | | |
| Customer Ref.: GetWell Pharma | | | | | |
| Status: PrepressPreflightError | | | | | |

Profile: Coated FOGRA39 (ISO 12647-2:2004)

| | | | | |
|-----------|------------------|------------|-------------------------|---------|
| Report | 15.06.2020 10:44 | File: | GetWell_Syrup.pdf | 100.00% |
| Customer: | GetWell bvba | Associate: | BCSYSTEM | |
| Job Name: | Medicine_Syrup | Size: | 364.50 x 261.00 mm | |
| Job Cat.: | Prepress | CAD: | MEDIGIN_CARTON_OPEN.ARD | |
| Due Date: | 09/26/17 | | | |

| | |
|----------|----------|
| Detail 1 | Detail 2 |
| | |
| Detail 3 | Detail 4 |
| | |

Note: In this version, this task still has these limitations :

- no support to place a 3D file
- no support for span mark
- Workflow parameters and Job parameters cannot be used in text marks.

Graphics Kernel

This task uses the graphics kernel from ArtPro+ (NDL). The report templates also need to be created in ArtPro+. Learn more about PDF+ in [PDF+ in Automation Engine](#).

This task succeeds the task [Create Report \(ReportMaker\)](#), which uses the normalized PDF technology (BRIX), and which report templates have to be created in PackEdge.

Functionality

- Select a PDF file.

Note: Normalized PDF is not supported as input file. In such case, use the task [Create Report \(ReportMaker\)](#) instead.

- When selecting multiple input files, a task will be launched per input file.
- When an input file is a multipage file, only its first page will be processed.
- Make sure to define a (smart) output name for the report PDF.
- Select a **Report Template** file that was created in ArtPro+.
- The result is a PDF.
 - Its content and number of pages are decided by the report template.
 - The report PDF contains a single layer ; all layers were flattened.
 - All its data is embedded and all its marks were flattened to static objects.

Note: This means that you can not ask the report PDF to update any links, like the link to the input-file.

Creating a Report Template

How to create a report template for this task is described in the [user manual of ArtPro+](#), in its section **Working with Files > Report Template**.

To build such a report template in ArtPro+, you need experience in working with Dynamic Marks.

50. Create Flexo Plate Cutting Paths

The feature of creating Flexo Plate Cutting Paths is also present in ArtPro+.

It is an alternative to Staggered Cutting in ArtPro or PackEdge/Plato.

This task is described in the chapter [Flexo CTP Device Workflow](#).

Find a direct link [here](#).

51. Create Report (ReportMaker)



Attention: This task requires report templates made in Esko PackEdge. If you wish to work with native PDF templates, then check the task [Create PDF Report](#) on page 77.

This task is used to automate the creation of design 'print cards' (in French: "fiche technique", in German: "Druckkarte").

These file reports typically contain a preview of the design and then list all kinds of information related to the job-order, customer, extensive details of graphics and CAD. It can even be extended to show separations or include 3D objects. Such file reports is what many customers used to create manually and then print out or use as proofs.

The task makes a report based on a **Report Template**. Learn more below in [Creating a ReportMaker Template](#) on page 81.

Input File types

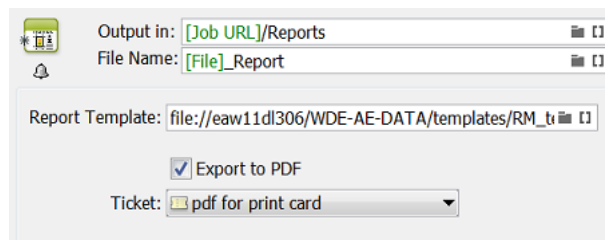
- Input file types:
 - Native PDF
 - Normalized PDF
 - PDF+ files (since AE v18.1.1).

Important: PDF+ files will be normalized before the report is made.

The following features from PDF+ files are supported:

- ink properties and ink sequence
- Processing steps will be shown as technical inks.
- Text fields showing general properties
- dimension lines showing the document sizes
- text fields showing XMP properties
- 3D previews of PDF+ files containing links to ARD or Collada files (ZAE or DAE files)
 - only when the CAD objects are rotated over a multiple of 90° are supported .

Task Settings



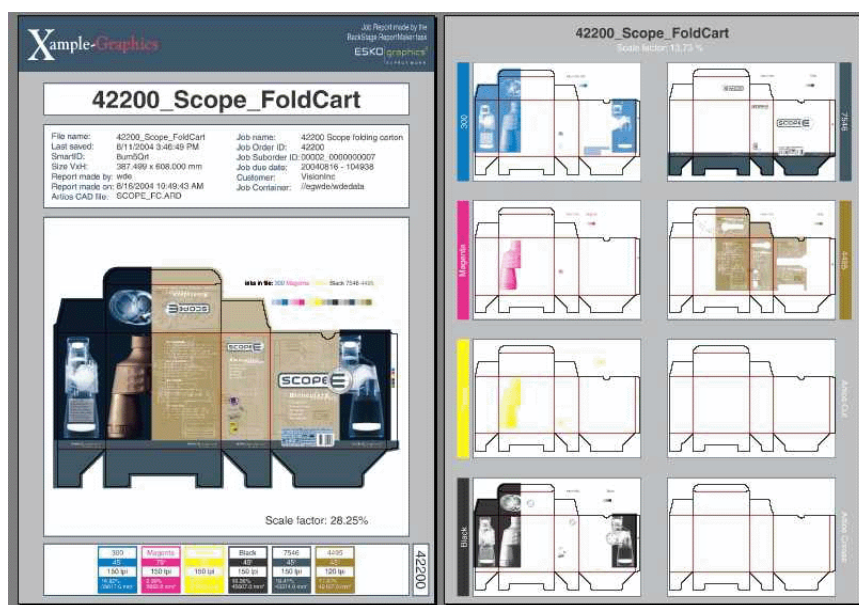
- To avoid that the output PDF has the same name as your input file, it is by default named [File]_Report.pdf. Use SmartNames to define any other **File Name**.

- Select a **Report Template**.
- If you want your report to be a self-contained PDF instead of a Normalized PDF, select **Export to PDF** and choose a **Ticket** for the PDF Export task.

Tip: You can also use this option to help create a report containing a 3D object (see [Adding a 3D Object to a Report PDF](#) on page 86).

Example

Here is an example of a report (viewed in Adobe Acrobat). The format and content is decided by the **Report Template**, also the amount of pages. This report template had a second page where SmartMarks place the design in separation mode:

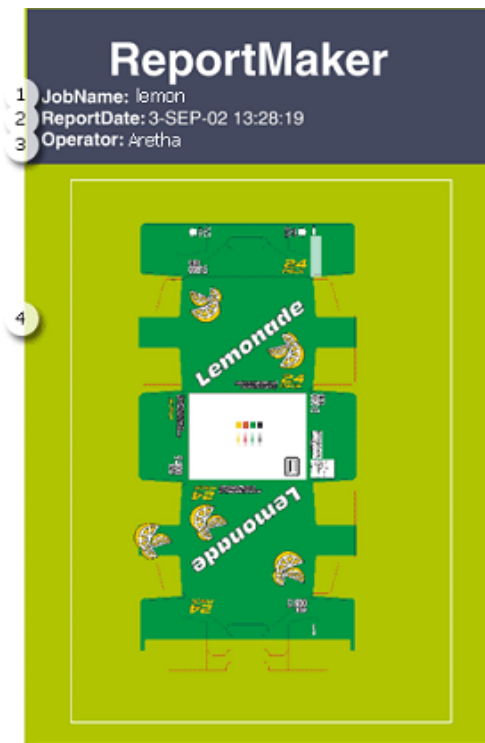


51.1. Creating a ReportMaker Template

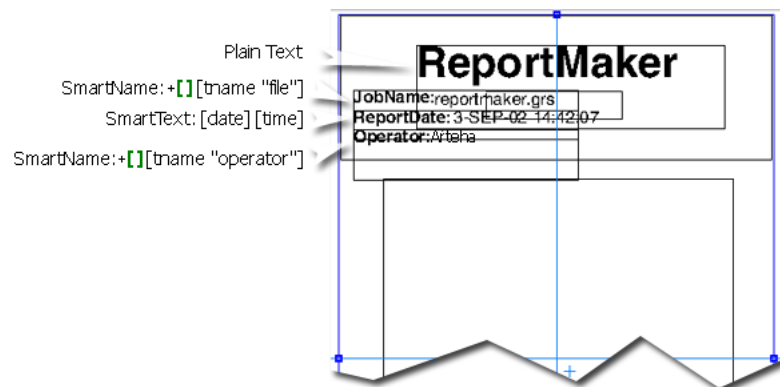
Remember: You need the editor Esko PackEdge to make a template for the ReportMaker task.

A ReportMaker template is a Normalized PDF which you can design yourself. In this file, various specific **SmartMarks** are needed. Some of them use specific **SmartNames**.

Let's make a simple template that can give us this result:



In the above example, 1, 2 and 3 are all **Text Marks** on board the template that are resolved when the ReportMaker task is executed. Number 4 shows a preview of the input file. This was placed via an **Image Mark** and can be scaled at wish.



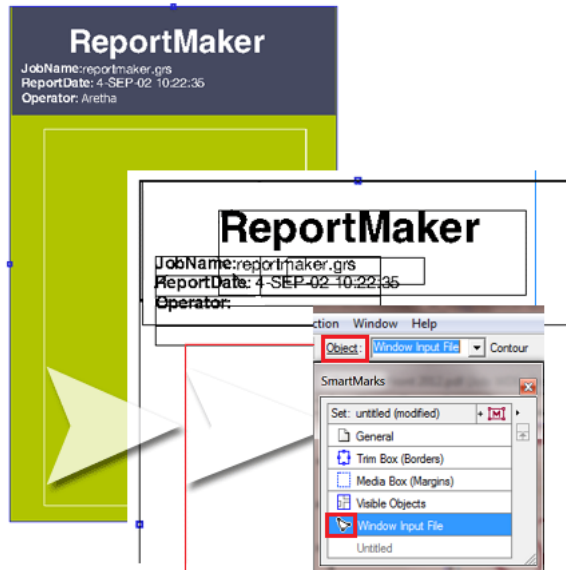
Note: SmartMarks used in a ReportMaker template are extra smart because:



- Ink related SmartMarks show the inks of the input file, not of the generated report.
- Ink coverage related SmartMarks show the ink coverage of the unscaled version of the input file.

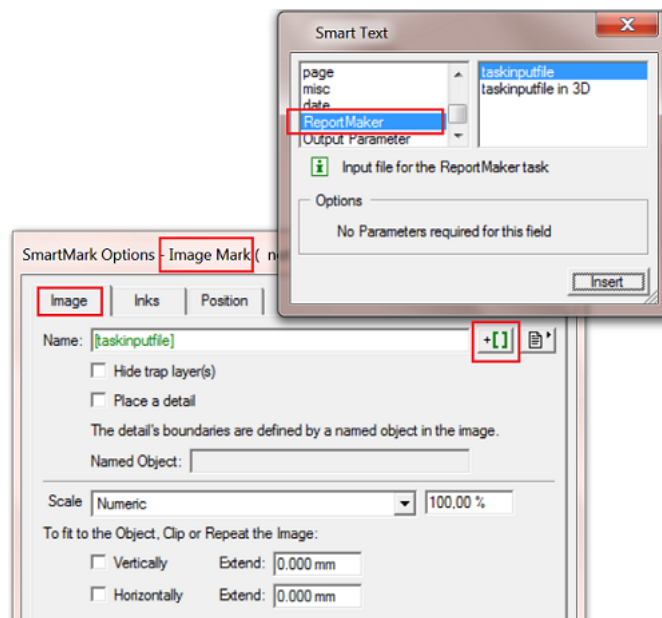
Follow these steps to create a template for this task:

1. In PackEdge, create a new file that you will use as a report template.
2. Place the Text Marks. When needing help, contact Esko or check the [PackEdge user manual](#).
3. Draw a rectangle where you want the preview to appear (no need to attribute any color).

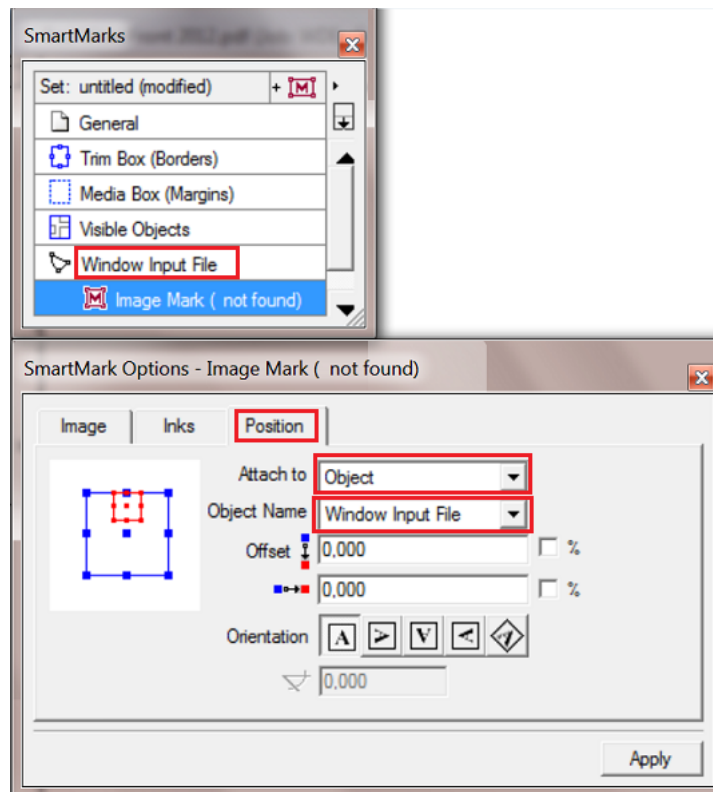
4. Make that rectangle a **Named Object**:



5. In the SmartMarks dialog, select that object, click +  and add an **Image Mark**.
6. In the tab **Image**, the **Name** of the image is a special **Smart Text** for this case. Click +  and choose '[taskinputfile]' from the category 'ReportMaker'. This is a special SmartName that will place the input file in the Report when so asked by a ReportMaker task.

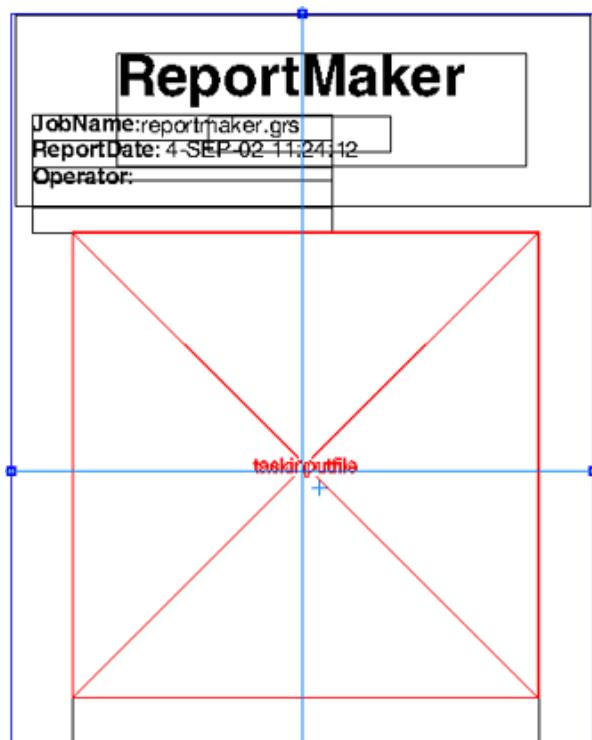


7. In the tab **Position**, **Attach** the Image Mark to the **Object** that you created in step 4:



Notice how the Image Mark 'taskinputfile' has the same functionality as any other SmartMark. It can also be scaled, you can make ink-selections etc.

8. This is the result so far, the Image Mark places the 'taskinputfile' in the Named Object:

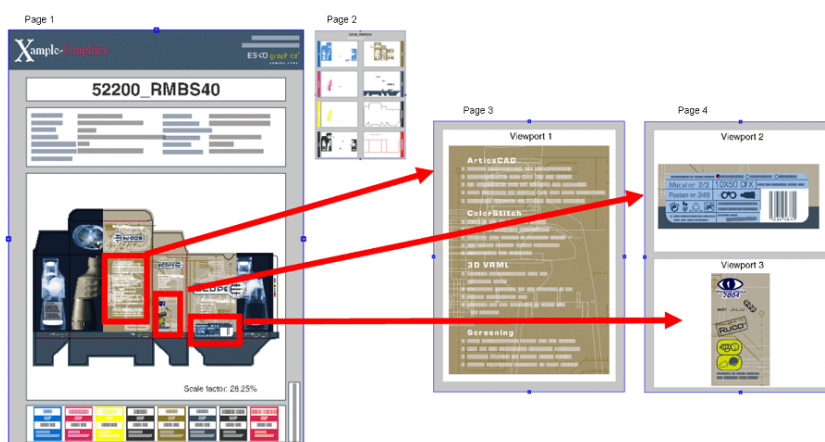


9. Save your PackEdge file.
10. Test it by using it as a ReportMaker template.

51.2. Adding Previews of Details in a Report PDF

The previews in a ReportMaker report can also zoom in on **'details'** of the input file. This makes it possible to add extra previews where you zoom in objects that are difficult to inspect in a full preview (ingredient copy, small logos, barcodes...). This is also useful when the design only contains few graphic objects, for example on corrugated boxes.

Here's an example where page 3 and 4 of the report zoom in on important content of the design:

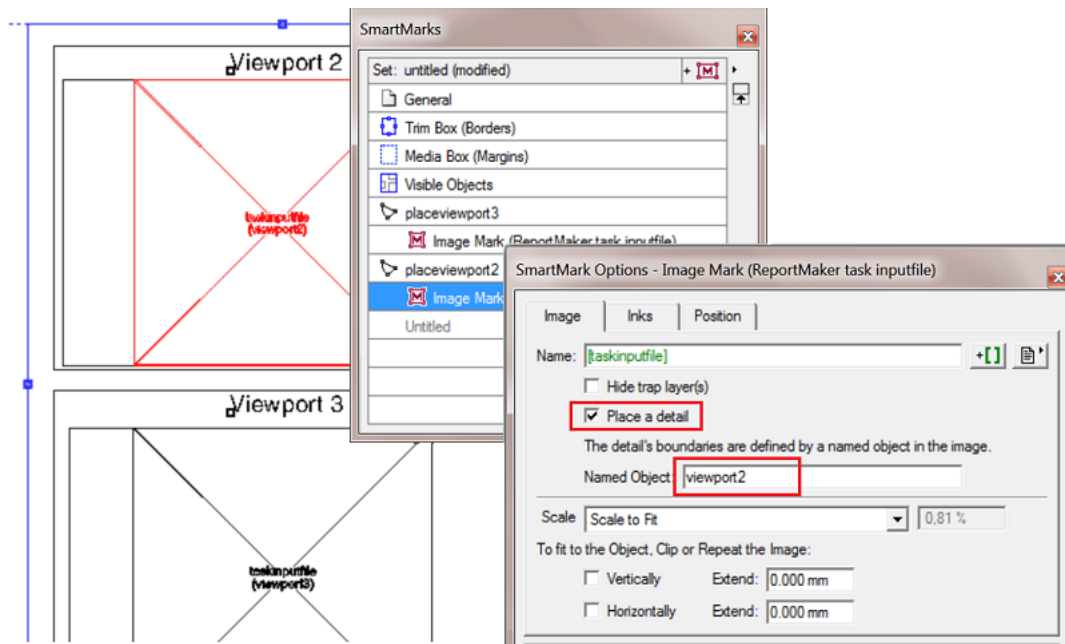


The way to do this is very similar to how you create the placeholder for the preview of the complete task input file, as described [here](#). In this case however, we will **place a detail** of the input file. These details are then attached to their own **Named Objects**. You can for example put these on extra pages of the template.

See below how page 4 of the template, that was used in above example, was set up:



Attention: Important is that in this case, the named objects that indicate the **details** first need to be set up in the *input* file. So before you launch the ReportMaker task, your input file needs to contain these Named Objects too.



Note: A Named Object is typically a rectangle. This contour object is used as a clip mask on the input file. If the named object is a different object (an image, a group of objects...), then a clip mask will be applied with the size of the bounding box of the named object.

51.3. Adding a 3D Object to a Report PDF

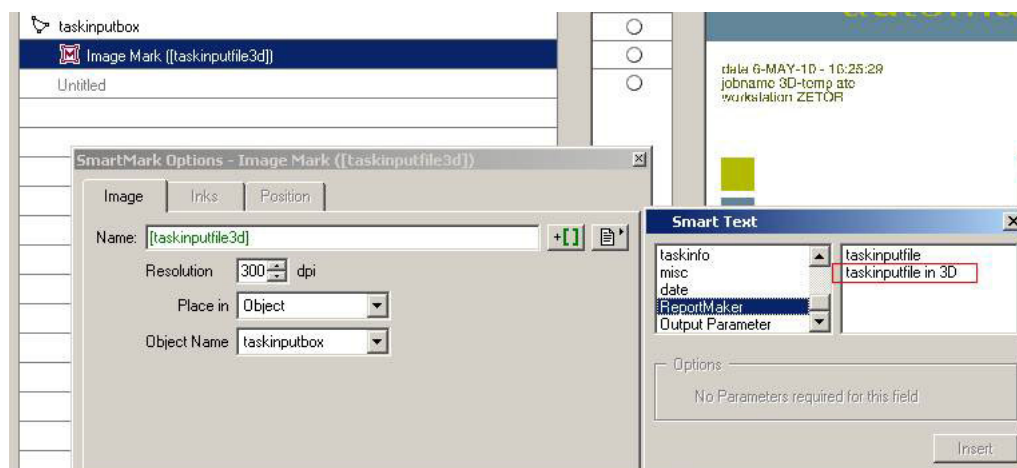
A report PDF can even contain a 3D object of the input file. To do this, you need:

- a report template with image marks allowing 3D objects,
- a Normalized PDF file with a link to a CAD file (.ard, .dae or .zae).

Follow these steps:

1. In PackEdge:

- a) Open your report template in PackEdge.
- b) Add a Named Object in which you want the 3D object to be placed.
- c) Add an Image Mark to that Named Object.
- d) Add Smart Text to define the name of the **Image**. From the category 'ReportMaker', choose '[taskinputfile in 3D]'.



e) Save your template.

2. In Automation Engine:

- a) In the **Create Report** ticket, make sure you select the option '**Export to PDF**'. This forces the 3D object to be embedded in the PDF.
- b) This report PDF and its embedded 3D object can be viewed in Adobe Reader 8.0.1 or later.

52. Create RunList

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

53. Create RunList from PDF

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

54. Create Sheet Layout

Note: Before v18.0.1, this task was named "Create CAD Sheet".

Concept

This task serves to fully automate the step and repeat process.

The task places graphic files on the **stations** that are defined in a template, which can be a CAD file, a PDFPLA file or layout description in a die database.

Which graphic files are placed is decided by the task's input file(s):

- If the input file is an XML file, this XML needs to contain information on what graphic file(s) to use, the quantity, bleed etc. Learn more in [Using XML as input file](#) on page 98.
- If the input file is a PDF file, the PDF is placed on all stations. If the input is multiple PDF files, the files will be distributed equally.

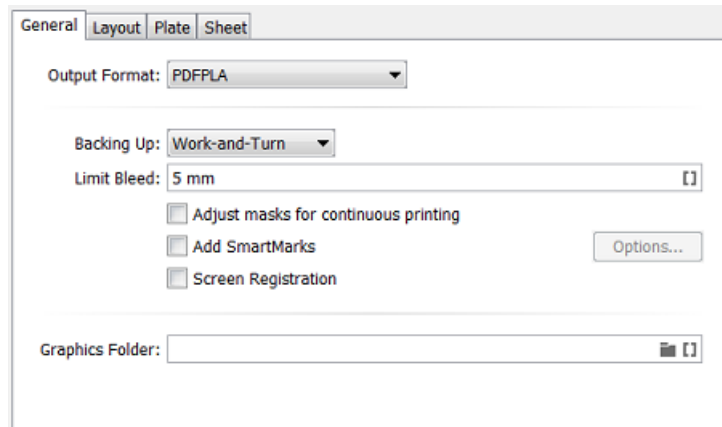
Note: These PDF can be:

- native PDF
- Esko Normalized PDF
 - Normalized PDF without CAD object info
 - Normalized PDF including CAD object info
 - CAD object info added from Adobe Illustrator, ArtPro, PackEdge or by the task [Load Structural File](#) on page 207.
- a PDFSTA file.

Learn more in [Distributing the One Up graphics onto the Stations](#) on page 96 and [Positioning a One Up graphic onto a Station](#) on page 95.

54.1. Ticket settings

Tab 'General'



- The **Output Format** can be a PDFPLA, a Normalized PDF (with all references embedded) or a native PDF.

Note: When the input file is a native PDF and you here select PDFPLA, the task will fail.

Note: When the input file is a (native) PDF file and you choose to output to '**Normalized PDF (embed all)**' is selected, the input PDF will automatically normalized when while generating the output file. It therefor uses the 'Automatic normalization' ticket from the **Processing Preferences** in the **Configure** tool.

- The output file contains 2 layers: the CAD layer and a layer containing the placed stations. When SmartMarks are used, an extra layer will be generated containing the SmartMark objects.
- The output file will have a Trim box and a Media box. These page boxes represent respectively the sheet and the plate of the layout.
- The output file contains the following inks:
 - all the inks of the input files (in case the input files are native PDF files, a normalisation on-the-fly will be executed).
 - all the inks created during import of the CAD object
 - all the inks that might be added by SmartMarks.
- Use the **Backing Up** option when working with a front and back. You can choose to **Work-and-Turn** (rotate over a vertical axis) or **Work-and-Tumble** (rotate over a horizontal axis).

Note: In order to make a CAD sheet with a front and a back, you need a multi-page PDF file. The first page is placed on the front, the second on the back. In case of XML input, the XML file can contain [more detailed settings for the back side graphics](#).

- **Limit Bleed:** The bleed can be limited to a specific distance. The bleed mask is created by spreading the die shape. When this field is left empty, the bleed setting in the stations will be left unchanged.

Note: When using a SmartName, the resolved value should contain a number with an optional unit indicator. Supported unit indicators are (case insensitive): mm, cm, in, inch, mil, point, pt. When none was specified, the value is interpreted in mm.

- **Adjust masks for continuous printing:**

When not selected, the top and bottom rows can have more bleed (top- and bottom bleed) compared to graphics that occur in the middle of the layout.

When selected, the bleed of the top and bottom row of graphics will be truncated in the same way as on the rows in the middle of the layout (i.e. truncate the bleed of the top and bottom row of graphics as if there is a continuous set of rows of graphics). This is required to enable continuous printing (around the drum).

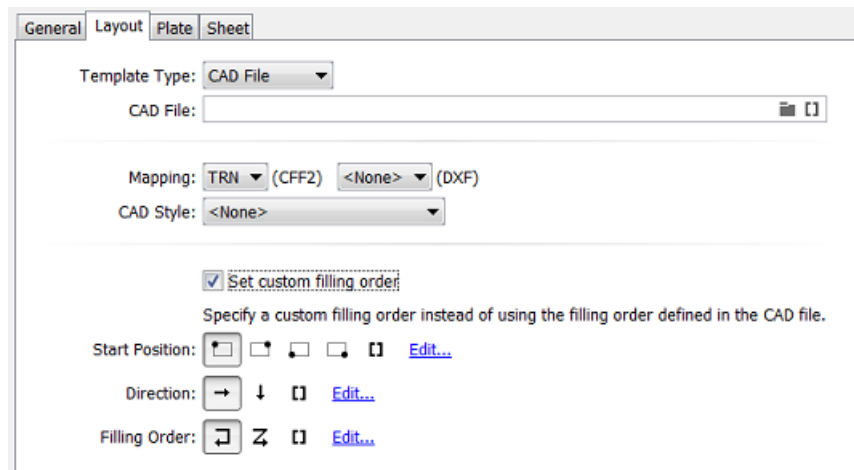
- Select **Add SmartMarks** if you want to add any.

Note: When a back side is created, SmartMarks will only appear on the back side if a SmartMark set was specified for that back side. In that case, the SmartMarks added on the front side will not be mirrored to the back side.

Click **Options...** and select them from the drop-down list or use SmartNames (**Front** and/or **Back**).

- By default, marks are loaded in a layer on top of the graphics. Select **Load Mark Set in bottom layer** if you want to make them appear behind the graphics, in a new layer at the bottom. This is used for example when adding gradation strips that need to run behind the graphics.
- Use **Pull back Marks** to keep marks away from the graphics. For example to keep gradation strips away from the die line, with a set distance. This option is only available when **Load Mark Set in bottom layer** was selected.
- **Screen Registration:** Select this option if the Esko RIP should reset the screening origin for every one-up. De-select it to keep the same screening origin for the complete step and repeat. This option is only available when outputting to PDFPLA or Normalized PDF (it is added to the XMP of those files).
- The **Graphics Folder** is the folder where the task searches the graphic files. This option is only applicable when the input mode of the task is XML and when the XML does not offer a full absolute path (only a partial path or only the name of the input file). Learn more in [Using XML as input file](#) on page 98.

Tab 'Layout'



- **Template Type:** Choose between:
 - **CAD File:** Define the MFG, DXF or CFF2 file that will be used as base for this sheet.
 - **Mapping:** When the CAD file is a CFF2 or DXF file, you here select the set of mapping rules. These rules map line styles (cut, crease, bleed), layer names and color numbers onto ArtiosCAD line types. These sets of mapping rules can be created in Esko PackEdge or Plato.

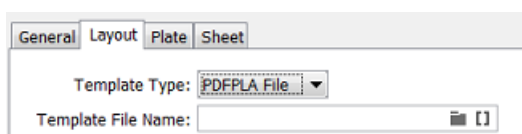
Learn more in [their user documentation](#), more specifically in their section on placing files (PackEdge) or on importing CAD data (Plato).

- The **CAD Style** changes the appearance of the (imported) ArtiosCAD type lines.

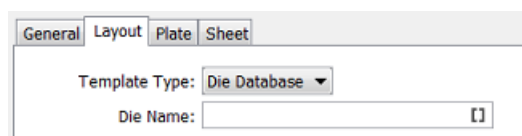
Note: This CAD Style is only applied on lines from the design (ARD) that was stepped in the layout file (MFG). Lines manually drawn next to the placed designs (the so called "objects at layout level") will always be ignored by the task.

The styles you can select here were also created in PackEdge or Plato. Learn more in [their user documentation](#), more specifically in the section on placing ArtiosCAD files, and the option for "CAD Style".

- **PDFPLA file**



- **Die Database**

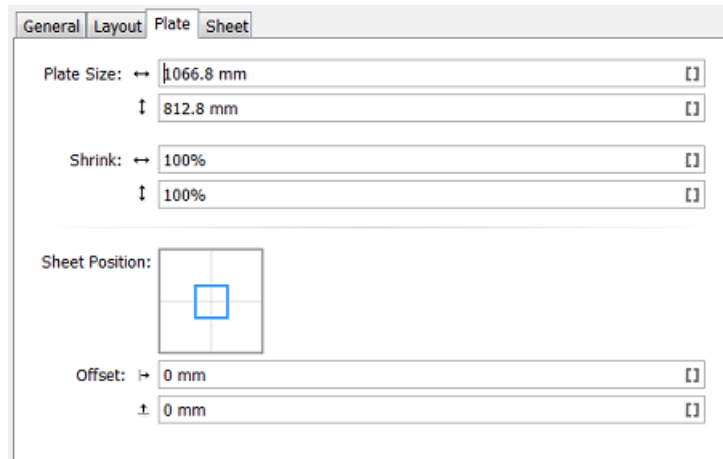


This is the die database used in the browser client of Automation Engine (the QuickStart deployment). Specify the name of the die that is described in there.

- **Filling Order** (valid for each type of Template):
 - The filling order determines in which sequence stations will be filled with one ups. It also determines the value given by the SmartMark **'Station Number'**.
 - The default filling order starts top left, vertical zig-zag per column.
 - Select **Set custom filling order** to specify a filling order that is different than the one defined in the selected template file.
 - The filling order is defined by selecting a **Start Position, Direction** and type of **Filling Order**. Learn more about using SmartNames to define these buttons in [SmartNames of Parameter Values](#).

Note: The sequence of the designs is determined by taking the center points of the designs and sorting these in rows and columns. Keep in mind that designs with different sizes or layouts with staggered designs can result in more rows or columns than expected.

Tab 'Plate'

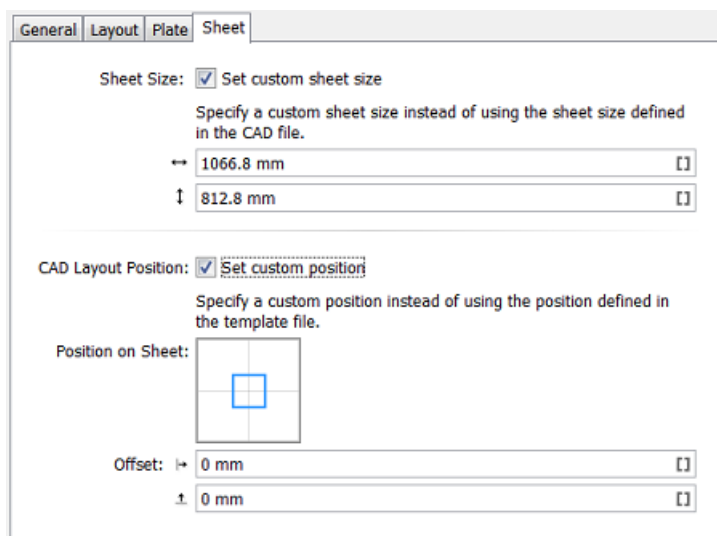


The sheet size can be automatically extracted from the CAD template but neither Artios MFG nor CFF2 file have a notion of 'plate'. As a result the plate size and position of the sheet on the plate have to be specified in this **Plate** tab.

- **Plate Size:** You here specify the plate's horizontal and vertical size.
- **Shrink:** To compensate for distortion on the output device or press, you can add vertical and horizontal shrink values.
 - When the output format is PDFPLA or Normalized PDF, this task writes the shrink factors in the file's XMP section. This means that the objects and page boxes keep their original sizes. These shrink factors will then be picked up by the RIP or export ticket, where they are used as scale factors and are applied on the complete document.
 - When the output format is native PDF, this task applies the shrink factors as scale factors on the complete document.
- **Sheet Position on Plate:** Position the sheet on the plate by dragging and dropping the blue square (the sheet) to the right position on the grey square (the plate).
- Define any extra horizontal and vertical **Sheet Offset**.

Tip: When using SmartNames, make sure they return a value that the field expects. For example a SmartName in the field 'Plate Size' should return a number.

Tab 'Sheet'



- If you want to use a custom sheet size instead of the **Sheet Size** defined in the CAD file, then select **Set custom sheet size** and enter its dimensions.
- **CAD Layout Position:** You here position the bounding box of all cut lines versus the sheet. If you want to use a different position for the CAD Layout than the one defined in the template file, then select **Set custom position**.
 - **Position on Sheet:** Click or drag the blue square (the CAD Layout) in a position versus the grey square (the sheet).
 - **Offset:** Define by how much the CAD Layout should be offset from the sheet corner, horizontally and vertically.

54.2. Positioning a One Up graphic onto a Station

To decide how to position a PDF onto the CAD file, the task tries these options, in this order:

1. Checks if the input PDF contains a die cut object, a linked ARD file. If the name of this ARD file matches the name of the design specified in the MFG file, the graphics will be placed.
- Note:** This option is only available for Normalized PDF files.
2. Positions the Trim Box of the PDF on the bounding box of the cut and crease lines. If the Trim Box and bounding box match, the graphic will be placed.
 3. Positions the die line of the PDF defined in the XML file, on the bounding box of the cut and crease lines. If it matches, the graphic will be placed.

Note: This option is only available when the task input file is an XML file.

If the PDF Trim Box or die line bounding box does not match any of the bounding boxes of the design in the CAD file, then the file will not be processed and an error will be given.

54.3. Distributing the One Up graphics onto the Stations

Which PDF goes onto which position in the CAD layout?

- When the input file of the task is an **XML** file, the task looks for an XML element **Quantity**, defining the amount of stations to be filled with that specified graphic. For example `<Quantity>10</Quantity>`.

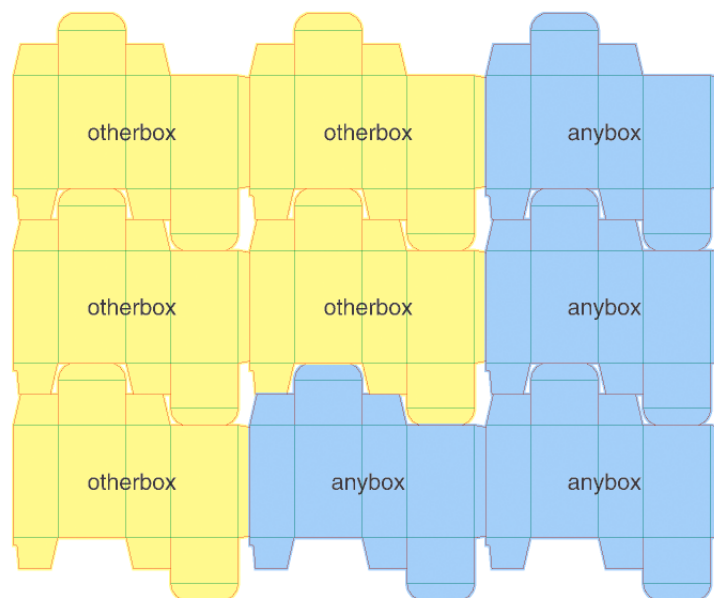
Note: If the total number of quantities doesn't match the number of stations, the task will stop with an error.

When the element shows the value `<Quantity>Maximum</Quantity>`, the task will place the referred PDF file as many times as possible.

When more than one PDF file has the quantity element set to **Maximum**, the task will distribute the referred PDF files equally. You can also combine files with a fixed quantity with one or more files with a quantity set to **Maximum**.

- When the input file of the task is a set of PDF files, the task will consider all PDFs to be set to **maximum** quantity, so the provided input files will be distributed evenly onto the provided CAD layout.

When the number of available stations cannot be divided by the number of input files (for example 9 stations and 2 PDF files), the task will automatically distribute the remaining stations.



Note: When the CAD file contains different designs (different types or sizes of boxes), the graphics will only be distributed on the corresponding (fitting) designs (see [Positioning a One Up graphic onto a Station](#) on page 95).

54.4. Bleed and overlap

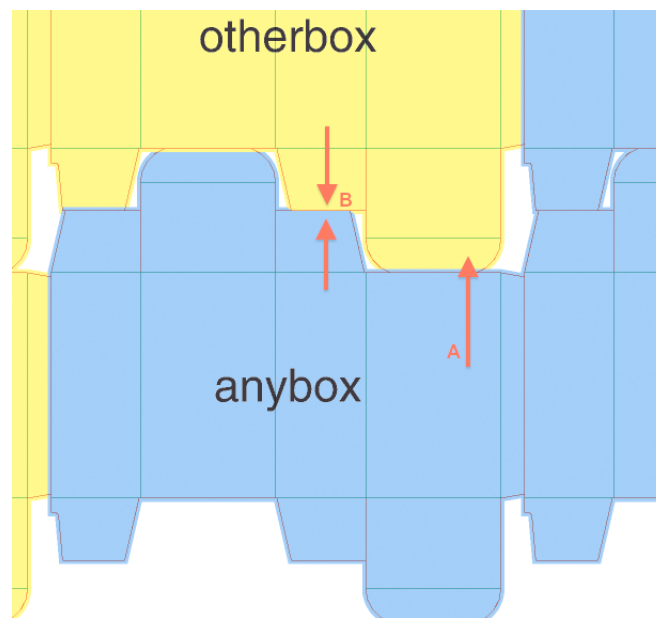
When the one up graphics contains bleed, this bleed will be used around the die line, limited by the value in **Limit Bleed** (in the **General** tab).

Note: Everything outside the die line is considered to be bleed. Bleed zones without content will knock out when overlapping. Overlaps can only work well if a correct bleed limit is applied.

When the bleed of two stations overlap, you can have these situations:

- There is a gap between the panels of the two stations.

In this case, centerline overlapping is applied: the bleeds from both neighboring stations touch on the center-line of the gap.
- The station panels are touching.
 - If the layout is not CAD based, centerline truncation is applied.
 - If the layout is based on a CAD template, then:
 - the biggest panel will overlap the smaller panel (situation A in the example below).
 - if the panels are the same size, centerline overlapping is applied (situation B in the example below).
 - in case the ArtiosCAD artwork panels were given a specific '**Allow Bleed**' property, other rules apply. Learn more in [Bleed Overlap Priority Decided by ArtiosCAD Artwork Panels](#) on page 98.



Note: When deciding if a station is touching another station, minor tolerances are taken into account to cope with small inaccuracies in the die cut file.

54.5. Bleed Overlap Priority Decided by ArtiosCAD Artwork Panels

The priority in bleed overlap can be automatically decided in case the layout is an MFG and in case there are common knives (i.e. no gutters, so areas where 2 panels/flaps touch). The decision is then based on how the ArtiosCAD user defined the bleed direction for those specific panels.

In ArtiosCAD (v 14.0.2 or higher), a panel can be defined as an **'artwork panel'** and an artwork panel can have an **'Allow bleed'** property. A panel that is set to allow bleed is considered as having a minor priority and it can receive bleed when it touches another panel marked as major priority (where **'Allow bleed'** was not defined or turned off). In the case 2 minor panels are touching, the bleed will be truncated to the centerline, which is the default behavior, like in areas where there are gutters (i.e. no common knives).

Note: This behavior applies to all Step and Repeat tasks using an MFG layout (including in Plato).

Overview of all Possible Situations:

- In case there is a gutter: always centerline truncation.
- In case there is no gutter between 2 panels (gutter = 0), the following overview applies:

Table: Smart Flapping

| Panel 1 | Panel 2 | Bleed Action |
|------------------------------------|------------------------------------|---|
| Not an artwork panel | Not an artwork panel | Compare size of Panel 1 and Panel 2. If size difference > 10%, then large one bleeds into smaller one, otherwise centerline is used |
| Not an artwork panel | Artwork panel with allow bleed = 0 | Centerline (i.e. no bleed as the gutter = 0) |
| Not an artwork panel | Artwork panel with allow bleed = 1 | Panel 1 bleeds into Panel 2 |
| Artwork panel with allow bleed = 1 | Artwork panel with allow bleed = 1 | Centerline (i.e. no bleed as the gutter = 0) |
| Artwork panel with allow bleed = 1 | Artwork panel with allow bleed = 0 | Panel 2 bleeds into Panel 1 |
| Artwork panel with allow bleed = 0 | Artwork panel with allow bleed = 0 | Centerline (i.e. no bleed as the gutter = 0) |
| Artwork panel with allow bleed = 0 | Artwork panel with allow bleed = 1 | Panel 1 bleeds into Panel 2 |

54.6. Using XML as input file

Concept

When the business system (MIS, ERP) provides an XML description, this task can fully automate the folding carton step and repeat process.

When using XML input file(s), the task supports 2 modes:

- An v18.0 compatible mode supporting the XML format. Advantage of this mode is that you can use the Product ID. This is used for example in flexo printing. Learn about this XML specification below.
- A mode which is compatible with the XML used in the 'Dynamic' Step&Repeat tasks. Advantage of this mode is that you can specify a page range (in case your input file is a multipage file). This is used for example in VDP. Learn about this XML specification below.

Specification

In the 18.0 compatible mode, the task scans the XML file for elements called <JOB>. Multiple <JOB> nodes are allowed when these are placed under a <JOBS> node.



Attention: All XML elements are case sensitive. For example, the element <JOB> must be in capital letters.

An example:

```
<?xml version="1.0" encoding="UTF-8"?>
- <JOB>
  <FileName>\\homer\beou_container\beou_CAD_demo\Input\demo\anybox.pdf</FileName>
  <Quantity>7</Quantity>
  <Bleed>2.0</Bleed>
</JOB>
```

It's also possible to combine multiple graphics in the XML file. In that case, multiple <JOB> elements are gathered in one <JOBS> element. An example:

```
<?xml version="1.0" encoding="UTF-8"?>
- <JOBS>
  - <JOB>
    <FileName>\\homer\beou_container\beou_CAD_demo\Input\demo\otherbox.pdf</FileName>
    <Quantity>2</Quantity>
    <Bleed>2.0</Bleed>
    <Page number="1"/>
  </JOB>
  - <JOB>
    <FileName>\\homer\beou_container\beou_CAD_demo\Input\demo\anybox.pdf</FileName>
    <Quantity>7</Quantity>
    <Bleed>2.0</Bleed>
    <Page number="1"/>
  </JOB>
</JOBS>
```

Each <JOB> element will create in a station according to it's sub elements:

| XML Element | Description |
|-------------------------|--|
| Filename (mandatory) | URL of the graphics. Both URLs and UNC paths are supported. Both absolute URLs and relative URLs are supported. In case the URL is relative, the Graphics |

| XML Element | Description |
|---|---|
| | <p>Folder specified in the ticket is used to resolve the URL of the graphics. Only one of FileName or ProductID may be specified. Some examples:</p> <pre><FileName>file://myserver/myfolder/mygraphics.pdf</FileName></pre> <pre><FileName>\\myserver\myfolder\mygraphics.pdf</FileName></pre> <pre><FileName>mygraphics.pdf</FileName></pre> <pre><FileName>myfolder\mygraphics.pdf</FileName></pre> |
| Product ID (mandatory if Filename is not used) | <p>ID of the Product to use for the graphics. Only one of FileName or ProductID may be specified. If a product contains multiple parts, the first part is used. The second part will be used (if present) as back side graphic.</p> <p>Note: Describing products with multiple Parts in this way is not yet possible in this version.</p> |
| Quantity | <p>Number of times the graphics needs to be placed. Allowed values are either a number or the keyword "Maximum" (the default, case insensitive, can be abbreviated to "Max"). In case multiple graphics are using 'quantity = maximum', they will be evenly placed on the number of matching placeholders.</p> |
| DieShape | <p>Ink name of the die line of the graphics. Allowed values:</p> <ul style="list-style-type: none"> the name of a spot color, 'TRIMBOX' (or 'BORDERS') will use the trim box of the PDF graphic. 'DEFAULT' will search for a CAD object inside the normalized PDF(STA) file. When no CAD object is found, the trim box will be used. This also the default value of this element. |
| Bleed | <p>The amount of bleed allowed outside the die shape. Sets a bleed mask, in mm, starting from the die line. When no bleed is specified, no bleed mask will be applied, unless the input is a PDFSTA file, in this case, the bleed setting from the PDFSTA file will be used.</p> |
| Page number | <p>Select a specific page from the specified PDF graphic. If no page is specified, all pages of the graphics file will be loaded. Y</p> |

Specification for the <Runlist> Mode - compatible with Dynamic Step&Repeat

In the **Dynamic Step&Repeat** compatible mode, the task will scan the XML file for elements called <RunList>, which contain one or multiple <RunListItem> nodes.


A <RunListItem> node consists of the following sub-nodes:

| Node | Description |
|----------|--|
| FileName | URL or UNC of the PDF graphic to be placed. Relative URL's are allowed, the 'Graphics Folder' will then contain the base path. |

| Node | Description |
|-----------|---|
| Repeats | Number of copies required for this graphic. Allowed values are either a number or the keyword "Maximum" (case insensitive, can be abbreviated to "Max"). |
| FirstPage | Number indicating the first page of the graphics to be used. Learn more in Specification of RunList XML in Dynamic Step & Repeat tasks on page 398. |
| LastPage | Number indicating the last page of the graphics to be used. Learn more in Specification of RunList XML in Dynamic Step & Repeat tasks on page 398. |

Extra XML Parameters when working Front and Back Graphics

Table: Back side handling in XML (all optional)

| XML Element | Description |
|-------------|--|
| BackGraphic | <p>UNC (or URL) of the PDF file to be used as back side. Example:</p> <pre><BackGraphic>file://myserver/myfolder/mybackgrphic.pdf</BackGraphic></pre> <p>Note: No page selection is possible for the back graphic. Only the first page of the back graphic PDF is used)</p> |
| RectoVerso | <p>Allowed values: 0: use all pages as front, 1: use the even pages of a multipage file on the back.</p> <p> Attention: The default value is <code><RectoVerso number="1"/></code>. In other words, even when the XML file does not contain a setting for backside and the supplied graphic is multipage, the even page(s) will be used as back side graphics.</p> |
| SameGraphic | <p>The default value is '0'. This indicates that the front graphic should also be used as the back graphic. Allowed values: 0 or 1: use the same graphic on front and back. Example:</p> <pre><SameGraphic number="1"/></pre> <p>SameGraphic is overruled by RectoVerso in case of a multipage file.</p> |
| FlipGraphic | <p>Only to be used in combination with <code><SameGraphic></code>. When value = 1, in combination with 'SameGraphic' = 1, then the front graphic will also appear on the back but flipped around a vertical axis. Example:</p> <pre><FlipGraphic number="1"/></pre> |

Other nodes as listed above (DieShape, RectoVerso, SameGraphic, FlipGraphics, BackGraphic) are optional.

55. Create Sheet Report from IMP File

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

56. Create Tiles

This task is described in the chapter on *Gang Run Printing*. Find a direct link [here](#).

57. Create Wrapper File

Concept

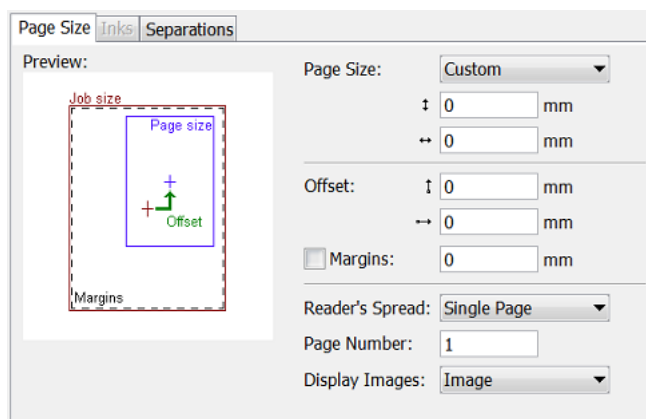
The task wraps the input file(s) in a Normalized PDF. This is typically used to encapsulate screened TIFF ('Copydot') files into a PDF format before further tasks are launched on that PDF.

This task accepts these types of images as input files: TIFF, TIFF_LIT, PSD, JPG, BG_CT, BG_LP, BG_JS, EPS, DCS, Copydot, LEN.

Note: This task does not support LENX files.

Combine multiple input files (separations) to a single composite wrapper file: This is the default behavior with multiple input files. Learn more in [Separations tab](#) on page 106.

57.1. Page Size tab



- **Page Size:** You here define the size of the output file.
 - **Job size:** This is the size of the input file.
 - Choose **Custom** to define a size manually.
 - Or select a standard size from the list.

Note: About '**Scanner Trim Size**': All 'Eskoscan' scanners have a feature to indicate the trim size of the page (they add it into the master DCS file). When choosing 'Scanner Trim Size', the borders of the output file will be automatically positioned.

- **Offset:** When no offset is defined, the center of the 'image' will be positioned on the center of the page. If the page is smaller than the image (width, height, or both), then margins will be set that enclose the image completely. The size of the margins will not be fixed. Margins indicate the differences between the image size and the user-defined page size.
- Select **Margins** and define its values to set fixed size margins to the PDF (for example 3 mm for bleed).

- **Reader's Spread:** None of the supported input file types have the notion of 'reader's spread'. Select this when you want to use the output PDF in Esko FastImpose.
- **Single Page** forces a single page output file.
- **Reader's Spread** forces a reader's spread output file, set as double pages.
- **Auto** checks the size of the input file: When its width equals or exceeds two times the selected page width, the reader's spread option is set. Otherwise it is treated as a single page.
- **Page number:** Select the correct page number from the output PDF that you want to output.
- **Display images:** Select the preview settings of the output PDF.

57.2. Inks tab

This tab serves to add ink attributes to inks that can be detected from the input file.

| <input checked="" type="checkbox"/> | Ink Name | Ink Book | Ruling | Angle | Dot Shape | Printing Method |
|-------------------------------------|----------|----------|---------|-------|-----------|-----------------|
| <input checked="" type="checkbox"/> | Cyan | process | 150 lpi | 15 ° | C | |
| <input checked="" type="checkbox"/> | Magenta | process | 150 lpi | 75 ° | C | |
| <input checked="" type="checkbox"/> | Yellow | process | 150 lpi | 90 ° | C | |
| <input checked="" type="checkbox"/> | Black | process | 150 lpi | 45 ° | C | |

Default values, used when a ruling, angle or dot shape is not specified:

Ruling: lpi Angle: ° Dot Shape:

Overprint:

Note: This tab is greyed out when you selected the option '**Combine multiple input files (separations) to a single composite wrapper file**'.

If an input file contains definitions for its ink (for example a CMYK Tiff or a Photoshop DCS2), and this definition matches an **Ink Name** defined in this tab, then the **Angle**, **Ruling**, etc. in the output PDF will be the ones as set here for this ink name. All other inks will get the attributes as set in the **Default** options set below.

This tab by default contains **CMYK**. You can change at will manually.

Inks in this list can be selected or not. Not selected inks will be ignored by the task.

When an input file has no ink definition:

- If only one ink is selected in this tab, the output PDF will contain that ink, including all its attributes as here specified.
- If multiple inks are selected, and **K** is part of that selection, the output PDF will contain **K** and its attributes as here specified.
- If multiple inks are selected and **K** is not part of that selection, the output PDF will contain the first ink from this list and its attributes as here specified.

- If no ink or the wrong ink is selected (one that cannot be found in the Pantone or Designer book), then the output PDF will contain **K** with the **Default** attributes.
- If the wrong ink is selected, together with the default ink, then the output PDF will contain the attributes from the default ink.

Tip: In **Preferred Ink Book**, choose the ink book that you use most frequently. When you then type an ink name in the table, the task searches for this ink in your preferred ink book first. For example, if you type the ink name '154' and your preferred ink book is set to **Pantone Colors Uncoated**, the task will automatically suggest the ink 'PANTONE 154 Uncoated'.

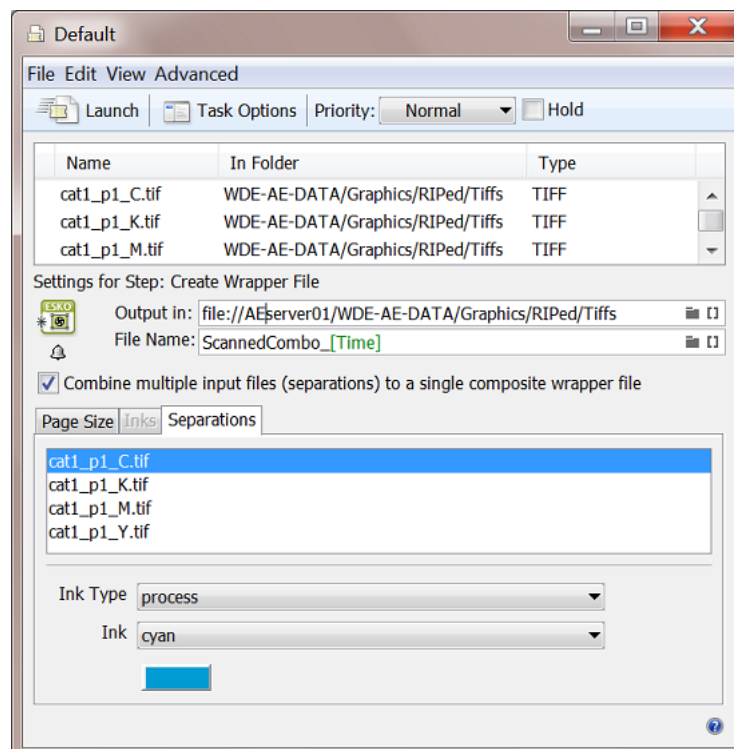
Overprint: Select one from list. Learn more in [Overprint](#) on page 234.

57.3. Separations tab

This tab serves to define which ink each of the input files should be attributed:

Wherever possible, the task will try to define the ink automatically.

If you want to overrule these, select the **Ink Type** and name yourself.



58. Create XML File

This task is documented in the chapter [Integrating with External Systems](#). Find a direct link [here](#).

59. Crop LEN File

This task is documented in the chapter *Flexo CTP Device Workflow*. Find a direct link [here](#).

60. Data Collector

This Workflow Control is documented in the chapter "Workflows". See [Data Collector](#).

61. Data Splitter

This Workflow Control is documented in the chapter "Workflows". See [Data Splitter](#).

62. Delete File

This task is mostly used at the end of a workflow ticket, where the original input may be deleted since the workflow has created other data that are more worth keeping..

Tip: This task can also be combined with the **Wait** task. For example: first wait 2 hours, then delete the marked file.

Tip: To delete marked files, you can perform the following actions: **Mark File** + any other action + **Select Marked File** + **Delete File**.

63. Delete Inactive Job

This task relates to near-line storage for AE SaaS customers.

Learn more in the chapter [AE SaaS: When your AE is in a Data Center](#), in the section about [Inactive Jobs](#), on the page [Task 'Delete Inactive Job'](#).

64. Download Files from Shared Job

This task is documented in the chapter [Collaborating via Esko Cloud](#). Find a direct link [here](#).

65. Download WebCenter Document

This task is documented in the chapter **Integrating with WebCenter**. Find a direct link [here](#).

66. Enrich Black

This task creates "rich black" areas. Typically cyan is added to make black areas more black. You can also use this task to enrich areas in other inks than 'process black'.

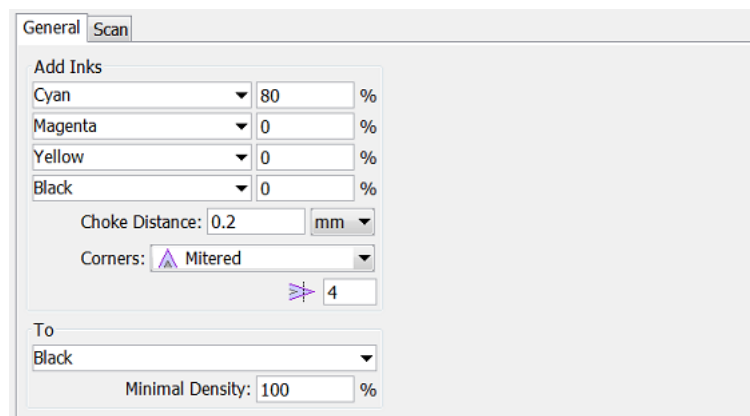
This task uses the trapping technology as used in the [Powertrapper task](#). It also scans and then creates (overprinting) objects, which is stores in an extra layer named "Trapping".

In the example below, 80% Cyan is added to all areas containing pure black, resulting in an enriched black:






- [General tab](#)
- [Scan tab](#)

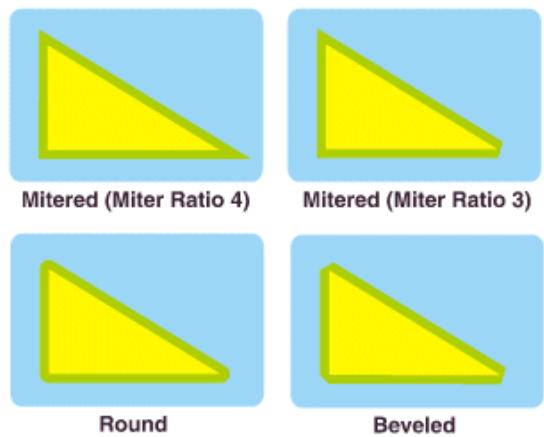
66.1. General Tab



- **Add Inks:** You here define what color will be added. This color can contain up to four inks. Typically 80% C is added to generate rich black, or a more neutral combination of CMY such as 60% C 40% M 40% Y. Alternatively, you can type in the name of any other ink. When the percentage next to an ink name is set to 0%, the ink will not be used.
- **Choke Distance:** To prevent registration errors on the press, you here define a value so that the generated objects in the added color will be smaller than the original (black) area. This value is the distance between the edge of the area in the defined color and the edge of the original (black) object.

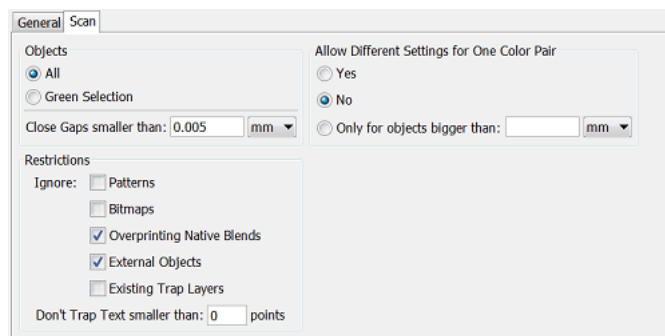
Note: In the *PowerTrapper task*, this option is named **Pull Back**.

- **Corners:** You here specify how sharp corners should be handled.
 -  **Mitered:** If the distance from the base of the trap to the corner point is larger than the **Miter Ratio** multiplied by the trap distance, then the corner will be **beveled**. Otherwise, it will remain sharp.
 -  **Round:** All corners end in a round cap.
 -  **Beveled:** See this cut-off shape in the graphic:



- **To:** Define the color of the objects that you want to enrich with the above set ink(s). This ink is typically Process Black. Alternatively, you can type in the name of any other ink.
 - **Minimal Density:** Define the minimum percentage that the **To** ink needs to have in an area before the specified color will be added to that area.

66.2. Scan Tab



- **Objects:**
 - **All:** All objects in the file will be considered.
 - **Green Selection:** Only objects that were saved as a green selection in PackEdge will be considered.
 - **Close Gaps smaller than:** Learn more in the page on the [PowerTrapper task](#).
- **Restrictions:** Define which objects can be ignored (this also speeds up the task):
 - **Patterns:** Ignores native "fill and stroke" patterns. Prior to creating the new objects, fill patterns are converted to contours. Fine patterns can so result in a huge number of contours, making this a long and memory heavy task.
 - **Bitmaps:** Ignores bitmap pixel data. This type of data is also contourized before the new objects are created, which can slow down the task.
 - **Overprinting Native Blends:** This option is only used in a DeskPack workflow. Certain native Adobe Illustrator blends cause performance issues. You may ignore these because they have little or no effect on the result of this task.
 - **External Objects:** Ignores references to external Normalized PDF files (or legacy GRS, LC, and LP files). When this option is not selected, the external references are degraded to internal objects prior to creating the objects.
 - **Existing Trap Layers:** Ignores any already existing layers created by this task. This option is useful when re-launching this task on a file that already has such a layer.
 - **Don't Trap Text smaller than:** Small text must be kept as sharp as possible. The task risks to blur the sharp edges of small characters, making them harder to read.
 The default value is 0 points ; it then creates objects for all text. 1 point equals 1/72 of an inch.
 This option only affects *live* text objects, not contourized text.
- **Allow Different Settings for One Color Pair:**

The task can generate a different "trapping" action for different occurrences of a same color pair.

 - **Yes** is the default value.
 - Select **No** to force the task to apply one identical action to all the occurrences of a same color pair.
 - Select **Only for objects bigger than** to force the trap expert to apply one identical action to occurrences of one color pair belonging to small objects, and to allow different settings for the occurrences belonging to the bigger objects.

67. Expand Dynamic VDP Data

Concept

This task creates PDF/VT files from a database containing variable data, using a VDP template (VDT file).

This task requires:

- a CSV database as input
- a VDT template

Note: You can successfully cancel this task when it is already processing.

Task Settings

Database File:

- **Encoding:** Choose the correct character encoding to ensure accurate interpretation of the database entries.

Note: The default encoding is **UTF-8**. This is also the recommended encoding.

- **Field Separator:** Let the task **Detect automatically** or choose **,** (**Comma**), **;** (**Semicolon**), **Space** or **Tab**.
- **Empty lines:** Choose what needs to happen with empty lines in the input CSV file. Only lines ending with CR, LF or CR LF can be detected as an empty line (it is possible to mix different line endings in a single file). All empty lines at the end of the file are skipped.
- **Field Names:** Field names map data chunks from the database entry to its corresponding VDP template items. Choose from:
 - **From CSV File:** When selected, the task will extract **Field Names** from the first record of the CSV file by default.



Attention: Field Names can only contain the following characters: lower- or upper-case ASCII letters ("a-z, A-Z"), digits ("0-9") or underscore ("_").

- **From Header File:** When selected, define a **Header File** that contains the **Field Names**. Such a file
 - should contain a single line specifying the **Field Names**
 - should have a **Field Name** corresponding to each column in the CSV file.
 - and the CSV file must use the same delimiter and encoding.
- **Header File:** (described above). Browse or use SmartNames to define this file.

Dynamic VDP:

- **Template:** Define the VDP template file that contains artwork and the placeholders necessary to generate the task output. This template can be a
 - VDT file created in Adobe Illustrator and exported using the Dynamic VDP DeskPack plug-in.
- **Image Path:** If the database file has image references, provide the **Image path**.
- **Fonts Path:** The VDP template that was created in ArtPro+ or DeskPack can be one that uses many fonts.
 - **Not using this option** means that all the fonts used in VDP text objects have to be installed on the AE server to allow their expansion. Even fonts used in a single VDP job have to be installed on the AE server, as it is typically unclear when to uninstall a font because you are not sure when another job will need it.
 - **Using this option** means that the fonts used in VDP text objects do not have to be installed on the AE server because you here define where the VDP expansion task can find them. When any non-standard fonts are used in VDP text or barcodes, someone needs to copy the used font files to the here indicated path. This path depends on the workflow that you prefer:
 - You can always add new fonts used in VDP text to a **central** place to have them available for all VDP jobs.
 - You can choose to keep them **local**, within the Job Folder. Each VDP job can so contain not just the VDP template and database but also a subfolder with the fonts needed by this template. This approach may be more work when the same special font is used in many VDP jobs, but does make it easier to for example archive or exchange this job.

Note: Fonts used in the static part of the design are not needed because the PDF file already contains that required subset.

Note: This is especially useful for AE SaaS users who have no access to install fonts on the AE server in the data center.

Note: When a font is both available in the here defined folder and is also installed on the AE server, then it can not be predicted which one of these two the task will use ; it will be the first one the software has access to.

Output:

- **Create separate background file:**

Select this to save the static background from a VDP one-up as a separate file. The actual expanded data then do not contain this background.

This feature only has a minimal (positive or negative) effect on the speed of the expansion or the step & repeat, but was designed to significantly speed up the RIP'ing.

- When **not selected** (default): The task generates a PDF/VT with both static (background) data and variable data on each page. The background is stored only once in each PDF/VT file and reused on all pages via 'form' objects, thus making the file small.

Note: As defined in the PDF/VT standard, the reused background is correctly tagged by GTS_ tags. These tags together with other conditions like support of blending nodes are a requirement for the RIP to support the reusing of backgrounds.

- When **selected**: The task creates one extra single page file containing the background data (any data that was below the first VDP object). The VDP content itself is output as usual into files named `file-00001`, `file-01001`, etc. Any static objects between or above VDP objects also become part of the 'variable' data pages.

Important:

- This option should only be used when both the VDP expansion and the step and repeat is done by Automation Engine. When this option was selected, the VDP expansion output cannot be used *directly* for any 3rd party software or for a DFE.
- When the output of this task is used in Step & Repeat Dynamic tasks then its structure is automatically recognized. However, the structure of the output from these step & repeat tasks will be different: All the backgrounds will be combined into a single 'form' object and it will be reused on all sheets below all variable one-ups. In most cases this will reduce RIP'ing time.
- In case you work with a DFE, this means that you can not use the output of VDP expansion with separated background for creation of a DFE Print Job. However, when you perform the VDP expansion *and* the step & repeat in AE, then the result is a standard multi-page PDF file that can be used in DFE.



Attention: Should we always use this option? No!

While this option is an improvement for some jobs, it could also make the RIP'ing time worse for other jobs. This is why we advise to check its effect on your typical jobs to find what works best for you. We do have these general guidelines:

- The best results can be seen in combinations of small VDP objects and a complex background.
- When the background is missing or simple, or when the VDP objects are too complex or large, then it is better to not use this option.

Note: The RIP system configuration can also effect the result. When selected, the RIP has to keep a much larger object (background for a complete sheet) in its cache memory. Therefore, the amount of RAM available for each 'RIP worker' can be the deciding factor whether it actually improves speed.

68. Export ArtiosCAD Design Info

What?

This task exports an ArtiosCAD design to an XML file. This XML file is then interpreted by an external system.

This task is also typically launched by that external system.

More Info

This task is set up by an Esko Solution Architect. Learn about Esko Solution Services on <https://www.esko.com/support/solution-services>.

For more information, search for online articles on this topic in the [Esko Knowledge Base](#).

69. Export ArtiosCAD Print Item as ARD File

What?

This task exports a Print Item as a new ARD design from an ARD design that has multiple print items.

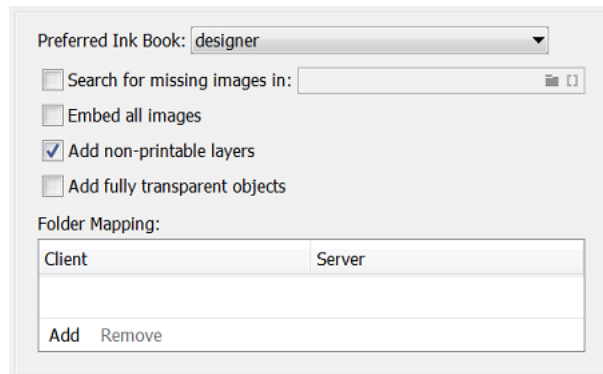
More Info

This task is set up by an Esko Solution Architect. Learn about Esko Solution Services on <https://www.esko.com/support/solution-services>.

For more information, search for online articles on this topic in the [Esko Knowledge Base](#).

70. Export ArtPro to Normalized PDF File

This task converts an ArtPro file to a Normalized PDF file.



- **Preferred Ink Book:** Select the ink book that the task should check when processing inks that are not in the *predefined* ink books (such as the 'process' and PANTONE ink books).
For each ink in the ArtPro file, the task will:
 - First look in the predefined ink books (such as the 'process' and PANTONE ink books),
 - then in the **Preferred Ink Book** that was selected here.
 - If it doesn't find the ink in the **Preferred Ink Book**, it will be saved as an unregistered ink.
 - If the ink is not present in the color database, it will also be saved as an unregistered ink.
- **Search for missing images in:** When the ArtPro file contains links to images that the task can't access, you can copy those images to a folder within an Automation Engine Container, and browse to that folder here.
- **Embed all images:** Embeds all images referenced in the ArtPro document into the PDF file.
- **Add non-printable layers:** When selected, layers set to "non printing" are also exported into the PDF file.
- **Add fully transparent objects:** When selected, objects that are completely transparent will be included in the PDF file.
- **Folder Mapping:** When the ArtPro file contains links to images that reside on a Mac OS-based file server, you can mount the drive of the Mac OS server on the Automation Engine server and use this 'Folder Mapping' table to keep the links to the images working in the output file.

To map folders from the ArtPro file to the Normalized PDF file:

1. Click **Add**.
2. In the **Client** column, type the drive name on the Mac OS system.
3. In the **Server** column, type the drive letter that is used to mount the Mac OS drive on the Automation Engine server.

For example, in our ArtPro file, the path to an externally linked image is:
Intel_Mac:images:image1.

We mount the `Intel_Mac` drive of the Mac OS file server on our Windows-based Automation Engine system, using the drive letter `G:\`.

The task will find the images when you map the folders `Intel_Mac` to `G:\`.

71. Export IMP File to GRI File

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

72. Export IMP File to JDF Layout

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

73. Export IMP File to JDF Post-Press

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

74. Export IMP File to PDF File

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

75. Export IMP File to PDF File Chain

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

76. Export IMP File to PostScript File

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

77. Export Imposition to JDF Layout

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

78. Export Imposition to PDF File

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

79. Export Nested Layouts

This task is described in the chapter *Gang Run Printing*. Find a direct link [here](#).

80. Export PDF Info

Concept

This task creates a preview image (JPEG or PNG) and/or an XML file describing the metadata of the task's input file(s).

By default, this task uses the graphic kernel of ArtPro+ or the one from Enfocus. This means it supports native PDF (+) files as input. However it also supports input of normalized PDF files.

Note: The task *Create PAF / JPG / XML (LinkEdge)* also exports preview data and metadata but uses the BRIX graphic kernel. This means it supports normalized PDF files by default. But also here, PDF native (+) input files are supported but those will first be normalized internally. Note that this task extracts the XMP metadata that is already present on board the normalized PDF file.

Note: The ink coverage information is calculated in the same way as it is done in ArtPro+ (i.e. how the Marks calculate it there).

Preview tab

- **Create preview image:** An image is made of the trim box of the PDF (RGB, 8 bits per channel).
It is color managed, this means that BGCMS ink books are used to render the separations. The document color profile is taken into account when calculating the RGB values.
 - **Content:** Choose which page box decides the content of the preview file: the trim or the media box.
In case the media box does not completely cover the trim box, then just the size of the media box is taken.
 - **Set:** Choose what is more important: the resolution of the image, or its dimensions?
 - **Resolution:**
 - **Resolution:** Specify a resolution in *ppi* (default) or *ppcm* or *ppmm*. The field also accepts some calculations, for example *72 px / 25.4 mm*.
 - **Limit:** Alternatively, limit the resolution by specifying the *maximum* number of rows (**Width**) or columns in the image (**Height**).
- Note:** This mode is useful to control the size of the image when seen on a screen (based on the resolution setting of that screen).
- **Dimensions:** Alternatively, you can set the number of rows (**Image Width**) or columns (**Image Height**) that the image must have. Be aware that this can result in white areas (pixels) left/right or top/bottom of the image.
- Note:** This mode is useful to control the size of the image on any output (paper).
- **Image Format:** JPEG or PNG files, both RGB.
 - **Compression:** When creating JPEG files, select the level of compression. Higher compression results in smaller files but less precise data.
 - **Anti-aliasing:** An extra filter that enhances the quality of the image.
 - **No Anti-aliasing:** The image is rendered at the requested resolution, no anti-alias filter is applied.

- **Normal Quality:** This level of anti-alias means that the file is rendered at double resolution and each cluster of 4 (2 x 2) pixels is averaged into 1 output pixel.
- **Best Quality:** This level means the file is rendered at 4x the resolution and each cluster of 16 (4 x 4) pixels is averaged into 1 output pixel.
- **Page Range:** One preview file per selected PDF Page. The name of the image will get a suffix to indicate the page number ('_p1', '_p2', ...).

To specify a page selection, the typical syntax is valid. Some examples:

- To select pages 3 to 8: type 3-8
- To select pages 1 to 5: type 1-5 or type -5
- To select pages 6 till the last page, type 6-
- To select pages 2 to 5 and also 12 to 19, type 2-5, 12-19

Note: For a multi page file, the ink coverage is not calculated per page but in ranges of pages. When the PDF has more than 100 pages, ink coverage is not calculated.

XML tab

- **Create XML report:** An XML file that describes the input file, typically to be interpreted by other systems (DAM, MIS, ERP, inspection, etc.)

Learn all about the format of this output XML in [below page](#).

Note: Learn about different types of metadata in Esko's file formats in the chapter "PDF formats and their Metadata", in the section on [PDF+ in Automation Engine](#).

80.1. XML specification of Metadata+

Main components in Metadata+

Metadata+ is an XML serialization of an extended version of [ISO 21812-1](#).

- The document root node is DPartRoot.
- The document root contains a single **Assembly DPart Node**.
 - The DPM/Root/Metadata element contains admin data like project, job and customer data.
 - The DPM/Root/AssemblingIntent defines which components are included in this assembly.
 - The DPM/Root/Production/RunList contains the URL of the PDF that was used to derive these metadata.
 - The DPart child nodes of this node can be Assembly DPart Nodes or Component DPart Nodes.



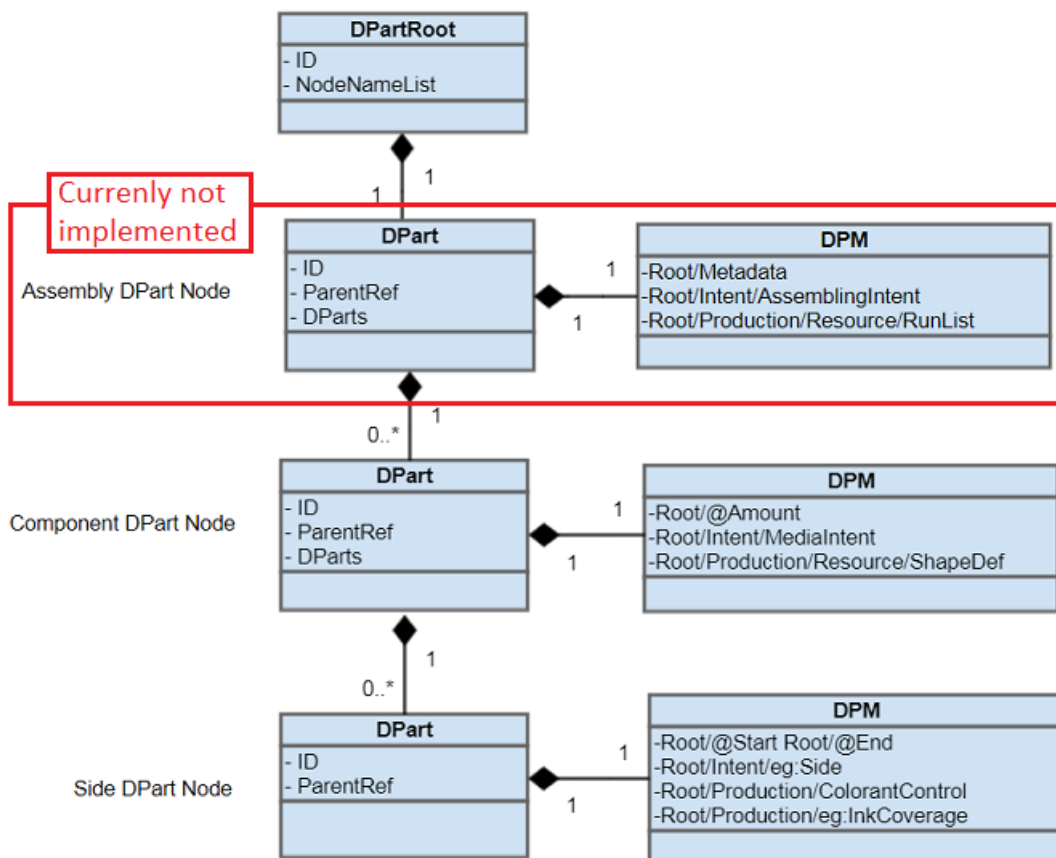
Attention: In the current implementation, the Assembly level DPart nodes are omitted. This is because Esko editors do not yet add this kind of metadata to documents.

- A **Component DPart Node** describes a physical entity.

- The Root/@Amount node defines how many components are used in the assembly from which it is referred.
- The Root/Intent/MediaIntent defines the substrate of this component.
- The Root/Production/Resource/ShapeDef defines the shape of the produced component. This can be a reference to a CAD file.
- The DPart child nodes of a Component DPart Node are Side DPart Nodes.
- A **Side DPart Node** describes a printed surface of a component.
 - The Root/Intent/@eg:Side attribute defines the side.
 - The Root/@Start and Root/@End attributes define start and end page in the PDF for the graphics of this side of the component.
 - The Root/Production/ColorantControl element defines the colorants that are used on the side of the component and their order. Root/Production/Resource/Color elements define the characteristics of these colorants.
 - The Root/Production/Resource/eg:InkCoverage element defines ink coverage data.

Diagram

Packaging Document Metadata



The above text and diagram reflect the most general case. In simpler cases the structure can be condensed, for example the *Assembly DPart Node* can be omitted for a single part product.

Example

```

<?xml version="1.0" encoding="UTF-8" standalone="no" ?>
<DPartRoot ID="0001" NodeNameList="Root DocPart" xmlns:cip4="http://www.CIP4.org/
JDFSschema_2_0" xmlns:eg="http://www.esko.com/EskoXJDF">

  <DPart DParts="0003" ID="0002" ParentRef="0001">
    <DPM>
      <cip4:Root cip4:ExternalID="1-079055-01">
        <cip4:Production>
          <cip4:Resource>
            <cip4:RunList cip4:NPage="1">
              <cip4:FileSpec URL="file://eskw190090/ExampleJobContainer/
Products/4000/1-079055-01/1-079055-01.pdf" eg:SmartID="y4t7s"/>
            </cip4:RunList>
          </cip4:Resource>
        </cip4:Production>
        <cip4:Metadata cip4:DescriptiveName="Wintercollection 2019"
cip4:JobID="Wintercollection 2019" cip4:ProjectID="Bubbles Winter 2019">
          <cip4:Sender cip4:ContactTypes="Customer">
            <cip4:Company cip4:CompanyID="4000" cip4:OrganizationName="Bubbles bvba"/>
          </cip4:Sender>
        </cip4:Metadata>
      </cip4:Root>
    </DPM>
  </DPart>

  <DPart End="0" ID="0003" ParentRef="0002" Start="0">
    <DPM>
      <cip4:Root>
        <cip4:Intent cip4:ProductType="ProductPart"/>
        <cip4:Production>
          <cip4:Resource>
            <cip4:Color cip4:ActualColorName="white screen" cip4:ColorBook="designer"
cip4:ColorBookEntry="white screen" cip4:ColorType="Opaque" cip4:Lab="100.000000
-128.000000 -128.000000" cip4:Part="S1" cip4:PrintingTechnology="Unknown"/>
          </cip4:Resource>
          <cip4:Resource>
            <cip4:Color cip4:ActualColorName="Cyan" cip4:ColorType="Normal"
cip4:Lab="64.146841 -18.246758 -33.574261" cip4:Part="C1"
cip4:PrintingTechnology="Unknown"/>
          </cip4:Resource>
          <cip4:Resource>
            <cip4:Color cip4:ActualColorName="Magenta" cip4:ColorType="Normal"
cip4:Lab="47.603270 71.332470 1.368770" cip4:Part="M1"
cip4:PrintingTechnology="Unknown"/>
          </cip4:Resource>
          <cip4:Resource>
            <cip4:Color cip4:ActualColorName="Yellow" cip4:ColorType="Normal"
cip4:Lab="90.036958 -13.226733 83.807520" cip4:Part="Y1"
cip4:PrintingTechnology="Unknown"/>
          </cip4:Resource>
          <cip4:Resource>
            <cip4:Color cip4:ActualColorName="PANTONE Dark Blue C"
cip4:ColorBook="PANTONE GoeGuide Coated" cip4:ColorBookEntry="PANTONE Dark Blue C"
cip4:ColorType="Normal" cip4:Lab="20.856725 29.076063 -68.454417" cip4:Part="S2"
cip4:PrintingTechnology="Unknown"/>
          </cip4:Resource>
          <cip4:Resource>
            <cip4:Color cip4:ActualColorName="die cut" cip4:ColorBook="Visualizer
Standard Finishes" cip4:ColorBookEntry="die cut" cip4:ColorType="Normal"
cip4:Lab="47.999999 66.000004 46.000005" cip4:Part="S3"
cip4:PrintingTechnology="Unknown"/>
          </cip4:Resource>
          <cip4:Resource>
            <cip4:ColorantControl ColorantOrder="S1 C1 M1 Y1 S2 S3" ColorantParams="S1 C1
M1 Y1 S2 S3"/>
          </cip4:Resource>
          <cip4:Resource>
            <cip4:ShapeDef CutBox="0.0 0.0 461.026770 237.599980">
              <cip4:FlleSpec URL="shower gel medium.DAE"/>
            </cip4:ShapeDef>
          </cip4:Resource>
          <cip4:Resource>
            <eg:InkCoverage>
              <eg:InkCov cip4:Part="S1" eg:Mm2="53.315034" eg:Pct="0.391088"/>
            </eg:InkCoverage>
          </cip4:Resource>
        </cip4:Production>
      </cip4:Root>
    </DPM>
  </DPart>

```

```

        <eg:InkCov cip4:Part="C1" eg:Mm2="2458.345685" eg:Pct="18.032998"/>
        <eg:InkCov cip4:Part="M1" eg:Mm2="543.030848" eg:Pct="3.983359"/>
        <eg:InkCov cip4:Part="Y1" eg:Mm2="588.284119" eg:Pct="4.315311"/>
        <eg:InkCov cip4:Part="S2" eg:Mm2="551.882149" eg:Pct="4.048287"/>
        <eg:InkCov cip4:Part="S3" eg:Mm2="334.312166" eg:Pct="2.452320"/>
    </eg:InkCoverage>
</cip4:Resource>
<cip4:Resource>
    <cip4:RunList cip4:SourceMediaBox="0.000000 0.000000 294.292914 517.719685"
cip4:SourceTrimBox="28.346457 28.346457 265.946457 489.373229"/>
</cip4:Resource>
</cip4:Production>
</cip4:Root>
</DPM>
</DPart>

</DPartRoot>

```

The component DPart node

The component DPart node contains:

| XML node | Value | Example |
|---|--|--|
| DPart/DPM/Root/Production/Resource/RunList/FileSpec/@URL | [URL of Input] the complete URL of the PDF file | <cip4:FileSpec URL="file://Aserver01/ExaCont/Prods/40/79055/1-079055-01.pdf" eg:SmartID="12bxg5d"/> |
| DPart/DPM/Root/Production/Resource/RunList/FileSpec/@eg:SmartID | [SmartID] the smartID of the PDF file | |
| DPart/DPM/Root/Production/Resource/RunList/@NPage | The number of pages in the document | <cip4:RunList cip4:NPage="1"> |
| DPart/DPM/Root/Metadata/Sender/Company/@CompanyID | [Job Customer ID] | <cip4:Company cip4:CompanyID="4000" cip4:OrganizationName="Bubbles bvba"/> |
| DPart/DPM/Root/Metadata/Sender/Company/@OrganizationName | [Job Customer Name] | |
| DPart/DPM/Root/Metadata/@DescriptiveName | [Job Name] | <cip4:Metadata cip4:DescriptiveName="Wintercollection 2019" cip4:JobID="Wintercollection 2019" cip4:ProjectID="Bubbles Winter 2019"> |
| DPart/DPM/Root/Metadata/@JobID | [Order ID] | |
| DPart/DPM/Root/Metadata/@ProjectID | [Project ID] | |
| DPart/DPM/Root/ExternalID | [Product Part Name] (in case the PDF is a product) | <cip4:Root cip4:ExternalID="1-079055-01"> |
| DPart/@DParts | List of side DPart node ID's | <DPart DParts="0003" ID="0002" ParentRef="0001"> |

The Side DPart node

The Side DPart node contains:

| XML node | Value | Example |
|--|--|---|
| DPart/@ID DPart/@Start DPart/@End | This node's ID the start page of the PDF described by this node the end page of the PDF described by this node | <pre><DPart End="0" ID="0003" ParentRef="0002" Start="0"></pre> |
| DPart/DPM/Root/Production/Resource/ColorantControl/@ColorantParams DPart/DPM/Root/Production/Resource/ColorantControl/@ColorantOrder | defines all the colorant identifiers the ordering of the colorant identifiers | <pre><cip4:ColorantControl ColorantOrder="S1 C1 M1 Y1 S2 S3 S4" ColorantParams="S1 C1 M1 Y1 S2 S3 S4"/></pre> |
| DPart/DPM/Root/Production/Resource/Color/@ActualColorName DPart/DPM/Root/Production/Resource/Color/@Part DPart/DPM/Root/Production/Resource/Color/@ColorBook DPart/DPM/Root/Production/Resource/Color/@ColorType DPart/DPM/Root/Production/Resource/Color/@ColorBookEntry DPart/DPM/Root/Production/Resource/Color/@PrintingTechnology DPart/DPM/Root/Production/Resource/Color/@Lab | Actual name of the separation in the PDF The colorant identifier the ink book of this separation Any of Normal, Opaque, Technical, Varnish Name of the separation in the ink book The printing method of the separation The Lab values of the separation | <pre><cip4:Color cip4:ActualColorName="PANTONE Dark Blue C" cip4:ColorBook="PANTONE GoeGuide Coated" cip4:ColorBookEntry="PANTONE Dark Blue C" cip4:ColorType="Normal" cip4:Lab="20.856725 29.076063 -68.454417" cip4:Part="S2" cip4:PrintingTechnology="Unknown"/></pre> |
| DPart/DPM/Root/Production/Resource/eg:InkCoverage/eg:InkCov/@Part DPart/DPM/Root/Production/Resource/eg:InkCoverage/eg:InkCov/@eg:Pct DPart/DPM/Root/Production/Resource/eg:InkCoverage/eg:InkCov/@eg:Mm2 | The colorant identifier The inkcoverage as % of the trim box area The ink coverage value in square mm | <pre><eg:InkCov cip4:Part="C1" eg:Pct="50.0" eg:Mm2="100.0"/></pre> |
| DPart/DPM/Root/Production/Resource/Runlist/SourceMediaBox | The bounding box of the media box (in pt) | <pre><cip4:RunList cip4:SourceMediaBox="0.000000 0.000000 246.103914 469.530707" cip4:SourceTrimBox="4.251969 4.251969 241.851946 465.278738"/></pre> |

| XML node | Value | Example |
|---|--|---|
| DPart/DPM/Root/Production/Resource/Runlist/SourceMediaBox | The bounding of the trim box (relative to the mediabo) | |
| DPart/DPM/Root/Production/Resource/ShapeDef/FileSpec/@URL | The relative URL of the structural design object | <pre><cip4:ShapeDef CutBox="0.0 0.0 461.026770 237.599980"> <cip4:FileSpec URL="shower gel medium.DAE"/> </cip4:ShapeDef></pre> |
| DPart/DPM/Root/Production/Resource/ShapeDef/@CutBox | The bounding box of the (non-rotated) structural design object | |

More Examples

Click [this link](#) to download these example XML files:

- The example shown on this page: EXA_1-079055-01.xml
- A duplex printed folding carton: FC_dpm.xml
- A duo-label: LabML_dpm.xml
- A display: Display_dpm.xml

81. Export Step & Repeat to JDF Layout

This task exports a Step & Repeat layout to a "JDF Layout" file that contains references PDF 1.5 files containing the stations, masks and marks.

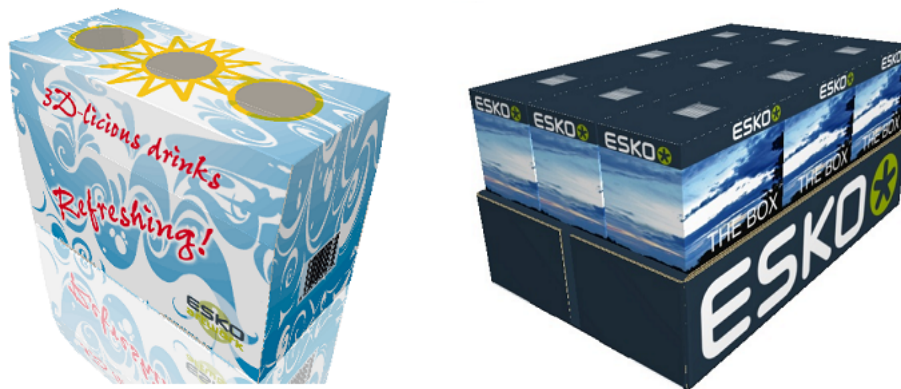
You can choose the **JDF Version**: 1.2 or 1.3.

Create MIME file: Select this to get the JDF and the referenced PDF files all together in a MIME packed file.

82. Export to 3D

Concept

This task creates 3D files which you can view in 3D viewers. The input file needs to be a Normalized PDF or PDFSTA (Station file) that links to a structural design file: an ArtiosCAD ARD file or a Collada file (DAE or ZAE).



About Structural Design Files

A structural design file (2D and 3D) contains all the cut and crease lines for a specific shape. It can also contain folding angles that define how it should be folded into its final shape. A structural design file does not contain the graphics, only the definition of the shape.

The link between a graphics design and its structural design (shape) can be done in an editor (ArtPro, PackEdge or Adobe Illustrator (using the Esko [Data Exchange plug-ins](#))). ARD files can also be linked to a graphic using the [Load Structural File task](#).

3D data can be created by using one of these structural design file formats:

- ARD files, created in **ArtiosCAD** or **Studio Toolkit for Boxes**
- .ZAE files, created in **Studio Toolkit for Flexibles**.
- .DAE or .ZAE **Collada** files. These can have a **printable part** (an Esko extension to the Collada format). Such Collada files can be created in **Studio Designer**, **Studio Toolkit for Shrink Sleeves**, **Studio Toolkit for Labels** and **ArtiosCAD**.

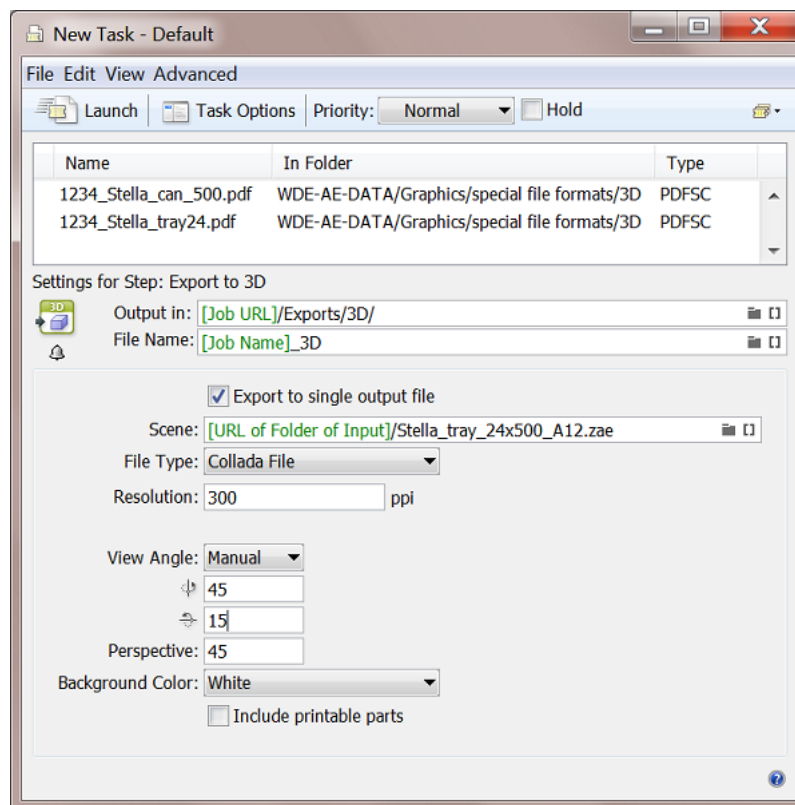


Can 330ml.zae

Square Box Open.ard

Crisp.zae

82.1. Export to 3D Settings



- **Export to single output file:**
 - When **not selected**, an output file is produced for each page and for each input file that contains a link to a structural design file.
 - When the input file is a multipage file, the page number will be added as suffix to the output file name.
 - When the output file matches the input file name (e.g. when exporting to PDF and no output name is specified), the output file name will get "_3D" as suffix.
 - When **selected**, one output file is produced.
 - When a scene is selected, the input files/pages matching the parts of the scene will be used in the output.
 - When no scene is selected,
 - and the input files/pages contain different printable parts of 1 Collada file, then the Collada file is used as scene and the input files/pages matching the printable parts of Collada file will be used in the output.
 - and the first input file does not refer to a Collada file, then only the first input file is used in the output and the other input files/pages will be ignored.

- **Scene:** A scene allows to combine multiple task input files into a combined shape. These input files could be
 - multiple input PDFs containing the same structural design,
 - one input PDF with three pages referring to one part of a scene,
 - multiple input single page PDFs referring to one part of a scene,

Note: A scene is a .ZAE file that you can create in Esko ArtiosCAD and Studio Toolkit. It contains links to multiple .ARD or Collada files.

- Output **File Type:** Choose from these file formats:
 - **Tiff Image.** A 2D image.
 - **PDF File with 3D Design:** Enables to view the 3D in Adobe Reader or Acrobat Professional (version 8.0.1 or later).
 - **U3D File:** A common exchange format for 3D objects that you can place in Acrobat Professional (version 8.0.1 or higher).
 - **Collada file:** A common exchange format for 3D objects that can also be viewed in Esko **Studio Viewer** and in Esko **WebCenter's** integrated 3D Viewer.

Settings per File Type:

- **Exporting to Collada**
 - Choose **Collada File** as **File Type** and specify the **Resolution** of the image(s).
 - Define the **View Angle** from which the object should be rendered. You can either specify them manually here or inherit the angles from the scene file (using the angle that the file was saved with in Illustrator, Studio or PackEdge).
 - Adapt the **Perspective.** A high value has the effect of a camera with a wide angle lens, close to the object. A low value has the effect of a camera with a zoom lens, further away from the object. The default is 45 degrees.

Note: The object will always fit completely inside the exported image.

- Choose **White** or **Black** as **Background Color.**
 - **Include Printable Parts:** Deselect this to make a 3D that only serves to be viewed. Select it to allow the receiver to edit it, for example to place variant graphics.
- **Exporting to TIFF**
 - Choose **Tiff Image** as **File Type** and specify its **Resolution.**
 - Define the **Width / Height** of the image. The TIFF image will always be square and will contain the whole shape.
 - Define the **View Angle** and **Perspective.**
 - Choose a **Background Color: White, Black** or **Transparent** (useful when placing the image in others).
- **Exporting to PDF with 3D Design**

- Choose **PDF File with 3D Design** as **File Type** and define its **Width, Height** and **Resolution**.
- **Show Footer**: Select it to add a (custom) **Footer Text**.
- Define the **View Angle** and **Perspective**.
- Choose **White** or **Black** as **Background Color**.
- **Exporting to U3D File**
 - Choose **U3D File** as **File Type** and define its **Resolution**.
 - Define the **View Angle** and **Perspective**.
 - Choose **White** or **Black** as **Background Color**.

83. Export to ArtPro File

This task exports a Normalized PDF file to an ArtPro file.

Choose the ArtPro **Version**:

- an **ArtPro 10.x/9.x/8.x** file
- an **ArtPro 7.5/7.0** file. These do not contain version-specific information or blend modes (the file will be flattened).

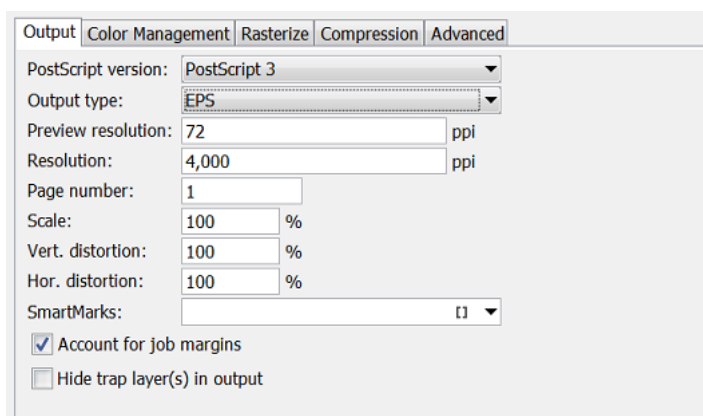
Copy linked files next to output file: Select this to copy the linked images next to the created ArtPro file.

84. Export to EPS/DCS File

The task settings are spread over five tabs:

- [Output](#)
- **Color Management:** These settings are identical in the [Color Management tab of the PostScript Export task](#).
- **Rasterize:** These settings are identical in the [Rasterize tab of the PostScript Export task](#).
- **Compression:** These settings are identical in the [Compression tab of the PostScript Export task](#).
- **Advanced:** These settings are identical in the [Advanced tab of the PostScript Export task](#).

84.1. Output



- **PostScript version:** Choose between 2 or 3.
- **Output type:**
 - **EPS.** This creates an EPS file with an RGB preview. Select PostScript 3 and deselect color management (in the tab 'Color management') to create a 'deviceN' EPS. In all other cases a CMYK composite EPS will be created.
 - **Single DCS file.** This creates an EPS DCS file with multiple separations. The RGB preview of the DCS file is used when placing the EPS DCS file. In addition, a **grayscale composite** or color CMYK preview can be added for composite printing.
 - **Multiple DCS file.** This creates a master EPS DCS file referring to multiple separations (one file per ink). The names of the 'Multiple DCS' files consist of the name of the original EPS DCS file followed by `_C`, `_M`, `_Y`, `_K` or `_1`, `_2`, `_3`, ... (for all non-process inks). The files have an extension `.x`.

The RGB preview of the Master DCS file is used when placing the EPS DCS file. In addition, a **grayscale composite** or color CMYK preview can be added for composite printing.

- **Preview Resolution:** This is the resolution of the RGB preview used when placing the EPS DCS file. A higher value will produce a finer, more detailed preview but will also increase the files size of the EPS DCS. The default and minimal value is 72 ppi.
- **Resolution:** If you do not know where the EPS will be placed, you best request a high resolution file (the default is 4.000 ppi.). Mind that, the higher the resolution, the bigger the size of the EPS file will be.
- **Page number:** Select a page if you only want to export that page of your input file.
- **Scale:** Allows you to scale the file, for example at 50%.
- **Vert. and Hor. Distortion:** Use one of these fields if you want a different scaling in either direction (max 90%).
- **SmartMarks:** If you want to add any, select or define a set.
- **Account for job margins:** Select this to also include the data between the borders (Trim Box) and the margins (Media Box).
- **Hide trap layer(s) in output:** Select this if you do not want those objects in the output file.

85. Export to Gravure using HELL Job Ticket

Concept

This task is similar to the more generic task [Export to Unscreened Separations](#) on page 170, but it will use the settings that the HELL front end operator already defined in the HELL output tickets for that job.

Task Settings

- **Job Ticket:** Define the folder that contains the HELL Job Ticket files.
- **Anti-Aliasing:** Select if you want only on the one-up data or on the complete file which then includes the print marks for example.
- **Add Noise:**
- **Task ends in error when linked artwork is not up to date:** Select this as wanted.

86. Export to Normalized PDF File

This task converts a GRS file to a Normalized PDF file. GRS is a legacy Esko file format.

External References

External references have to be converted. Choose your preference:

- **Write local external references to the output folder and other external references to their original folder.**

When exporting, external references in subfolders or neighboring folders will be written to the output folder. External references in for example central folders will be written in their original folder.

- **Write all external references to the output folder.**
- **Write all external references to their original folder.**

When converting again, you can choose to:

- **Reconvert if recently updated:** Only updated references will be reconverted, all other conversions will be used as they were.
- **Use previous conversions:** The existing conversions will be used. Potential updates will not be considered.
- **Always reconvert:** All external references will be converted at all times.

Embed External Images

Referenced external files in GRS format can be converted to referenced files in Normalized PDF file format. Define which images you want to have converted:

1. **All images.**
2. **Images with uncompressed data size smaller than 640 kB** (as specified in [Configure > Processing Preferences > Embedded Images](#)). This option is identical to the option in the [Images tab](#) of the [Normalize PostScript / PDF / Illustrator 8.0 File](#) task.
3. **None.**

Copy Other Images to Output Folder

Indicate what should happen with the external images. You can have them copied to the output folder, or you can choose to leave them in their original folder.

Fail when fonts are not found

When the fonts used in the file are not found the task will fail, when the toggle is not selected, the task will end with a warning.

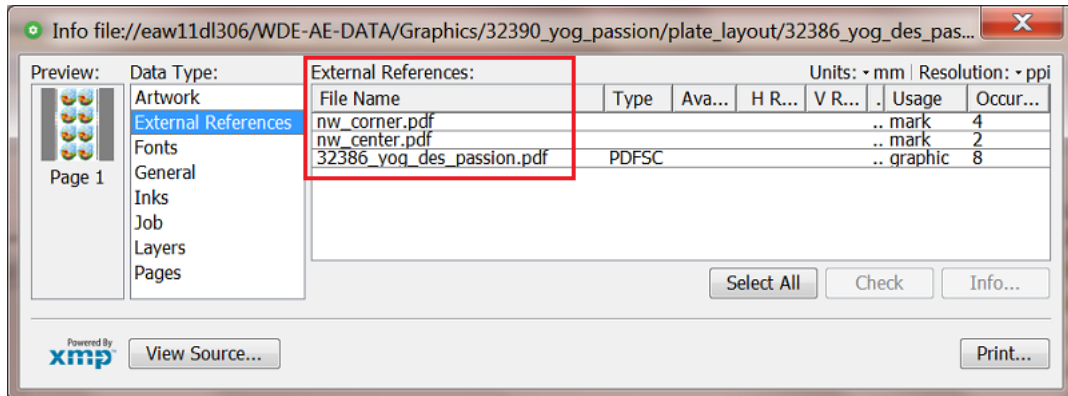
Fail when external references are not found

The task will fail when not all external files were found.

87. Export to Normalized PDF File (Embed All)

You can use this task to create a self-contained version of a Normalized PDF file with references or of a PDFPLA file.

This task embeds all the external references, images and fonts into the Normalized PDF output file.



Note: The [Export to Normalized PDF task](#) only allows to embed images.

88. Export to PDF File

Concept

This task exports Normalized (layout) PDFs to a native PDF. This task is often used to make a PDF of a specific version or with specific color settings to match the device it will be used for. This task is also often used to make a self-contained version of a PDF with external references, which makes it easier to exchange this data to someone else.

Factory settings

The **Default** ticket of this task offers **Factory settings**. Selecting one is a quick way to define the many ticket parameters. After selecting such a 'preset', you can still change any parameters.

- **PDF for data interchange.** Use to send this graphic data out.
 - **(PDF 1.3):** Offers high compatibility but slow and less editable. Use this if it needs to be opened in Acrobat 4 or lower, or if a RIP requires this format.
 - **(PDF 1.4):** For interchange with recent applications, well editable. For example Acrobat 5 and higher.
 - **(PDF 1.5):** For interchange with recent applications, well editable. For example Acrobat 6 and higher.
 - **(PDF 1.6):** For interchange with recent applications, well editable. For example Acrobat 7 and higher.
 - **PDF/X:** PDF/X is a standardized subset of PDF designed specifically for reliable interchange of prepress data. It is used for RIP'ing and imposition.
 - **(PDF/X-1a:2001 (ISO/DIS 15930-1)):** PDF/X-1a ensures complete data exchange using CMYK and spot color data.
 - **(PDF/X-3:2003 (ISO/DIS 15930-3)):** PDF/X-3 ensures complete data exchange suitable for coloured managed workflows.
- **PDF for Illustrator CS2 or higher:** For a PDF file meant to be edited in Adobe Illustrator CS2 or higher.



Attention: This version improves the editability in Adobe Illustrator, but does not guarantee full editability.

- **PDF for viewing/proofing**
 - **CMYK Composite:** Useful when using hard copy proofers, or when the result doesn't have to be editable or when the result is used for soft-proofing. It is not useful to serve as final output.
 - **RGB:** Useful for soft-proofing ; a smaller file, and faster to generate.
 - **DeviceN:** Data interchange file for proofing/viewing (all separations present). Adobe Acrobat Reader 7.0 or later is required to view the overprint settings correctly.

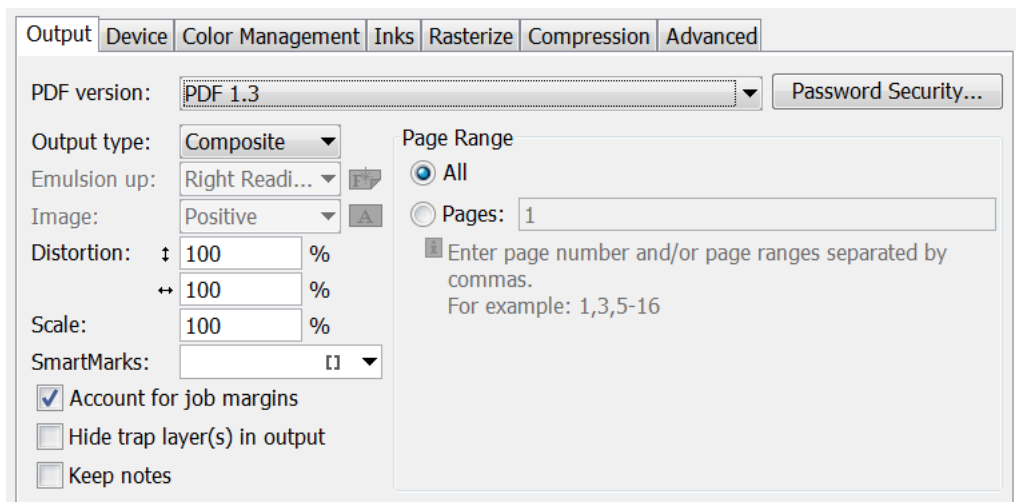
Note: Even though, for **trapping** reasons, Acrobat 7 Professional and higher allow to define an ink as Opaque ("Ink Manager"), this has no influence on the PDF preview.

Detailed settings

The many ticket parameters are divided over seven tabs:

- [Output](#) on page 154
- [Device](#) on page 157
- [Color Management](#) on page 157
- **Inks**, similar to the [tab Inks/Separations in the "Export to PostScript" task](#).
- **Rasterize**, similar to the [tab Rasterize in the "Export to PostScript" task](#).
- [Compression](#) on page 159
- [Advanced](#) on page 160.

88.1. Output



- **PDF Version:**
 - **PDF 1.6:** The Acrobat 7 file format.
 - **PDF 1.5:** The Acrobat 6 file format.
 - **PDF 1.4:** The Acrobat 5 file format.
 - **PDF 1.3:** The Acrobat 4 file format.
 - **PDF for Illustrator:** Select this if the generated PDF 1.4 file will be opened in Adobe Illustrator CS2 or higher. Because Adobe Illustrator only supports an (undocumented) subset of PDF 1.4 features, some objects and/or color-spaces will be split up, transformed and/or pre-ripped in order to correctly represent them in Illustrator.

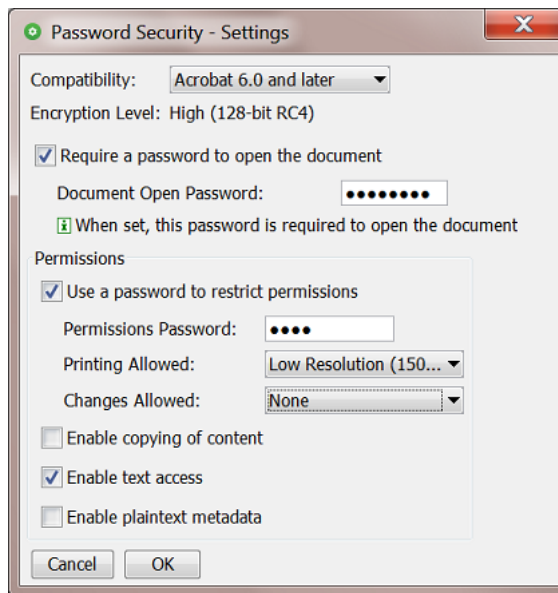
- **PDF/X-1a:2001 (ISO/DIS 15930-1)** and **PDF/X-3:2003 (ISO/DIS 15930-3)**. Learn more about these versions [here](#).

Note: You can find an (old) white paper about using PDF/X-4 on [this link](#).

- **Password security:** Learn more in [Password Security](#) on page 155.
- **Output type**
 - **Composite:** Select this to create a composite file which, if no color management is used, produces a 'DeviceN' PDF for data interchange. DeviceN means that its colors can be combinations of the standard CMYK process colors and/or spot colors. This guarantees perfectly separable PDF files which can also be proofed on a composite PostScript 3 device. Such a PDF file will both proof and separate correctly. Color management for spot color objects must then be handled by the device.
 - **Separated:** Select this to create a PDF with multiple pages, one page per ink.
 - **Emulsion Up:** Select **Right Reading** (= emulsion up) or **Wrong Reading** (= emulsion down).
 - **Image:** Select **Positive** or **Negative** print mode.
 - **Vert.** and **Hor. Distortion:** Use one of these fields if you want a different scaling in either direction (max 90%).
 - **Scale:** Allows you to scale the file, for example at 50% to get a smaller MB size when E-mailing the PDF.
 - **SmartMarks:** Add SmartMarks if you want, for example to add the ink coverage on a proof PDF.
 - **Account for job margins:** Select this to also include the data between the borders (Trim Box) and the margins (Media Box).
 - **Hide trap layer(s) in output:** Select this if you do not want those objects in the output file.
 - **Page Range:** When your input file has multiple pages, define here if you want **All** or a selection of these pages in your output PDF file.

88.1.1. Password Security

Note: The options in this dialog depend on the PDF version that you chose in the [Output tab of the 'Export to PDF' task](#).



- **Compatibility:** The security features depends on the Acrobat version that you want to output. Your choice defines the **Encryption level**.
- **Require a password to open the document:** If this is what you want, enter a password. Communicate this password to the people that you allow to open this file.
- **Permissions** (some options depend on the selected **Compatibility**):
 - **Use a password to restrict permissions:** If you want to use any of the below options, enter a specific **Permissions Password** and communicate it to the right people.
 - **Printing Allowed:** Select **None** if no-one is allowed to print this file. Select a **Resolution** if the receiver may print it at that level of quality.
 - **Changes allowed:**
 - Select **None** to prevent users from making any changes, not even filling in signature or form fields.
 - Select **Inserting, deleting and rotating** to allow such changes, as well as create bookmarks and thumbnail pages.
 - Select **Any except extracting pages** to allow users any changes except extracting pages.
 - Select **Enable copying of content** to allow the user to do this.
 - Select **Enable text Access** to allow visually impaired users to read the file with screen readers. This option does not allow users to copy or extract any contents.
 - **Enable plaintext metadata:** This allows searching the file's properties while still protecting its content.

88.2. Device

You can make a PDF 'device specific' by adding a description of the required **dot gain compensation** curves inside that PDF.



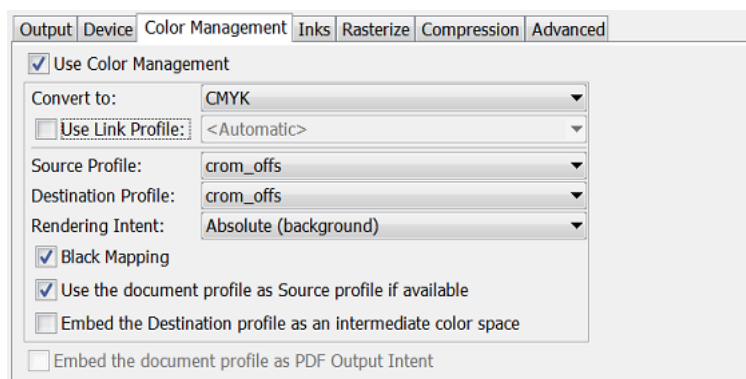
Attention: These curves are not calculated, but stored as 'PDF standard transfer curves'. Opening the PDF in Acrobat will not show any difference.

You can create **Dot Gain Compensation** curves (DGC) with Esko Curve Pilot.

- **Single Curve:** Select one DGC curve (.dgc file) that will be applied to all your data.
- **Automatic:** Allows you to select one of these types:
 - A **Screen-Based DGC table** (.scredgc file), to apply dot gain compensation selectively, depending on the dot shape, screen ruling, angles and even **Contone** or **Linework** properties.
 - A **DGC Strategy** (.icpro file), does the same but also offers ink-based dot gain compensation.
 - A **Press sync** file (*.prsync). These curve values are inserted as a transfer curve in the PDF.

Note: You can also apply *both* a single curve and an automatic DGC. This then results in a cumulation of both effects.

88.3. Color Management



When you choose not to apply any color management when creating the PDF, you can still embed the document's profile (see below).

When creating a *composite PDF*, you can choose to **Use Color Management** with these options:

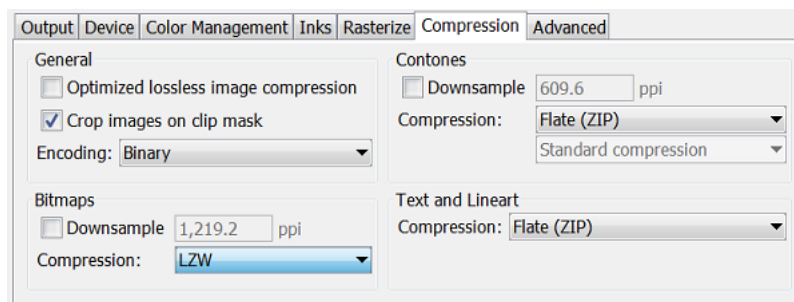
- **Convert to:** Select to which color space all inks should be converted: **CMYK**, **RGB** or **Gray** values.
- **Use Link Profile:** "Link profiles" describe a transformation from one device-dependent color space to another. This is actually a concatenation of a forward transformation of one profile and a backward transformation of another profile. A link profile takes complete care of the color management, so all other options are then disabled.

- **Source profile:** If any CMYK objects need to be converted, choose a 'source profile'. The list shows all CMYK print profiles in the color database. The source profile defines the target that the destination profile is supposed to match.
- **Destination profile:** Choose a color profile for your destination color space. The list shows all print profiles in the color database. These profiles are either measured in Color Engine Pilot or imported ICC-profiles.
- **Rendering intent**
 - **Relative (no background):** Choose this if you do not want any background simulation. The white point of the source will be mapped on the white point of the destination process. This rendering intent takes into account the ability of the human eye to adapt to the surrounding white.
 - **Absolute (background):** Choose this if you want background simulation and you want an exact color match, including the paper simulation.
 - **Perceptual:** This will result in no background simulation (white of reference color space is mapped on white of destination color space). Choose this when you don't care too much about an exact color match but when want the pictures at least to look nice on your proofer. It will give a visually pleasing result. If the gamut of the source is wider than the proofer, the entire gamut is shrunk so that it fits inside the gamut of the proofer.
 - **Saturation:** Choose this if you care especially about saturated colors. This rendering intent will map saturated colors on saturated colors.
- **Black Mapping:**
 - When selected, the CMY part of the composite colors are converted separately from the black component. As a result, the type of black separation (Skeleton black, UCR, GCR...) is preserved by the conversion. It is still possible that the black percentage changes slightly due to different dot gain in the color profiles.
 - When not selected, the converted CMYK colors are completely re-separated into the black behavior that is built into the destination profile.
- **Use the document profile as Source profile if available:** If a document profile is defined, then that one will be used as a source profile. The one chosen from the above **Source Profile** list will be overruled.
- **Embed the Destination profile as an intermediate color space:**
 - When not selected, the colors in the PDF file are not tagged with an ICC color profile. The document is device dependent and its colors will only be reproduced accurately if the PDF file is output on the device that is specified in the **Destination Profile**. This choice is preferable when you are sure the PDF file will be sent to the device specified in the Destination Profile.
 - When selected, the colors in the PDF file are tagged with an ICC color profile. The document then becomes device independent, and its colors will be reproduced accurately even on devices with a color space different from the one specified in the Destination Profile. In this case, the Destination Profile is an intermediate color space between the Source Profile and the color profile of the device that will eventually process the PDF file. This choice is preferable when the PDF file will be sent to an unknown device.

Embed the document profile as PDF Output intent: The output intent is an ICC profile that specifies the intended output device. When selected, the document profile will be saved as the 'PDF Output Intent'. For some PDF flavors (PDF-X/3), an output intent is mandatory and this option is always on.

When no document profile was set explicitly, the default document profile is used instead (`chrom_offs`). When the document profile is a Color Engine Pilot profile, it will first be converted to an ICC profile.

88.4. Compression



General

- **Optimized lossless image compression:** Selecting an overall lossless image compression seldom results in the smallest overall file size. This optimization chooses the smallest lossless compression method for every image separately (JPEG2000, Flate, FlateDiff, LZW, LZWDiff, CCITT3, CCITT4 or Run Length). Its choice depends on the image type and on the compression methods that are allowed for the chosen PDF version.

Selecting this option disables the compression methods for **Bitmaps** and **Contones**. It also sets the encoding to **Binary**, which we advise to keep, otherwise the resulting file will become larger.



Attention: Selecting this option considerably slows down this task, so only use it when the size of the file is critical.

- **Crop images on clip mask:** When selected, all information outside the clip mask will not be exported.
- **Encoding**
 - **Binary:** The image data is represented as binary data. This results in compact files. Such files are not editable in a common ASCII editor. Nor can these files be transferred using a communication protocol that relies on control characters in the data stream itself.
 - **Hex:** This forces the output to remain editable with an ASCII editor. It can then also can be transferred using whatever communication protocol is available. The drawback is that hexadecimal image data can take up to twice as much size as binary data.
 - **ASCII 85:** Encodes binary data in an ASCII base-85 representation. This encoding uses nearly all of the printable ASCII characters. The resulting expansion factor is 4:5, making this encoding more efficient than hexadecimal.

Bitmaps

- **Downsample:** Referenced images are sub-sampled approximately to the specified value. This reduces the size of the output PDF file. The unit is the one defined in **Edit > Preferences**. Be aware that 1-bit (copydot) images cannot be downsampled.
- **Compression:** Choose the type: **None** or CCITT group 3 / 4, Run Length, LZW (Diff), Flate (ZIP)(Diff).

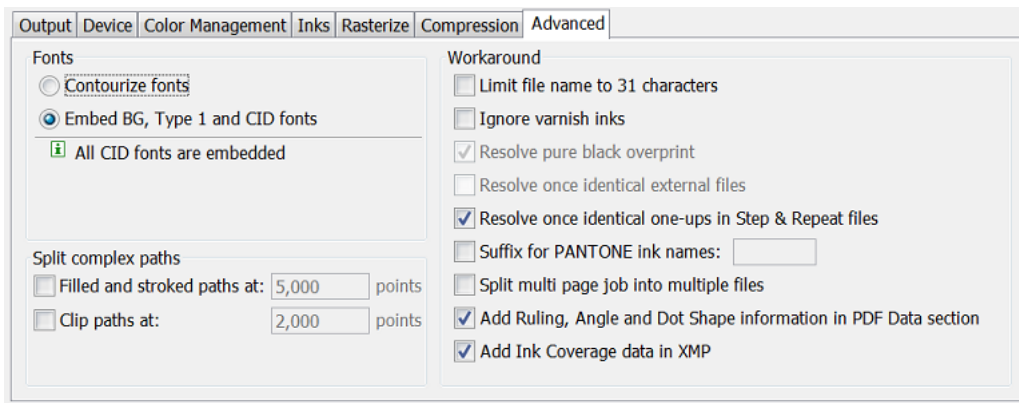
Contones

- **Downsample:** The images referenced in your design are sub-sampled to approximately the specified value. This allows to reduce the size of the generated PDF file. The unit is the one defined in **Edit > Preferences**.
- **Compression:** Choose the type: **None** or LZW (Diff), JPEG(2000), Flate (ZIP)(Diff).
JPEG compressions allow to specify the quality of the compression..

Text and Lineart

- **Compression:** Choose the type: **None** or LZW or Flate (ZIP).

88.5. Advanced



Fonts

Choose what to do with the fonts used by your input file's live text:

- **Contourize fonts:** To convert all text into lineart.
- **Embed BG and Type1 and CID fonts**

Note: Protected CID fonts will be referenced by name.

Split Complex Paths: When a device requires that you create an old version of PDF (1.3), it may also require that you split very complex paths into smaller ones.

Note: These are workarounds for typical PostScript level 1 path limitations. Only use these when absolutely necessary.

- **Filled and stroked paths at:** Use this option to split linework with more than x points into several smaller linework parts. This decreases the complexity of the linework. A suitable value for the selected Device type is calculated automatically.
- **Clip paths at:** Use this option to split linework masks for images with more than x points into several smaller linework parts. This decreases the complexity of the masks.

Workaround

- **Limit file name to 31 characters:** Select this when the system that will read your output file is limited to 31 characters.
- **Ignore varnish inks:** Select this to exclude varnish inks in your output.
- **Resolve pure black overprint:** Overprints are normally resolved, but by default, pure black is left untouched. Select this option when you also want pure black to be resolved. This option is only available when [Use Color Management](#) is selected.
- **Resolve once identical external files:** Instead of resolving the complete file and all its external references, identical external files will be resolved only once.
- **Resolve once identical one-ups in Step & Repeat file:** Instead of resolving the complete Step & Repeat file, identical one-ups will be resolved only once.
- **Suffix for PANTONE ink names:** Enter a suffix for PANTONE ink names. The default is 'C'. For example: PANTONE 123 so becomes PANTONE 123 C. Existing suffixes will be replaced by this one.
- **Split multi page job into multiple files:** Every page of a multi page file will be output as a separate PDF file.
- **Add Ruling, Angle and Dot Shape information in PDF Data section:** Select this if the non-Esko RIP that will read the PDF will want to get such screening information from inside the PDF itself. This makes the PDF device-dependant.
- **Add Ink Coverage data in XMP:** Select this to add such data into the PDF's metadata. Mind that calculating the ink coverage will slow down the task.

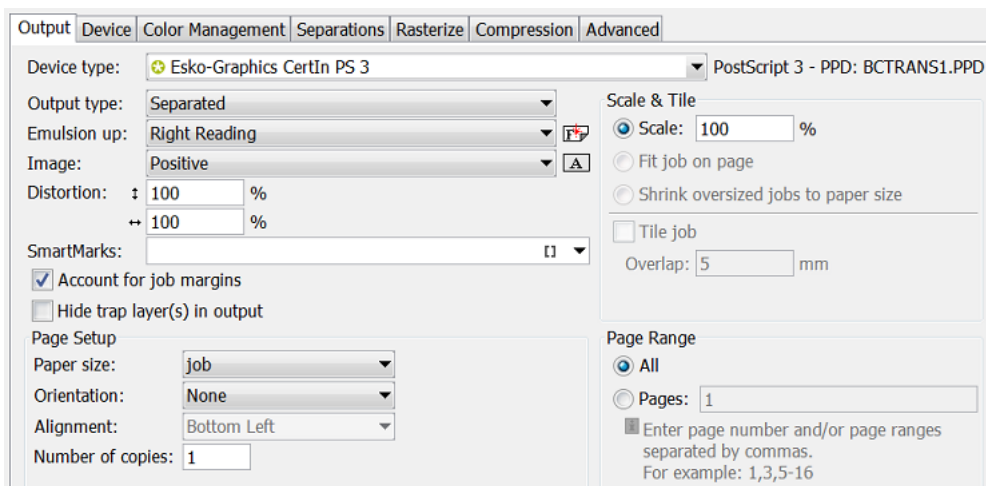
89. Export to PostScript File

Factory settings

The **Default** ticket of this task offers **Factory settings**. Selecting one is a quick way to define the many ticket parameters. After selecting such a 'preset', you can still change any parameters.

- **PostScript for press (separated)**
- **PostScript for press (DeviceN composite):** This mode (only supported by PostScript 3 devices) uses the PostScript 'DeviceN' color-space to produce high-fidelity colors. These colors are combinations of the standard CMYK process colorants and/or spot colors, guaranteeing perfectly separable PostScript code that can be proofed on a composite PostScript 3 device.
- **PostScript for viewing / proofing (CMYK composite)**

89.1. Output



Device type: The selected device type also determines the PPD that will be used.

Output type:

- **Separated:** Select this to generate multiple pages, one for each ink in the file.
- **CMYK Composite:** Select this to generate a composite PostScript file, typically for proofing. All spot colors are converted to CMYK.
- **Composite:** Select this to generate a file for PostScript 3 devices, since they support 'deviceN' color-space to produce high-fidelity colors. These colors are combinations of the standard CMYK process colors and/or spot colors, guaranteeing perfectly separable PostScript code which can also be proofed on a composite PostScript 3 device.

The generated PostScript file will proof correctly and separate correctly. Color management for spot color objects must be handled by the device.

Emulsion Up: Select **Right Reading** (= emulsion up) or **Wrong Reading** (= emulsion down).

Image: Select **Positive** or **Negative** print mode.

Enter a **Vertical** and/or **Horizontal** distortion in percentages (between 85 and 115 %).

Add **SmartMarks** if you want.

Account for job margins: Select this to also include the data between the borders (Trim Box) and the margins (Media Box).

Hide trap layer(s) in output: Select this if you do not want those objects in the output file.

Page Setup

- Select a **Paper size**. The list is based on the page sizes supported by the selected .PPD.
- **Orientation:** (Disabled when 'Tile job' is selected.)
- **Alignment:** (Disabled when 'Tile job' is selected.)
- Enter the **Number of copies**.

Scale & Tile

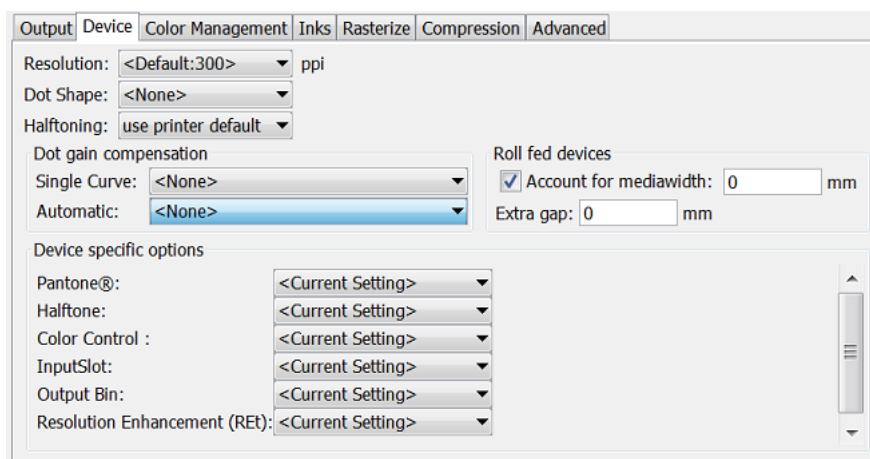
- Enter a **Scale** factor (percentage).
- **Fit job on page** scales the file so it fits the selected paper size.
- **Shrink oversized jobs to paper size**.
- Select '**Tile job**' to obtain a tiled output if the file is too big to fit on the selected **Paper size**. It then exports a large file to a series of smaller pages (tiles). The user can then cycle through the tiles, and see how many tiles there are.

Overlap: The value you enter here is the amount of overlap in all four directions between adjacent tiles.

Page Range: When your input file has multiple pages, define here if you want **All** or a selection of these pages in your output PDF file.

89.2. Device

Most of these options depend on the PPD belonging to the selected [Device Type](#).



Resolution: Select one that fits the purpose of the PostScript file.

Dot Shape: Define if you want a specific dot for this file.

Halftoning: When the *Output type* is 'CMYK Composite' or 'Composite', you can choose to include screen information (LPI and angle).

- **Use Printer Defaults:** From the output device.
- **Take over from job:** From the input file.
- Some PPDs offer other dot shapes.

Dot Gain Compensation: Select a **Single** and/or **Automatic** curves (made in Curve Pilot). This will be added as 'transfer curve'. Learn more [here](#).

Note: When a DGC curve is selected, the file will be flattened to ensure that the correct Dot Gain Compensation is applied to transparent objects. This may result in a larger file.

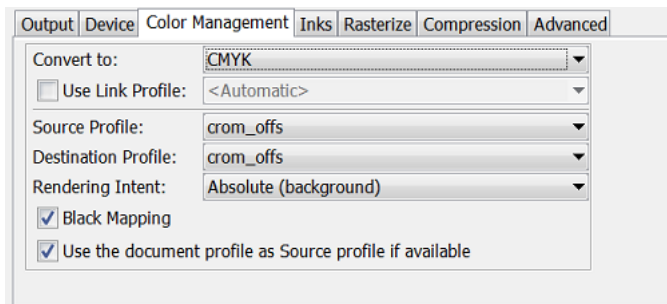
Roll fed devices:

- **Account for Media Width** allows the task to find the best printing orientation (when Rotation is set to Auto). For roll-fed devices, mostly film-setters, a media width (film width) can be specified.
- **Extra Gap:** Allows you to specify extra width for the film or paper feed.

Device specific options: These depend on the selected PPD. Learn more in the documentation of your output device.

89.3. Color Management

These options are enabled when you choose the *Device type* 'CMYK composite'.



Convert to:

- Choose to convert all inks to **CMYK** or **Gray** values.
- **Use Link Profile:** "Link profiles" describe a transformation from one device-dependent color space to another. This is actually a concatenation of a forward transformation of one profile and a backward transformation of another profile. A link profile takes complete care of the color management, so all other options are then disabled.

Source profile: If any CMYK objects need to be converted, choose a 'source profile'. The list shows all CMYK print profiles in the color database. The source profile defines the target that the destination profile is supposed to match.

Destination profile: Choose a color profile for your destination color space. The list shows all print profiles in the color database. These profiles are either measured in Color Engine Pilot or imported ICC-profiles.

Rendering intent

- **Relative (no background):** Choose this if you do not want any background simulation. The white point of the source will be mapped on the white point of the destination process. This rendering intent takes into account the ability of the human eye to adapt to the surrounding white.
- **Absolute (background):** Choose this if you want background simulation and you want an exact color match, including the paper simulation.

Black Mapping:

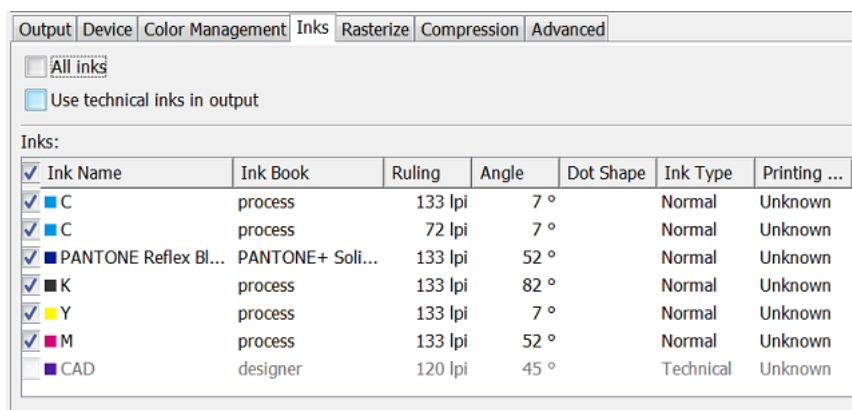
- When selected, the CMY part of the composite colors are converted separately from the black component. As a result, the type of black separation (Skeleton black, UCR, GCR...) is preserved by the conversion. It is still possible that the black percentage changes slightly due to different dot gain in the color profiles.
- When not selected, the converted CMYK colors are completely re-separated into the black behavior that is built into the destination profile.

Use the document profile as Source profile if available: If a document profile is defined, then that one will be used as a source profile. The one chosen from the above **Source Profile** list will be overruled.

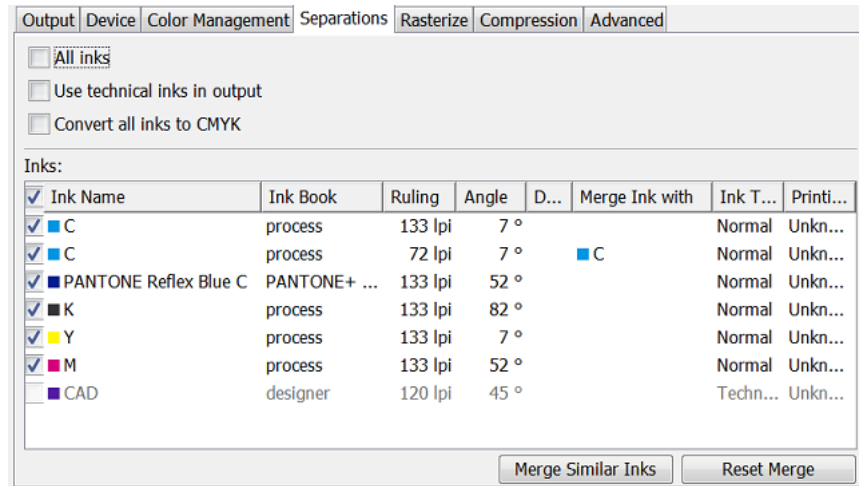
89.4. Inks / Separations

The name of this tab depends on the output type you selected in the *Output tab*.

- If you there choose **CMYK Composite** or **Composite**, the **Inks** tab appears:



- If you there choose **Separated** output, the **Separations** tab appears.



All Inks: Deselect this to open an ink-list panel where you can select specific inks.

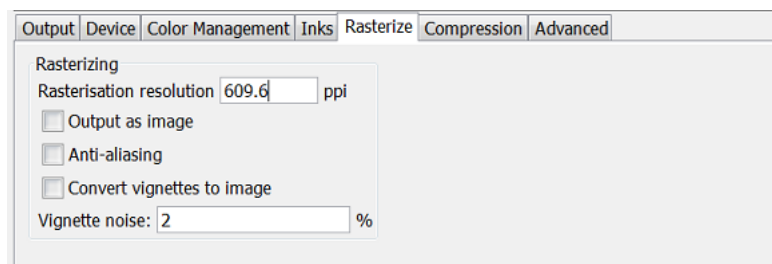
Note: The **Inks** panel only shows the inks that are present in the input file(s) for the first task in your workflow. When no input files are selected yet, you will not be able to “preselect” inks (for example when building workflows in the **Tickets** view).

Use technical inks in output: Select this option to also output the (non hidden) technical inks.

Convert all inks to CMYK:

In the **Inks** panel, use **Merge Ink With** to output inks on top of each other in the same output file. The ticket proposes this automatically when you have different rulings for 1 ink. You can set this manually by clicking in the **Merge with** column and selecting the ink it has to be merged with.

89.5. Rasterize



Rasterisation resolution: Enter the resolution for the objects that will be 'resolved' (converted to image data).

Output as image: Select this to make an image of the input file (with the above set resolution).



Attention: All objects in a technical ink will remain linework, they will not be rasterized. This linework is put on top of the rest of the newly generated image. This can have side-effects when mixing technical and non-technical inks (typically when using technical inks for anything else than die cut lines).

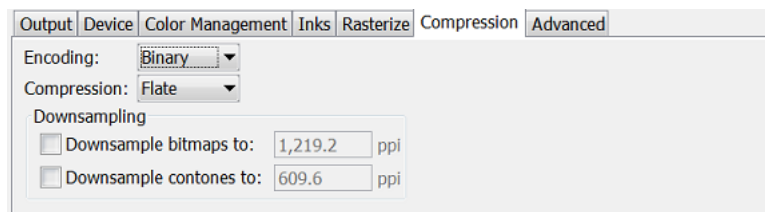
Anti-aliasing: This smoothens the staircase effect in images generated from line-art objects that were pre-processed. This increases the readability of small text that is converted to image data.

Convert vignettes to image: Select this to avoid blends and banding in vignettes when exporting to PostScript. This converts all vignettes to images.

Vignette noise: When exporting to PostScript, some (parts of) vignettes will be converted to images. This happens when the vignettes overlap other objects with translucency or when there are overprints between a vignette and other objects.

When 'Convert vignettes to image' is selected, all vignettes are converted to images regardless of any overlap with other objects. Vignettes that are converted to images may have tone jumps in the final result. To reduce this banding effect, noise is applied on the image. Define the amount of noise in this field.

89.6. Compression



Encoding:

- **Binary:** The image data is represented as binary data. This results in compact files. Such files are not editable in a common ASCII editor. Nor can these files be transferred using a communication protocol that relies on control characters in the data stream itself.
- **Hex:** This forces the output to remain editable with an ASCII editor. It can then also can be transferred using whatever communication protocol is available. The drawback is that hexadecimal image data can take up to twice as much size as binary data.
- **ASCII 85:** Encodes binary data in an ASCII base-85 representation. This encoding uses nearly all of the printable ASCII characters. The resulting expansion factor is 4:5, making this encoding more efficient than hexadecimal.

Compression: Choose **None**, **LZW** or **Flate** (PostScript 3 devices).

Downsampling: Use this to downsample the images referenced in the file to (approximately) the specified value. This will result in a smaller PostScript file. It will also be generated faster.

Please be aware that 1-bit copydot images cannot be downsampled.

89.7. Advanced

Split Complex Paths

When a device requires that you create an old version of PostScript (level 1), it may also require that you split very complex paths into smaller ones.

- **Filled and stroked paths at:** Use this option to split linework with more than x points into several smaller linework parts. This decreases the complexity of the linework. A suitable value for the selected Device type is calculated automatically.
- **Clip paths at:** Use this option to split linework masks for images with more than x points into several smaller linework parts. This decreases the complexity of the masks.

Workaround

- **Limit file name to 31 characters:** Select this when the system that will read your output file is limited to 31 characters.
- **Ignore varnish inks:** Select this to exclude varnish inks in your output.
- **Resolve pure black overprint:** Overprints are normally resolved, but by default, pure black is left untouched. Select this option when you also want pure black to be resolved.
This option is only available when you selected 'CMYK composite' as 'Output' tab.
- **Resolve once identical external files:** Instead of resolving the complete file and all its external references, identical external files will be resolved only once.
- **Resolve once identical one-ups in Step & Repeat file:** Instead of resolving the complete Step & Repeat file, identical one-ups will be resolved only once.
- **Suffix for PANTONE ink names:** Enter a suffix for PANTONE ink names. The default is 'C'. For example: PANTONE 123 so becomes PANTONE 123 C. Existing suffixes will be replaced by this one.
- **Suppress hairlines at clips :** Due to the PostScript limitation of the maximum number of points allowed for a path, complex paths will be cut into smaller pieces. When the PostScript file is used for an old PostScript RIP, 'hairlines' can so become visible. To avoid this problem, select this option.
- **Split multi page job into multiple files:** Every page of a multi page file will be output as a separate PS file.
- **Image to paper edge:** This moves the origin of output file to the lower left corner of the paper or film. Select this option to align your file to the edge of the paper or film to use the full area.

Note: When exporting to a paper PostScript device, there is typically a border on the output page on which nothing can be imaged. Parts of your design that are located in that border area will be lost.

- **Avoid tabular number problem:** When digits are written as tabular numbers, exporting to some PostScript RIPs may result in bad positioning of the numbers. Select this to avoid that tabular numbers are not correctly placed at the text base line.
- **Disable path clipping:** Select this if you do not want paths to be clipped on the 'borders' (Trim Box) of the file.
- **Map spot color separations to CMYK:** Select this when you export a file containing spot colors to pre-separated PostScript for systems that are limited to separations of process colors (for example a Scitex Brisque workflow).

Spot color separations can only be handled on such systems by mapping them to a specific process separation (not converting, just mapping). Spot colors are then exported as a C, M, Y or K separation according to a simple rotating name principle (C->M->Y->K->C->M...).

Spot colors which are named exactly after process colors remain unchanged.

- **Omit "Process" for CMYK in %% PlateColor comment:** Select this when the file will be sent to a device that does not understand "Process".

You must select this option when outputting to an Image Setter and when your different separations all have the Angle and Rulings of the K separation (Black).

- **Split separated output into multiple files:** Instead of writing one file containing all separations, the task will write one file per separation.
- **Force Black Overprint:** Select this if you want all 100% black objects to overprint in your PostScript file.

90. Export to Unscreened Separations

Concept

This task creates output for gravure printing systems.

The input file is one or more PDF files. A separate task is started per input file.

The output files are unscreened TIFF files, one per separation and page.

Note: Objects in non-printing layers will not be exported.

Technology

The way this task generates pixels is the same as **Export Gravure TIFF** function in ArtPro+.

Note: Internally, this task runs a [PDF Action List](#) that first selects separations and then exports these to gravure TIFF files.

Task Settings

- **Processing Steps:**

Any processing steps present in the input file (or in its placed files) are listed here. Deselect those that should not appear in the output.

To be listed here, processing steps have to be in printing layers. When their layer is set to unprintable, they will not show up in this list.

Learn more about processing steps in [Processing Steps - Groups and Types](#).

- **Document Inks:** Select how you want to **Select Inks:**

- **All**

- **By using selection criteria:** This is a simplified version of how you select inks in a ticket for Imaging Engine, as described in [Selecting Inks Using Selection Criteria](#).

- **Manually:** This is identical as how you manually select inks in a ticket for Imaging Engine as described in [Selecting Inks Manually](#).

- **Linked Artwork**

- **Force the task to end in error when linked artwork is not up to date.** Select this if that is your preference.

- **Output**

- **File Name:** Use [SmartNames](#) to define the desired names for the TIFF files.

Note: When selecting the output format **HELL Compatible TIFF**, the suffix in the name of the TIFF files is a fixed one. Even using SmartNames for a different output name will be overruled.

- **Folder:** Use [SmartNames](#) to define the desired output folder.

- **Output Format:**
 - **Separated TIFF:** An unscreened TIFF file per selected ink and page.
 - **HELL Compatible TIFF:** This output format ensures that the names of the TIFF files are compatible with the HELL HelioDisk workflow. Also, the TIFF files get a fixed rotation of -90° .
- **Resolution:** You can enter the resolution of the TIFF file in ppi, ppm or ppcm. The value will be recalculated to the default unit as defined in **Edit > Preferences > Units**.
- **Anti-aliasing:** The higher the value the smoother the result will be, but it will take longer to calculate and require more disk space.
 - **Apply on all contents in Step & Repeat files:** In a Step & Repeat file, anti-aliasing is by default only applied on the placed one-ups. Select this to apply anti-aliasing on all content of the S&R file itself, so also on the print marks and station numbers.
- **Add Noise:** To avoid banding, add a certain percentage of noise.
- **Write skip areas to files:** When selected, empty areas that are larger than the threshold will be skipped. This information is written next to the TIFF files in a Skip Areas file (.svs). Using this information, the engraving machine will skip those areas on the cylinder, and so shorten the engraving time.
 - **Threshold:** Define how many empty lines such an area should minimally have.

91. Extract Inks

Concept

This task writes a PDF that only contains the inks that you here decided to keep, by defining their **Name** or on their **Printing Method**.

The resulting PDF will look the same as if you opened the input file in the Automation Engine Viewer and there made the same selection of inks.

This task is typically used to build (parts of) workflows that you only want to execute on specific inks. This is especially useful when the PDF will be output on a hybrid press. For example: a workflow that automatically sends the 'Flexo' inks to a different RIP than the 'Screen' inks.

Note: Learn more about such a workflow in the dedicated section about [Hybrid Press Workflow](#).

| | + <input type="checkbox"/> - <input type="checkbox"/> | Ink Book | Ruling | Angle | Dot shape | Type | Printing Method |
|---|---|-----------------------|-------------------------|---------|-----------|-------------|-----------------|
| 1 | <input checked="" type="checkbox"/> | Cyan | process | 133,000 | 7,000 | Normal | ▸ Flexo |
| 2 | <input checked="" type="checkbox"/> | PANTONE Reflex Blue C | ▸ PANTONE+ Solid Coated | 133,000 | 52,000 | ▸ Normal | ▸ Screen |
| 3 | <input checked="" type="checkbox"/> | Black | process | 133,000 | 82,000 | Normal | ▸ Flexo |
| 4 | <input checked="" type="checkbox"/> | Yellow | process | 133,000 | 7,000 | Normal | ▸ Flexo |
| 5 | <input checked="" type="checkbox"/> | Magenta | process | 133,000 | 52,000 | Normal | ▸ Flexo |
| 6 | <input checked="" type="checkbox"/> | CAD | ▸ <unregistered> | 120,000 | 45,000 | ▸ Technical | ▸ Other |

Another example where this task is useful is when you want to generate separate file reports per 'group' of inks.

Task Settings

You define which inks you want to keep, based on their **Name** or on their **Printing method**.

Click on to select one or multiple printing methods (a list defined in the [Configure tool](#)).

Click **+** if you want to add extra criteria. Click **Alt** and then **...** button to add sub-criteria.

Learn more on how to add such criteria in the page that describes how to make [\(smart\) filters in the Pilot](#).

Some examples:

- Only keeping the inks with the Printing method 'Flexo':

Keep inks that match the following criteria:

Printing method ▾ is Flexo - +

- Only keeping the inks that do *not* have the Printing method 'Flexo':

Keep inks that match the following criteria:

None ▾ of the following are true

Printing method ▾ is Flexo

- Keeping the Flexo Pantone inks and/or inks which name contains 'cut' or 'crease' :

Keep inks that match the following criteria:

| | | |
|---------------------------------|---|---|
| Any ▾ of the following are true | - | + |
| All ▾ of the following are true | - | + |
| Printing method ▾ is Flexo | - | + |
| Name ▾ contains Pantone | - | + |
| Any ▾ of the following are true | - | + |
| Name ▾ contains Cut | - | + |
| Name ▾ contains Crease | - | + |

92. Fill Printing Lanes

This task is launched from the browser client of Automation Engine (the QuickStart deployment). It is part of the production workflow of a **Production Job**.

Find eLearning modules on the [Esko Blended Learning platform](#).

93. Fork

This Workflow Control is documented in the chapter [Workflows](#). See [Fork and Join](#).

94. Image to Screened Separations

This task is documented in the chapter on [Imaging Engine](#). Find a direct link [here](#).

95. Image to Unscreened Separations

This task is documented in the chapter on [Imaging Engine](#). Find a direct link [here](#).

96. Import Die

This task is used to import step & repeat template files into the 'dies' database of Automation Engine (the QuickStart deployment). They there appear in the **Die Gallery**.

Supported input files:

- Resulting in a **'Template Die'**:
 - SRT files, created in Adobe Illustrator with the [DeskPack plugin 'PowerLayout Standalone'](#).
 - PDF files created in [ArtPro+](#).
- Resulting in a **'Numeric Die'**:
 - XML files, when the format is valid (containing the mandatory XML nodes). A numerical die consists of one or more grids. A grid consists of a cell with specific dimensions and a rotation and is repeated a number of times. Find a specification and example below.

Important: When importing a die that results in a die database entry with the same name as an existing entry, the existing entry will be overwritten (i.e. the entry is updated).

Note: This task has no file output.

Specification of the Input XML file

- For all tags expecting a distance value, the value should be expressed in **'mm'**.
- The XML file **must contain one or multiple elements** containing the die information. When there are multiple elements, multiple dies will be created / updated.
 - The default **name for this root** node is called 'Die'. You can specify the name of the XML element (node or attribute) by:
 - any combination of:
 - a fixed value
 - a SmartName
 - an XPath expression
 - a public parameter.

Note:

- When the XML **element name is not an XPath expression** (i.e. not prefixed with 'xpath:'), each element in the XML with local name (i.e. name of the XML node or XML attribute without the optional namespace prefixes) equal to the specified XML element name is used to create or update a die entry in the database.
- When the XML **element name is an XPath expression** or resolves to an XPath expression, all elements selected by evaluating the XPath expression are used to create or update a die entry in the database.

Parameters defining the die

You can specify the name of the XML element or attribute to use to update a die parameter by:

- any combination of a fixed value and/or a SmartName
- an XPath expression, relative to the element

Table: Main Parameters defining the Die

| Element | Name in UI | Usage | Description |
|--------------|----------------------------|-----------|---|
| Name | Name | Optional | Name of the die. Default name is the name of the input XML file. |
| VSize | Vertical Die Size | Optional | Default value is the maximum height of all the grids. The height of a grid is calculated as: $\langle \text{grid vertical offset} \rangle + (\langle \text{grid cell height} \rangle + \langle \text{grid vertical gap} \rangle) * \langle \text{grid number of rows} \rangle - \langle \text{grid vertical gap} \rangle / 2$ (where $\langle \text{grid vertical offset} \rangle$ equals half of the vertical gap in normal cases). |
| HSize | Horizontal Die Size | Optional | Default value is the maximum of the most right side of all grids. The right side of a grid is calculated as: $\langle \text{grid horizontal offset} \rangle + (\langle \text{grid cell width} \rangle + \langle \text{grid horizontal gap} \rangle) * \langle \text{grid number of columns} \rangle - \langle \text{grid horizontal gap} \rangle$. |
| Grid | Grid | Mandatory | <p>This is a sub-node. There can be one or more.</p> <ul style="list-style-type: none"> • The 'Grid' sub-nodes can be contained under an optional 'Grids' node. <div style="border: 1px solid gray; padding: 5px; margin: 10px 0;"> <p>Note: This 'Grids' node was required up to AE v18.1 but as of v18.1.1, the list of 'Grid' nodes can be directly placed under the 'Die' root node.</p> </div> <ul style="list-style-type: none"> • On its turn a grid consists of a number of parameters, which can be a name of an XML element, an attribute or an XPath expression. <ul style="list-style-type: none"> • In this case, the XPath expressions are relative to the 'Grid' element. • See the table below for these grid-specific parameters. |

Table: Parameters for the sub-node 'Grid'

| Element name | Name in UI | Usage | Description |
|----------------------|--|-----------|--|
| VSize , HSize | Vertical Cell Size , Horizontal Cell Size | Mandatory | The height and width of the basic cell used in the grid (sizes are prior to any rotation). |
| VGap , HGap | Vertical Gap , | Mandatory | The vertical and horizontal gap between the different repetitions of a grid cell. |

| Element name | Name in UI | Usage | Description |
|----------------|--------------------------|----------|---|
| | Horizontal Gap | | |
| Angle | Rotation Angle | Optional | The rotation angle of the cell (positive values are clockwise). Value must be a multiple of 90 degrees. Default: no rotation. |
| NRows | Number of Rows | Optional | The number of rows in the grid (i.e. the number of vertical repetitions of the grid cell). Value must be an integer larger than 0. Default : 1 |
| NCols | Number of Columns | Optional | The number of columns in the grid (i.e. the number of horizontal repetitions of the grid cell). Value must be an integer large than 0. Default: 1 |
| Voffset | Vertical Offset | Optional | The vertical offset of the first grid cell. Default value: $vGap/2$ |
| Hoffset | Horizontal Offset | Optional | The horizontal offset of the first grid cell. Default value: 0 |

Example

```

<?xml version="1.0" encoding="UTF-8"?>
<Dies>
  <Die>
    <Name>naam1</Name>
    <Grid>
      <VSize>80</VSize>
      <VGap>5</VGap>
      <HSize>80</HSize>
      <Angle>90</Angle>
      <NCols>2</NCols>
      <HGap>5</HGap>
      <NRows>6</NRows>
    </Grid>
  </Die>
  <Die>
    <Name>naam2</Name>
    <Grid>
      <VSize>50</VSize>
      <VGap>3</VGap>
      <HSize>50</HSize>
      <Angle>270</Angle>
      <NCols>1</NCols>
      <HGap>3</HGap>
      <NRows>6</NRows>
    </Grid>
  </Die>
</Dies>

```

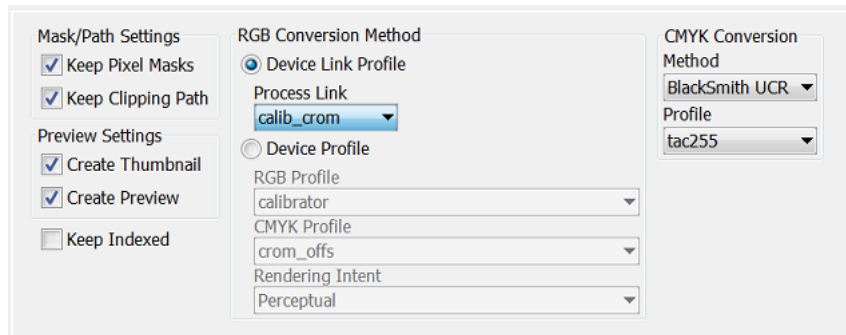
This XML will create (or update) 2 dies.

97. Import Image

The task converts pixel images to the Esko CT or LP file format.

You can also use it to convert RGB images to CMYK, probably for easier processing in the workflow.

You can also use it to convert CMYK CTs with **Inkswitch** or **BlackSmith**.



Mask/Path Settings

- Select **Keep Pixel Masks** to keep the original pixel mask in the output image.
- Select **Keep Clipping Path** to keep the original clipping path.

Preview Settings

- **Create Thumbnail.** Small RGB image used in an 'Info' panel in the Pilot or in the "File-Open" dialogs of Esko editors.
- **Create Preview.** Only used in PackEdge's low-quality view mode.

Keep Indexed

If the colors in the image are reduced ("indexed"), select this if you want to keep that in the output image.

RGB Conversion Method

There are two ways to convert RGB data to CMYK:

- **Device Link Profile**

This allows you to select a **Process Link**, made in [Color Engine Pilot](#). This option will give you the best result.

"Link profiles" describe a transformation from one device-dependent color space to another. This is actually a concatenation of a forward transformation of one profile and a backward transformation of another profile. A link profile takes complete care of the color management, so all other options are then disabled.

- **Device Profile**

This enables you to select a source and a destination (proofer) process. Use this option if you did not make a Process Link in Color Engine Pilot but you still want a better color result. The process links will be made for you.

RGB Profile: Source profile used for conversion.

CMYK Profile: Destination profile used for conversion.

Rendering Intent:

- **Relative (no background):** Choose this if you do not want any background simulation. The white point of the source will be mapped on the white point of the destination process. This rendering intent takes into account the ability of the human eye to adapt to the surrounding white.
- **Absolute (background):** Choose this if you want background simulation and you want an exact color match, including the paper simulation.
- **Perceptual:** This will result in no background simulation (white of reference color space is mapped on white of destination color space). Choose this when you don't care too much about an exact color match but when want the pictures at least to look nice on your proofer. It will give a visually pleasing result. If the gamut of the source is wider than the proofer, the entire gamut is shrunk so that it fits inside the gamut of the proofer.
- **Saturation:** Choose this if you care especially about saturated colors. This rendering intent will map saturated colors on saturated colors.

Note: For BGCMS profiles, **Perceptual**, **Relative** and **Saturation** are in fact identical.

CMYK Conversion

Choose the conversion **Method** and its **Profile**.

Learn more about these conversions in [the documentation of Color Engine Pilot](#).

98. Import JDF Layout

This task handles JDF files generated by JDF compliant imposition programs (i.e the "*LayCrimp ICS*"). It reads the JDF layout and generates an imposed Normalized PDF per sheet side. The 1-up files referenced in the fully populated RunList in the JDF are converted to Normalized PDF files and saved in the output folder of the task. The JDF file must be version 1.2 , 1.3 or higher.

The JDF file contains two parts:

1. A page list, referring to PDF or PostScript files.
2. Geometrical layout info.

This task converts all PDF and PostScript files and creates 1 Normalized PDF file per sheet side.

Most tabs in this task ticket are identical to those in the '*Normalize PostScript/PDF/Illustrator 8.0 File*' task.

- The '*Sheets*' tab differs a little from the Sheets tab in the task **Export Imposition to GRI File**, but has the same functionality.

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

- The '*Page Boxes*' tab is an extra tab.

98.1. Sheets

Indicate which sheet sides you want to import from the JDF layout.

For the **front** as well as the **back sheets**, you can either select **All** sheet surfaces or select a **Range** of sheets.

The screenshot shows the 'Sheets' tab in the Automation Engine interface. It features two main sections: 'Front sheets' and 'Back sheets'. Each section contains two radio button options: 'All sheets' (which is selected) and 'Range (example: 1-5,7,9-11)'. Below each 'Range' option is a text input field for specifying the sheet range. The interface also includes a tabbed menu at the top with options like 'Pages', 'Color Management', 'Inks', 'Overprint', 'Images', 'Page size', 'Other', 'Output', 'Sheets', and 'Page Boxes'.

98.2. Page Boxes

- **Trim Box:**

- **Plate:** Sets the Trim Box of the output PDF to the JDF Plate Media and Plate `TransferCurve` CTM. If not present in the JDF, select 'Paper'.
- **Paper:** Sets the Trim Box of the output PDF to the JDF Paper Media and `TransferCurve` CTM. If not present in the JDF, select 'Surface Contents Box'.
- **Surface Contents Box:** Sets the Trim Box of the output PDF to the 'Surface Contents Box' as defined in the JDF (default setting before AE 16.1).
- **Media Box:**
 - **Plate:** Sets the Media Box of the output PDF to the JDF Plate Media and `TransferCurveSet` CTM. If not present, it uses the JDF Paper Media. If not present, it uses the JDF Surface Contents Box as defined in the JDF.
 - **Fit:** Sets the Media Box of the output PDF by fitting the margins around all objects (default setting before AE 16.1).

Note: When importing JDF files from [Tilia Labs](#), you may want the Trim Box on 'Paper' and the Media Box on 'Plate'.

99. Import JDF Step & Repeat

This task creates a Step & Repeat (PDFPLA) file based on a JDF file.

- When the JDF file contains a link to PDF 'station' files, the task performs a tabular Step & Repeat.
- When the JDF file contains a link to a CAD file and to its PDF 'station' files, the task performs a CAD-based Step & Repeat.

Note: The JDF should always contain a list of the input files.

99.1. Tab 'General'

- **Output Format:** Choose the type of PDF you want to create.
- **Unit:**
- **Limit Bleed:** The bleed mask is created by spreading the die shape. Use this option to limit that bleed to a specific distance.
- **SmartMarks.** If you wish, select or define a set of SmartMarks.
 - **Load Mark Set in bottom layer:** Select this if you want to make sure the marks are "behind" the graphics.
- **Screen Registration:** When selected, the origin of the screening will be reset for each station on the layout. This guarantees that the exact same screening will be applied for each station. This is for example required when printing stamps. When not selected, screening will be done continuously throughout the complete layout.



Attention: This option defines an attribute in the PDF that is only supported by **Imaging Engine** or **FlexRip**. It is ignored by any other RIP..



Attention: Screen registration is not available when you choose the output format **PDF**.

99.2. Tab 'CAD Options'

- **Mapping:** When the CAD file is a CFF2 or DXF file, you here select the set of mapping rules. These rules map line styles (cut, crease, bleed), layer names and color numbers onto ArtiosCAD line types. These sets of mapping rules can be created in Esko PackEdge or Plato. Learn more in [their user documentation](#), more specifically in their section on placing files (PackEdge) or on importing CAD data (Plato).
- The **CAD Style** changes the appearance of the (imported) ArtiosCAD type lines.

Note: This CAD Style is only applied on lines from the design (ARD) that was stepped in the layout file (MFG). Lines manually drawn next to the placed designs (the so called "objects at layout level") will always be ignored by the task.

The styles you can select here were also created in PackEdge or Plato. Learn more in [their user documentation](#), more specifically in the section on placing ArtiosCAD files, and the option for "CAD Style".

- **Include CAD info for Digital Flexo Suite:**

If you are using the Esko [Digital Flexo Suite](#) (DFS), select this option to add the technical inks data into the header of the output file (this is usually the cut and crease lines). This data is then visible in the Esko Bitmap Viewer and also embedded in the LEN files created by an Esko RIP.

The DFS can export this information into ACM files for an Esko Kongsberg cutting table. In Esko PlatePatcher workflows, this information can be used to print onto the plastic sheet where the pieces of flexo plate are re-assembled. These technical lines can also represent text that is then added onto the (back of the) flexo plates, using a pen on the Kongsberg table.



Attention: This option is disabled when you choose the output format (native) **PDF**.

99.3. Tab 'Sheet'

- **Sheet Size:** If you want to use a custom sheet size instead of the sheet size defined in the JDF file, then select **Set custom sheet size** and enter its dimensions.
- **CAD Layout Position:** The position on the sheet of the bounding box of all cut lines in the CAD layout in the JDF.

If you want to use a different position than the one defined in the JDF file, then select **Set custom position**.

Note: Take into account the point of **Origin** from which the repetition will be built. This is defined in the JDF and is always bottom left.

- **Position on Sheet:** click or drag the inner blue rectangle (the bounding box of the CAD Layout) in a position versus the outer grey rectangle (the sheet).
- **Offset:** Define by how much the CAD Layout should be offset from the sheet corner, horizontally and vertically.

99.4. Tab 'Plate'

- **Plate Size :** Select **Set custom plate size** when the plate size needs to be different than the sheet size. Then enter your custom plate size below (and possibly also the sheet position and offset).
- If you want, enter horizontal and/or vertical **Shrink** values (in percentage) to compensate for printing distortion (especially in Flexo).
The default value is 100, both horizontally and vertically, which means no distortion compensation. Learn more about when and how they are applied in the topic 'shrink' [on this page](#).
- Define the **Sheet Position** by clicking or dragging the sheet (inner rectangle) to its position versus the plate (outer rectangle).

- **Offset:** When enabled, add a H and/or V offset of the sheet versus the plate.

Note: Take into account the point of **Origin**  from which the repetition will be built. This is defined in the JDF and is always bottom left.

100. Import JDF Stripping

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

101. Import Substrate Sizes from XML

This task is documented in the separate chapter [Gang Run Printing for Sign & Display](#). Find a direct link [here](#).

102. Import Order Material from XML

Concept

Note: 'Order Material' is a term first used in AE's browser client, the one used in the QuickStart deployment. An order material is the substrate that is mentioned on the order ; it is what needs to be used to print on or produce with. The name this material has on the order is typically the term that is used in the MIS/ERP, which is probably also the one that your customer uses when placing this order.

This task allows to use an XML file to import **Order Materials** into the Automation Engine database. When the material already exists (in the Automation Engine Order Materials database), it will update its properties.

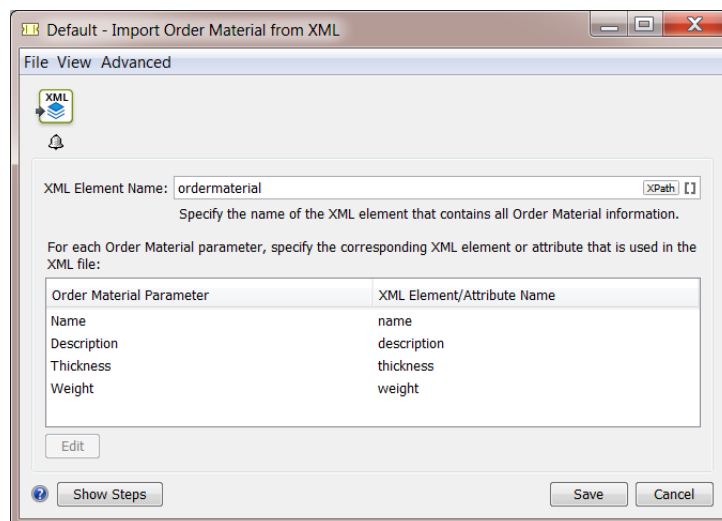
These materials can then be used in the [Add to Products task](#).

This XML file typically comes from a business system: the MIS/ERP that also manages the stock of printing material.

Note: This task can not delete an order material. You need to do this manually in the [Order Materials view](#).

Usage

The task panel serves to map the language in the XML to the required terms in Automation Engine. The result will appear in the view .



- **XML Element Name:** You first need to specify the name of the XML element that contains the specification of an order material. You can specify it by any combination of a fixed value and a SmartName, by an XPath expression or by a public parameter.

Note: When you import an order material with the same name as one that already exists, it will be overwritten.

- **XML Element/Attribute Name:** This name of the XML element or attribute is used to update an **Order Material Parameter**. You can specify it by any combination of a fixed value and a SmartName, or by an XPath expression (then relative to the above specified **XML Element Name**).

When the name of the XML element or attribute ...

- is empty, the order material parameter is not modified.
 - is an *XPath expression* (starts with `xpath:`), the order material parameter is updated with the result of the XPath expression. When the XPath expression does not select any XML element or attribute, the order material parameter is not updated.
 - is not an XPath expression, the task searches for a direct child element with a matching local name. If not found, the task searches for the attribute with a matching name. If not found, the order material parameter is not modified.
- Click **Edit** to map any of these parameters:

Table: Data Type of Parameters

| Order Material Parameter | Data Type |
|--------------------------|----------------|
| description | string |
| name | string |
| thickness | number in mm |
| weight | number in gram |

103. Inspect Artwork

This task is documented in the separate chapter [Quality Control tools](#). Find a direct link [here](#).

104. Inspect Barcodes

This task is documented in the separate chapter [Quality Control tools](#). Find a direct link [here](#).

105. Inspect Braille

This task is documented in the separate chapter [Quality Control tools](#). Find a direct link [here](#).

106. Inspect Spelling

This task is documented in the separate chapter [Quality Control tools](#). Find a direct link [here](#).

107. Inspect Text

This task is documented in the separate chapter [Quality Control tools](#). Find a direct link [here](#).

108. Integrate via External Hot Folder

This task allows to integrate external (prepress) applications into your workflow. The only requirement is that the external application works with **hot folders**.

1. In the ticket, you define the location of the **hot folder** used by the external application, as well as the **Result** subfolders in which the external application will output processed files (the **OK Folder**), failed files (**Error Folder**) or files that resulted in warnings (**Warnings Folder**).



Attention: You need to define a different folder for each output state. This can not be the same folder.

2. When you select a file and launch this task, the task first copies the file to the **external hot folder**.
3. The external application picks up the files in its **hot folder** and processes them. The processed files are saved in the subfolder that matches the processing result: **OK**, **Warning** or **Error**.
4. Automation Engine monitors the **OK**, **Warning** and **Error** folders for any files that have been processed.

Important: As mentioned above, these have to be three different folders.

5. When Automation Engine detects a file in the **OK** folder, it copies it to the **Output** folder defined in this ticket. Depending on your settings, **Error** or **Warning** files might also be copied into the **Output** folder, or they might be deleted.

The screenshot shows the configuration window for an 'External Hot Folder' task. It is divided into several sections:

- Output:** 'Output in:' is set to '[Job URL]/Processed' and 'File Name:' is '[File]_Processed'.
- Hot (External):** 'Folder:' is 'file://MyServer/AdobeMagic_HotFolder/Input' and 'File Name:' is '[File]'.
- Result:**
 - 'OK Folder:' is 'file://MyServer/AdobeMagic_HotFolder/Success' and 'OK File Name:' is '[File]'.
 - 'Use warning output' is unchecked.
 - 'Warning Folder:' and 'Warning File Name:' are empty.
 - 'Use error output' is checked.
 - 'Error Folder:' is 'file://MyServer/AdobeMagic_HotFolder/Error' and 'Error File Name:' is '[File]_Error'.
 - 'Error Files:' has 'Delete error files' selected.
 - 'Error when no result after' is set to '1 hour'.

In the **Error** area of the ticket, you can define an amount of time after which the external processing should automatically be considered as **failed**. To do this, enable the option "**Error when no result after**" and select a time period.

109. Interact using JDF

This task is documented in the chapter [Integrating with External Systems](#). Find a direct link [here](#).

110. Interact using JMF

This task is documented in the chapter [Integrating with External Systems](#). Find a direct link [here](#).

111. Integrate with WebCenter

This task is documented in the chapter [Integrating with WebCenter](#). Find a direct link [here](#).

112. Interact with Database

This task is documented in the chapter [Integrating with External Systems](#). Find a direct link [here](#).

113. Interact with SAP

This task is mentioned in the chapter *Integrating with External Systems*. Find a direct link [here](#).

114. Interact with Web Service

This task is documented in the chapter **Integrating with External Systems**. Find a direct link [here](#).

115. Join

This Workflow Control is documented in the chapter "Workflows". See [Fork and Join](#).

116. Join XML Files

This task is documented in the chapter **Integrating with External Systems**. Find a direct link [here](#).

117. Link Product To Job

This task is documented in the chapter [Products](#). Find a direct link [here](#).

118. Load Structural File

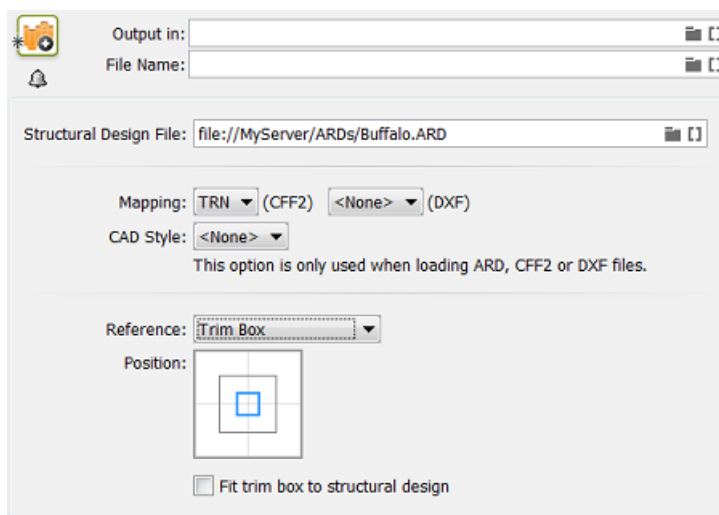
Concept

This task loads a structural design file into a graphics file.

The structural file is loaded in a dedicated new layer named `Structure_[name of structural file]`. The structural file is put in a technical ink (as defined in the **CAD Style**, see below).

Tip: The output file can be used as an input file for the [Export to 3D](#) task.

Note: When the input file is a normalized PDF that already contains a structural file (one that was loaded in Esko PackEdge, ArtPro, DeskPack or by an Automation Engine task), then the task ends with an error.



Supported Types of Structural Design Files

This task can load these types of structural files:

- CAD files: **ARD, CF2, DXF** files. For CF2 or DXF files, you have to indicate a **Mapping** file to map their file attributes onto ArtiosCAD-like line types (to become cut, crease or bleed lines or to be ignored). The **CAD Style** file is needed to define their appearance, for example the color they get. Mappings and CAD styles can be defined in Esko editors.
- Collada files: **DAE, ZAE** file. These files need to have a **printable area**. When the file has multiple printable areas, the area that matches the size of the selected page box gets selected. When the file has no or multiple matching printable areas are found, the task ends with an error.
- Esko Flexible file: **BAG** file. This file type was created before ZAE was supported.

Important: The structural file is not rotated.

Positioning

- **Reference:** The structural object will be positioned in relation to the selected page box (**Media, Crop, Trim, Bleed, Art Box**).

Note: The task ends with a warning when the dimensions (bounding box) of the structural file do not match the size of the selected page box.

- **Position:** Additionally, you can use the align tool for more specific 9-point-positioning. The smaller square in the graphic represents the selected type of Box.
- **Fit trim box to the structural design:** Optionally, you can fit the trim box to the structural design.

Note: When you select this, the margins will keep their original size (i.e. the media box will change).

Note: All page boxes, except the Media Box, are placed relative to the top left of the Trim Box. The Media Box is defined as a margin around the Trim Box (top - bottom - left - right).

119. Manage Color

With this task, you can:

- convert a CMYK file to another CMYK profile,
- re-separate a CMYK file so that it contains less CMY and more K, while keeping the image looking the same,
- both convert and re-separate your CMYK file.

This task takes PDF and Normalized PDF files as input. When working with regular PDFs, it will automatically normalize them using the **Normalize ticket** set in the **Configure** tool (see [Processing Preferences](#)).

119.1. Converting to another CMYK Profile

You can convert a file to another CMYK profile if for example you want to print it on a different substrate, on a different press, or even with a different printing process (offset, digital printing...).

In **Actions**, select **Convert color space** to convert your input file to another CMYK profile. This displays extra parameters below it.

1. Select the profiles to use when converting your input file.

You can choose either:

- individual source and destination profiles (this is the default option). In this case:
 1. In **Use**, select **Source and Destination Profiles**.
 2. In **Source CMYK Profile**, select the source profile to use for the conversion in case you are not using your input file's profile.

This can be an Esko or an ICC profile and you can use a SmartName (resolving to the full profile name) to set it. By default this is `ISOcoated_v2_eci.icc`.

3. If your input file has a CMYK profile and you want to use it for the conversion, select **Use document profile if available**.

When processing a file without a profile, the task will use the **Source CMYK Profile** you selected.

4. Choose what **Destination CMYK Profile** to convert your file to.

This can be an Esko or an ICC profile and you can use a SmartName (resolving to the full profile name) to set it. By default this is `ISOcoated_v2_eci.icc`.

- an ICC device link (which contains a source and a destination profile). In this case:

1. In **Use**, select **ICC Device Link**.
2. Select the **ICC Device Link** to use.

You can browse to it, enter its full name including the `.icc` extension, or use a SmartName resolving to its full name.

Note:

- You can create ICC device links in 3rd-party applications (for example ColorLogic or Alwan).
- When using an ICC device link, you cannot use certain color management options (See 'black point compensation' (point 3) and 'keeping colors pure' (point 4)).

2. Choose the **Rendering Intent to use when converting the colors.**

A **Rendering Intent** is a part of the color strategy that handles the conversion of out-of-gamut spot colors and of the background color.

Each rendering intent does this in a different way, so you should choose the one that is more adapted to the way you are printing and the result you want to achieve:

- Use the **Relative Colorimetric** rendering intent if you don't want to simulate the source background (the point that has 0% of all inks in the source profile).

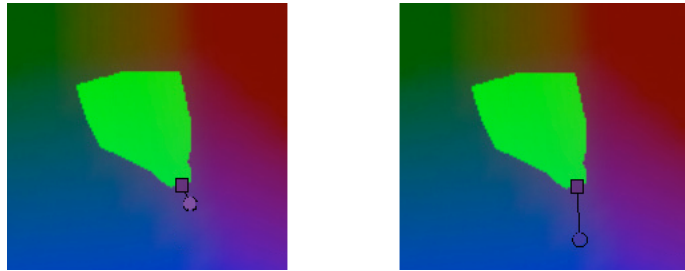
This will proof your file as if the proofer substrate was exactly the same as the substrate defined in your source profile.

For example: your press prints on cream colored card stock whereas your proofer prints on bright white paper, but you don't want to simulate the cream background on your proof.



With this rendering intent, colors from the source profile that cannot be reproduced by the proofer will be converted to the closest color(s) the proofer can reproduce.

In some cases several colors will be converted to the same color, which means that you can sometime lose some detail, especially in dark saturated areas and the dark parts of gradations.



Note that typically the proofer profile has a bigger gamut than the press profile, so there are not many colors that the proofer cannot reproduce.

- Use the **Absolute Colorimetric** rendering intent if you want to simulate the source background to get as exact a color match as possible.

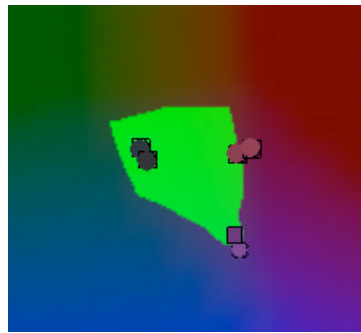
For example: you do want to simulate the cream colored card stock used on your press on your proofer substrate, to see how the final output will look like (this doesn't only affect the white but all the colors in your file).



As with the Relative Colorimetric rendering intent, colors from the source profile that cannot be reproduced by the proofer will be converted to the closest color(s) the proofer can reproduce, meaning you can sometime lose some detail, although there are typically not many press colors that a proofer cannot reproduce.

- Use the **Perceptual** rendering intent if you are not trying to get an exact color match but want the proof to look visually pleasing.

If there are colors from the source profile that cannot be reproduced by the proofer, this will shrink the source gamut to fit inside the gamut of the proofer, so that all colors are converted (even the colors already in the proofer's gamut), but the relationship between colors is kept.



This means that colors won't be really accurate, but you won't lose detail in dark saturated areas or gradations.

This rendering intent is most commonly used in commercial printing (for newspapers, magazines, posters...).

- Use the **Saturation** rendering intent if you mostly want to make sure the colors on your proof are saturated enough.

Colors from the source profile that cannot be reproduced by the proofer will be mapped onto close saturated colors that are in the proofer's gamut.

This rendering intent is most commonly used for business presentations containing graphics, or cartoons/comics.



Note:

- If you are working with Esko source and destination profiles, you can use the **Absolute Colorimetric** or **Relative Colorimetric** rendering intent.
- If you are working with ICC source and destination profiles, you can use any rendering intent.

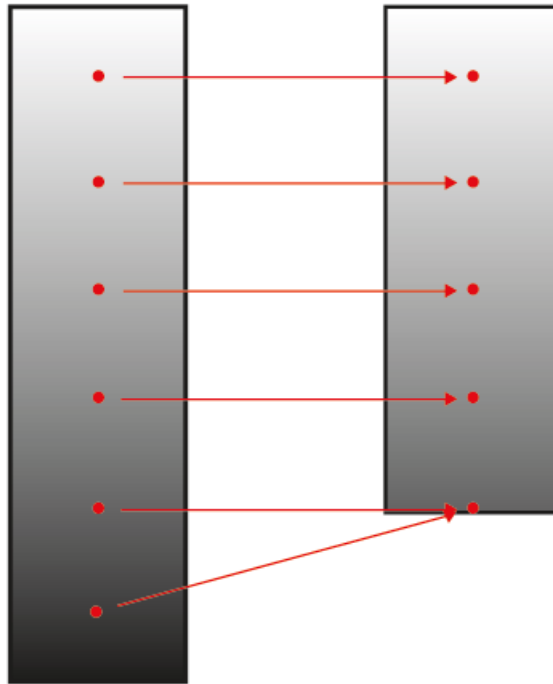
You can also set the rendering intent with a SmartName, resolving to 2 (for **Perceptual**), 3 (for **Relative Colorimetric**), 4 (for **Saturation**) or 5 (for **Absolute Colorimetric**).

3. If you cannot reproduce the same range of black on output, select **Use black point compensation** to avoid losing some detail in the shadow areas.

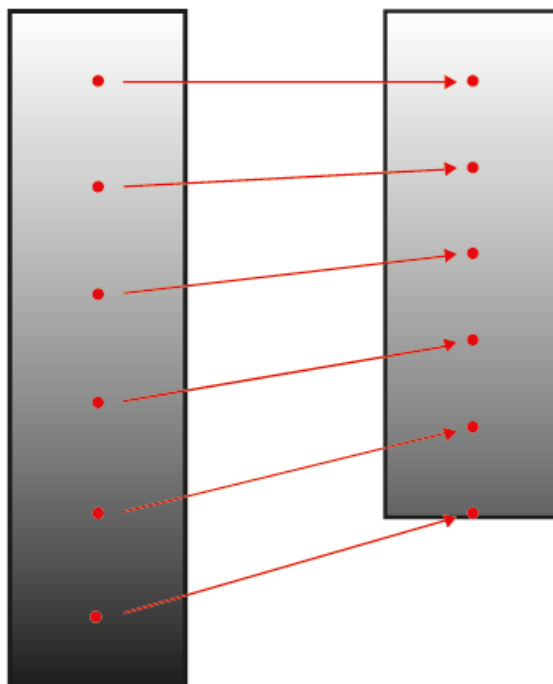
This can be the case for example if you originally printed a job on coated paper, but now need to print it on uncoated (as the uncoated paper will absorb more of the ink and give less of a sharp, saturated result).

| | |
|---|---|
|  |  |
| Coated | Uncoated |

Without black point compensation, some of the details in the darkest areas can get lost.



Black point compensation shrinks the whole black range proportionally, so that both the shadows details and the relationships between different tints of black are kept.



4. If you want to keep certain colors pure after conversion, click **Keep Colors Pure...** and select **Yes** for the colors you want to keep pure (or use a SmartName resolving to `YES`).

Keeping a color pure means that the conversion will not use other inks to reproduce that color.

So for example a 100% yellow object will be converted to the percentage of the output yellow that gives the closest color on print, but will never be made of 97% yellow and 3% magenta.

This helps you avoid unwanted printing effects, like having small dark dots in an otherwise smooth color patch (also called "contamination").



Removing those small dots increases the color difference slightly but avoids graininess on print.

You can choose to keep primary colors (**Cyan, Magenta, Yellow**) and/or secondary colors (**Red, Green, Blue**) pure. Secondary colors are made of a combination of primary colors (for example green is a combination of cyan and yellow).

You may want to keep certain colors pure and not others depending on the results you get with your particular job or press.

- When you keep a primary color pure, all tints of that color are kept pure (so an object that is 50% yellow will stay only yellow). Objects that are already multicolor (for example 50% yellow + 15% magenta) will be converted as usual.
- When you keep a secondary color pure, all tints made of equal amounts of primary colors are kept pure (so for example 50% cyan + 50% yellow is kept pure, but 50% cyan + 60% yellow is not).

By default, the primary colors are kept pure.

Note: When using the **Absolute Colorimetric** rendering intent, the colors are not kept pure in the very light colors, in order not to interfere with background simulation.

5. Select what objects in your file you want to convert in **Apply on**. This can be either:

- **Images and Linework,**
- **Linework only,**
- **Images only.**

You can also set this with a SmartName, resolving to `images_and_linework`, `linework_only` or `images_only` (SmartNames are case insensitive).

6. Select **Keep registration color (400%)** if you use marks in your file and if you don't want them to be converted to the new profile (you want them to stay 100% of each CMYK color).
7. Select **Flatten document** if you are experiencing unexpected results in color conversions (if after conversion the color of some blend modes or other objects on top of each other looks different).



Attention: We recommend you only use this in case of conversion problems, as it will remove any transparencies in your file.

Note: Flattening your file turns vignettes into images. This means that:

- If you selected **Flatten document**, vignettes will be color converted when you chose to convert **Images and Linework** or **Images only**.
- If you didn't, they will be converted when you chose to convert **Images and Linework** or **Linework only**.

119.2. Reseparating your CMYK File

Reseparating a file is replacing some amount of Cyan, Magenta and Yellow in the file (that would give grey) by a certain amount of Black, giving the same grey color.

Objects that are only Cyan, Magenta or Yellow (or only two of these colors) are kept as they are.

This can help you save on CMY inks, have a more stable output (less risks of color casts in neutral areas) or have more detail in the shadow areas.

In **Actions**, select **Reseparate** to reseparate a CMYK file so that it contains less CMY and more K, while keeping the image looking the same.

This displays extra parameters below it.

1. Choose the profile to use when reseparating your input file:
 - a) In **CMYK Profile**, select the profile to use in case you are not using your input file's profile.

This can be an Esko or an ICC profile and you can use a SmartName (resolving to the full profile name) to set it. By default this is `ISOcoated_v2_eci.icc`.
 - b) If your input file has a CMYK profile and you want to use it for reseparating, select **Use document profile if available**.

When processing a file without a profile, the task will use the **CMYK Profile** you selected.
2. Select what type of reseparation you want to do in **Purpose**:
 - **Ink Saving** replaces as much CMY as possible by Black.

This is a good choice if you want to save on CMY inks.
 - **GCR** (Gray Component Replacement) replaces CMY by Black in the grey and the saturated areas.

This is a good choice if you want to avoid color casts in the grey areas, and to avoid having too much ink in the dark saturated areas, which could cause problems with the substrate.

This is selected by default.
 - **UCR** (Under-Color Removal) only replaces CMY by Black in the dark neutral areas.

This is a good choice if you want to avoid color casts in the grey areas, and to have more detail in the shadow areas.

In the example below, you can see the results of applying ink saving on your file. The first row shows the original file, and the second row shows the file after applying ink saving.



1. Original file, CMYK separations
2. Original file, CMY separations
3. Original file, K separation
4. File after ink saving, CMYK separations
5. File after ink saving, CMY separations
6. File after ink saving, K separation

You can see that after ink saving, the file contains a lot less CMY and a lot more K.

You can also set type of reparation to do with a SmartName, resolving to `ink_saving`, `GCR` or `UCR` (SmartNames are case insensitive).

3. In **Range**, choose how much of the CMY inks that can be replaced by Black you want to actually replace.

This depends on the **Purpose** you chose:

- For **Ink Saving**, this is how much CMY inks in **all areas** of the file you want to replace.
- For **GCR**, this is how much CMY inks in the **grey and saturated areas** of the file you want to replace.
- For **UCR**, this is how much CMY inks in the **grey areas** of the file you want to replace.

Note: You can set all percentage values in this task with SmartNames.

4. In **Total Ink**, select the maximum amount of ink (CMYK) that you want to print.

If you don't limit the amount of ink, you can get a maximum of 400% (100% Cyan + 100% Magenta + 100% Yellow + 100% Black), which tends to cause problems on most substrates (slow drying, web growth, or even a risk of tearing).

Additionally, limiting the maximum amount of ink used can make printing jobs less expensive.

The maximum percentage of ink you should use depends on your printing process and substrate. For example for newsprint, you may only want to have a maximum of 240%, while you may be able to use 280 to 320% on a glossy substrate.

The default **Total Ink** percentage set in the task is 310%.

5. Define the minimum and maximum amount of Black that you want to have in your output file:
 - a) In **Start K**, define from which (minimum) final Black value you want to start reseparatoring.

If replacing CMY by Black in a certain color gives a Black percentage lower than this, the CMY won't be replaced.

This is to avoid having really small Black dots, which can be prone to high dot gain, making them less stable than the equivalent CMY dots.

- b) In **Max K**, define until which (maximum) final Black value you want to start reseparatoring.

If replacing CMY by Black in a certain color gives a Black percentage higher than this, the CMY won't be replaced.

This is to avoid having too dark shadows and losing detail.

6. Select what objects in your file you want to reparate in **Apply on**. This can be either:

- **Images and Linework,**
- **Linework only,**
- **Images only.**

You can also set this with a SmartName, resolving to `images_and_linework`, `linework_only` or `images_only` (SmartNames are case insensitive).

7. Select **Keep registration color (400%)** if you use marks in your file and if you don't want them to be reparated (you want them to stay 100% of each CMYK color).

8. Select **Flatten document** if you are experiencing unexpected results after reseparating a file (if after reseparation the color of some blend modes or other objects on top of each other looks different).



Attention: We recommend you only use this in case of reseparation problems, as it will remove any transparencies in your file.

Note: Flattening your file turns vignettes into images. This means that:

- If you selected **Flatten document**, vignettes will be color converted when you chose to reseparate **Images and Linework** or **Images only**.
- If you didn't, they will be converted when you chose to reseparate **Images and Linework** or **Linework only**.

119.3. Converting and Reseparating your File

When converting and reseparating your file(s) at the same time, you need to:

1. Select the **Source profile**, **Destination profile** and **Rendering Intent** for the [conversion](#).

Note: In this case, you cannot use an [ICC device link](#).

2. Select what type of [reseparation](#) you want to do and set the appropriate options.
3. Select on which objects to perform **both** the conversion and the reseparation, whether to keep objects in **registration color** untouched, and whether to **Flatten** your file.



Attention:

- When using one **Manage Color** task to both convert and reseparate, the conversion will try to keep the black channel unchanged, so as not to affect the reseparation.
- When using two **Manage Color** tasks after each other, one for conversion and one for reseparation, this will not be the case, so the output will be different.

If you want to perform both conversion and reseparation on your file(s), we recommend you use one **Manage Color** task for both instead of a task for each in your workflow.

120. Manage Milestone

The **Manage Milestone** task is documented [here](#) in the chapter on *Jobs*.

121. Manage Product Status

This task is documented in the chapter on [Products](#). Find a direct link [here](#).

122. Map Data

This task is documented in the chapter **Integrating with External Systems**. Find a direct link [here](#).

123. Mark as Proof

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

124. Mark File (link)

This Workflow Control is documented in the chapter "Workflows". See [Mark File and Select Marked File](#).

125. Merge PDF Files

This task combines multiple PDF files into one single PDF.

Multiple native PDF files can be merged into a single native PDF file.

Multiple normalized PDF Files can be merged into a single normalized PDF File.

Be aware of these effects and limitations:

**Attention:**

- By default all hidden layers are made visible again.

Tip: You can remove the hidden layers before merging the PDF files by first using the [Optimize PDF](#) task and its option 'Remove Non Printable Layers'.

- All pages of all incoming PDF files are added in the same order as the inputs of the task. To control the order of the files, use the Workflow Control [Sort](#).
- Normalized and native PDF files cannot be mixed together.
- The page sizes of the normalized PDF files must be the same.
- The output PDF will only be normalized if all the input files are normalized files and have the same media and trim boxes. In case there is a mismatch in size, the task will fail.
- For normalized PDF files, the XMP information of the first file will be copied into the resulting PDF file. Then it will be updated with information from the other normalized PDF files.

126. Modify Workflow Parameter Values

This Workflow Control is documented in the chapter "Workflows". See [Modify Workflow Parameter Values](#).

127. Move Job to Inactive Jobs

This task relates to near-line storage for AE SaaS customers.

Learn more in the chapter [AE SaaS: When your AE is in a Data Center](#), in the section about [Inactive Jobs](#), on the page [Task 'Move Job to Inactive Jobs'](#).

128. Move Inactive Job to Jobs

This task relates to near-line storage for AE SaaS customers.

Learn more in the chapter [AE SaaS: When your AE is in a Data Center](#), in the section about [Inactive Jobs](#), on the page [Task 'Move Inactive Job to Jobs'](#).

129. Normalize PDF File

Note: Learn about the concept of 'Normalization' in [Normalized PDF and XMP in Automation Engine](#).

129.1. Colors

You here define how (non-process) colors will be converted during Normalization.

Note: The conversion uses the technology from Esko's **Color Engine**.

Objects With Profile Tags: Choose how to convert non process color images that have an embedded ICC profile:

- **Ignore Tag:** To use the **Default RGB Profile** or **Default Gray Profile** (that you define below) to convert the RGB or gray images. This disregards the images' own profiles.
- **Convert Using Profile Tag:** To use the images' own profiles to convert them to CMYK.
- **Rendering intent**
 - **Relative (no background):** Choose this if you do not want any background simulation. The white point of the source will be mapped on the white point of the destination process. This rendering intent takes into account the ability of the human eye to adapt to the surrounding white.
 - **Absolute (background):** Choose this if you want background simulation and you want an exact color match, including the paper simulation.
 - **Perceptual:** This will result in no background simulation (white of reference color space is mapped on white of destination color space). Choose this when you don't care too much about an exact color match but when want the pictures at least to look nice on your proofer. It will give a visually pleasing result. If the gamut of the source is wider than the proofer, the entire gamut is shrunk so that it fits inside the gamut of the proofer.
 - **Saturation:** Choose this if you care especially about saturated colors. This rendering intent will map saturated colors on saturated colors.

Default CMYK Profile: Select the default profile to use for CMYK objects without an embedded color profile. It will be used as a source profile for color-space conversions.

You can choose any CMYK profile in the Color Engine database.

Default RGB Profile: Select the default profile to use for RGB objects without an embedded color profile. It will be used as a source profile for color-space conversions.

You can choose any RGB profile in the Color Engine database.

Default Gray Profile: Select the default profile to use for gray objects without an embedded color profile. It will be used as a source profile for color-space conversions.

You can choose:

- any gray profile in the Color Engine database

- **Convert to Black Channel**, if you want your grayscale object to only have a value in the Black separation when outputting it to CMYK.

Output Color Profile: Enter the color-space of the output device (for example proofer or press).

You can choose any CMYK profile in the Color Engine database.

129.2. Separations

You here define the ink attributes.

Note: The settings in this tab only affect the Normalized PDF output file. They are ignored again if the file is later output as a native PDF.

- **Use ink attributes from file if available:** If the input file contains rulings, angles and dot gain compensation, select this option to use these attributes. Other settings in this tab will be overruled. This option is relevant when you normalize PDF files that were exported from earlier normalized files.

- Choose your **Preferred Ink Book**. When you type an ink name in the table, the task will first look up its color information (CMYK, RGB, or LAB values) or the ink type (Technical, Varnish, Opaque...) directly in the PDF. If it cannot find it there, it will look it up the **Preferred Ink Book** that you define here.


For example, if you type 154 as ink name, and your preferred ink book is `Pantone Colors Uncoated`, the task will automatically suggest the `PANTONE 154 Uncoated` ink.

- In the Inks panel, click an (empty) item in any column to change or add or select a new value.
- The **Ink Book** column shows the first ink book containing this ink (or your **Preferred Ink Book** if it contains the ink). To select another ink book, click the name of the ink book.
- If the **Ruling**, **Angle** and **Dot Shape** information are defined for this ink, they will be shown automatically. If they aren't, you can enter them manually.

Note: You can also specify **Default Values** to use **when a ruling, angle or dotshape is not specified** (in the file or in the above panel).

Default values, used when a ruling, angle or dotshape is not specified:

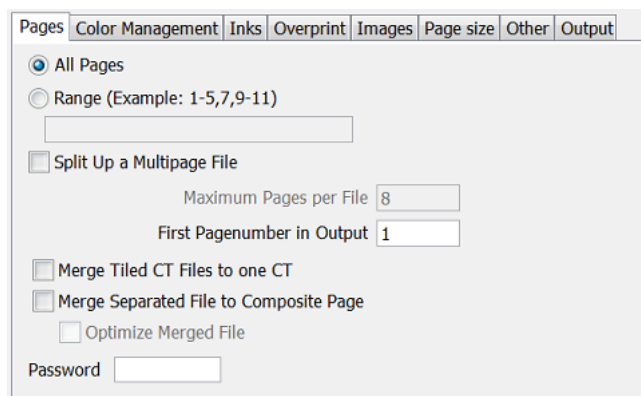
Ruling: lpi Angle: ° Dotshape:

 If there are inks specified in the list, but no default values are set, factory settings will be used for ruling (120 lpi) and angle (45°).

- If the **Ink Type** shown is not correct, click it to change it.
- Do the same for any remaining inks you want to define.
- If you want, you can change the ink order using the **Move Up** and **Move Down** buttons.

130. Normalize PostScript / PDF / Illustrator 8.0 File

130.1. Pages



Page selection

Define which pages you want to keep in your output PDF file. Select **All Pages** or specify a **Range**.

Split Up a Multi-Page File

Select this to split the multi-page input file into multiple output files.

- **Maximum Pages per File:** Define the amount of pages you want in each output PDF file. The last output file can have less pages than this value. Each output file is saved with a numbered suffix (*_001, *_002, *_0001_001...) or it gets the Output Name.
- **First Page number in Output**

You can here define the "label" of the first page in the output. For example: when you normalize a 4 page document, and set '3' in this field, the pages will be labeled 3-4-5-6.

Merged Tiled CT Files to one CT

Some ArtPro files include tiled CT images. Large size graphics can so contain thousands of these small CTs.

Select this toggle to merge these tiles back into one CT. This so improves the editability and processing of the output file.

This option has no effect when you import a file that has no tiled CTs.

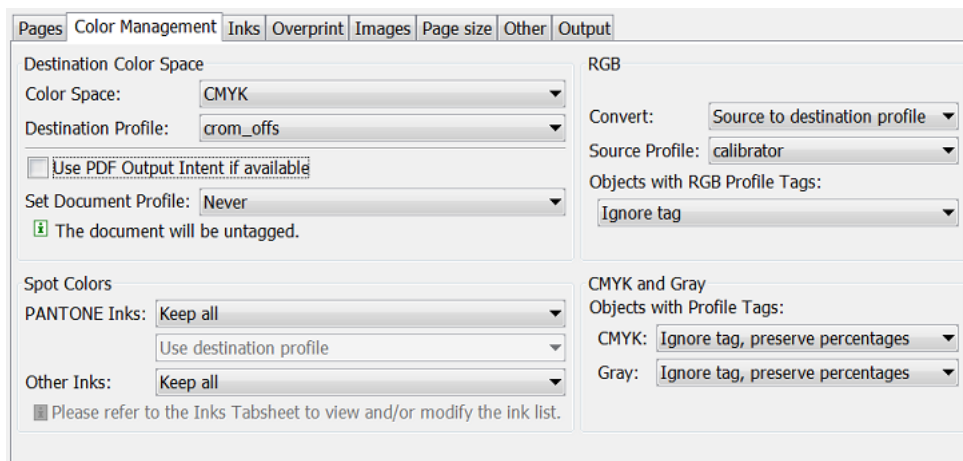
Merge Separated File to Composite Page

This option merges separated PostScript or PDF files (single- or multi-page) to a composite PDF file.

- **Optimize Merged File.** Use this option when you need to edit the resulting file.

- **Password:** When normalizing password protected PDF files, enter its password here.

130.2. Color Management



130.2.1. Destination Color Space

You here define the color space of the output file.

- **Color Space:** Choose CMYK or Grayscale.
- **Destination Profile:** Choose a color profile. Only CMYK and Grayscale profiles are supported. Choose between standard ICC profiles and Esko profiles made in Color Engine Pilot.
- **Use PDF Output Intent if available:** In some PDF files, the 'PDF Output Intent' is defined, this is the intended output color space. For example PDF/X-3.

If you want to use the color space as defined in this 'Output Intent', select this option. If you selected it for a file without PDF 'Output Intent', the chosen **Destination Profile** will be used.

- **Set Document Profile:** A Document Profile is the color space of the process inks used in the document.
 - **Always:** You can 'tag' a Normalized PDF file with its Document Profile. This means that the file knows what its Document Profile is, which can make color conversion further in the workflow more correct.

If you selected '**Use PDF Output Intent if available**', the Document Profile will be the same as the PDF Output intent (if the imported file had one).

- **From PDF File:** (available when '**Use PDF Output Intent**' is selected). The Document Profile is taken from the PDF file, if there is an output intent defined in the PDF file. If there is no Output Intent defined in the PDF file, then the Document Profile is not set (untagged).
- **Never:** The Document Profile is not set.

130.2.2. Spot Colors

- **PANTONE Inks**
 - **Keep all:** No PANTONE inks will be converted to process inks.
 - **Convert all:** All PANTONE inks will be converted to process inks.
 - **Keep list:** All PANTONE inks will be converted except for those listed in the tab [Inks](#).

Method

- **Use destination profile:** PANTONE and Designer inks will be converted using the selected Destination Profile. This gives the most accurate color reproduction.
- **Pantone+ Color Bridge Coated:** Pantone inks will be converted to process inks according to a fixed conversion table provided by PANTONE. The result is independent of the selected Destination Profile.
- **Other Inks**
 - **Keep all:** No other spot color inks will be converted to process inks.
 - **Convert all:** All other spot color inks will be converted to process inks.
 - **Keep list:** All other spot color inks will be converted except those listed in the Inks tab.

130.2.3. RGB

RGB will always be converted to process inks.

- **Convert:** Select a conversion method:
 - **Source to destination profile:** You here need to specify both the Source Profile (RGB) and the Destination Profile (CMYK or Grayscale).
 - **With link profile:** You here need to specify a 'Device Link Profile' created in Color Engine Pilot. This link profile determines both the Source and Destination profiles.
- **Source Profile / Link Profile:** Select one from the list.
- **Objects with RGB Profile Tags:** RGB objects in a PostScript or PDF file may be tagged with a Color Profile.
 - **Ignore tag:** The embedded Color Profile will be ignored. The Source / Link Profile defined above will be used for the conversion of RGB objects.
 - **Convert using profile tag:** The Color Profile is used as a Source Profile (overruling the Source / Link Profile selected above).

130.2.4. CMYK and Gray

Objects in a PostScript or PDF file may be tagged with a Color Profile. The color percentages of untagged objects will always be preserved.

Both for **CMYK** and **Gray** tagged objects, you have a choice:

- **Ignore tags, preserve percentages:** The Color Profile tag will be ignored, the percentages will be those of the object's color.
- **Convert, preserve appearance:** The objects' color profile will be taken into account. This means that their color values will change.

130.3. Inks

The screenshot shows the 'Inks' tab in the Automation Engine software. It contains several checkboxes and dropdown menus for configuring ink settings. A table lists the ink settings for Cyan, Magenta, Yellow, and Black. Below the table, there are input fields for default values for ruling, angle, and dotshape.

| Ink Name | Ink Book | Ruling | Angle | Dot Shape | Ink Type | Printing ... |
|---|----------|---------|-------|-----------|----------|--------------|
| <input checked="" type="checkbox"/> Cyan | process | 150 lpi | 15 ° | | Normal | |
| <input checked="" type="checkbox"/> Magenta | process | 150 lpi | 75 ° | | Normal | |
| <input checked="" type="checkbox"/> Yellow | process | 150 lpi | 90 ° | | Normal | |
| <input checked="" type="checkbox"/> Black | process | 150 lpi | 45 ° | | Normal | |

Default values, used when a ruling, angle or dotshape is not specified:
 Ruling: 150 lpi Angle: 45 ° Dotshape:


- **Use rulings, angles and dot gain compensation from file if available:**

When this option is selected:

- The angle, ruling and Esko dotshape are taken from the halftone specification in the PDF.
- If the PDF contains Esko XMP, the Ink Type and Printing Method are taken from this Esko XMP.

This option is mainly used for this case. PDF files containing Esko XMP are typically created by using the DeskPack plug-ins in Adobe Illustrator or by the AE task "Export to PDF File".

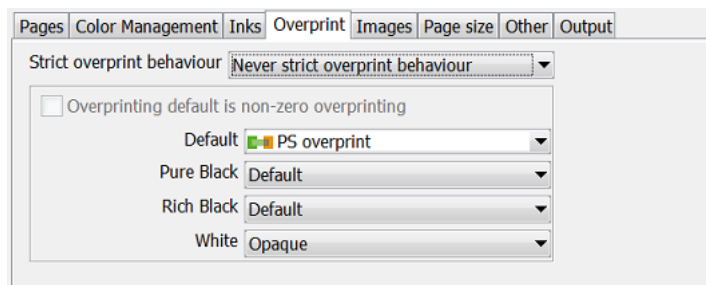
For inks that have information in the input file, the settings defined in this ink panel of the task or in the Job setup are not used.

- **Force ink settings from Job setup** : If inks were defined in your *Job setup*, you can use this toggle to make sure that this task uses those ink parameters.
- **Apply Screen Swap Table:** You can create 'screen swap' tables in the application 'ScreenFilter'. Select one to map PostScript screening to Esko screening.
- **Map PANTONE Inks to:** Select this to map all Pantone inks from the input file to a Pantone ink book of your choice. For example: to map Pantone 123 U to Pantone 123 C.

- **Use ClassicColors ink book:** When the input file has inks with names that also occur in the book 'ClassicColors' (for example "green"), select this option to map them to those in that ClassicColors book (in stead of becoming a 'designer' ink).
- **Search Custom Ink Names:** Define here the task should search for inks in its ink books when you type in an ink name in the Inks table.
 - Choose **Only in the ink book 'designer'** to search for ink names from the 'designer' ink book only.
 - Choose **First in <selected ink book> and then in 'designer'** to search in another ink book of your choice first, and only use the designer ink book if no match is found there.
- **Inks table:**
 - Double-click the fields in this table to edit them. The task will not change the inks that you here deselect.
 - **Default values, used when a ruling, angle or dotshape is not specified:** The task uses these default values when they are not specified elsewhere (for example in the PostScript file, in the Job setup, etc.).

130.4. Overprint

Note: This tab is only relevant when importing PostScript files.



- **Strict overprint behavior**

When normalizing composite files, this option controls how zero percentage inks are handled.



Attention: This option *must* be used when you want to process test files like the Altona test suite or other test suites which verify correctness of overprint behavior.

When 'Strict Overprint' is used, all zero percentage inks of a color are kept and correspondingly affect the overprint behavior. Choose from:

- **Never strict overprint behavior:** All zero percentage inks are removed.
- **Always strict overprint behavior:** The task honors the overprint parameter 100% according to the rules mentioned in the "PostScript Language Reference" (in case of PostScript / EPS / AI import) and "PDF Reference Manual" (in case of PDF import).
- **Only strict overprint behavior for PDF:** The task honors the overprint parameter 100% according to the rules mentioned in the "PDF Reference Manual" (in case of PDF).
- **Overprinting default is non-zero overprinting**

Select this option to prevent overprinted objects with zero CMYK values from knocking out CMYK objects beneath them.

- **Default:** Choose the overprint mode that the conversion needs to apply.
 - **Opaque:** Ignores any overprint in your file.
 - **Darken (Esko):** Converts all overprint to Esko Overprint.
 - **PS Overprint:** All overprint in the file is imported as PS overprint. This is the default setting.
- **Pure Black**

Define the overprint mode for objects containing 100% black only. Possible Pure Black overprint modes in the list:

 - **Default:** As it is defined in the file.
 - **Force opaque:** Forces Opaque for objects in 100% black and knocking out all underlying inks.
 - **Force PS overprint:** Forces PS overprint for objects in 100% black.
 - **Force darken (Esko):** Forces the Esko darkening mode for all objects in 100% black. The black color is so printed on top of other colors, instead of erasing the color underneath.
- **Rich Black**

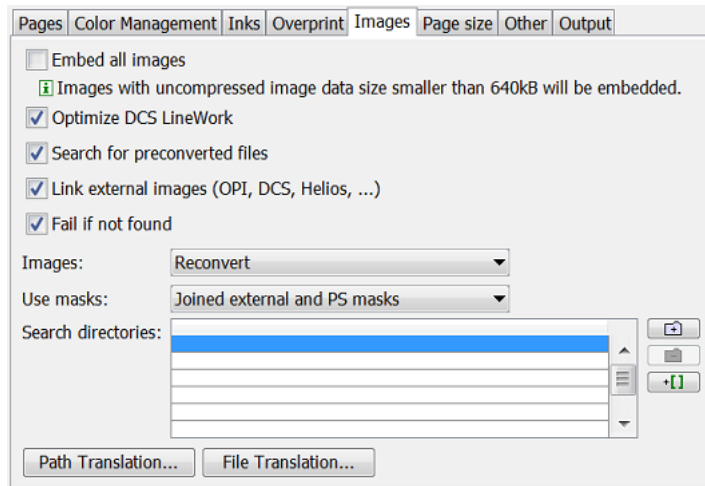
Define the paint mode for objects containing 100% black and at least one other ink.

 - **Default:** As it is defined in the file.
 - **Force opaque:** Sets the overprint mode to opaque for all objects containing 100% black and at least one other ink.
 - **Force PS overprint:** Keeps the PS overprint for objects in 100% black and at least one other ink (overprint objects stay in overprint and opaque objects stay opaque).
 - **Force darken (Esko):** Sets the Esko 'darken' overprint for all objects in 100% black and at least one other ink.
- **White**

Define how you want whites to be handled:

 - **Keep PS overprint:** Keeps the PS overprint for objects in white (overprint objects stay in overprint, opaque objects stay opaque).
 - **Opaque:** Forces all objects in white to opaque.

130.5. Images



- **Embed all images:** Select this if you want to embed all 1-bit, 8-bit and native images into the output file. When not selected, only images with uncompressed image data smaller than 640 kB will be embedded.

Note: This is the only option in this tab that is relevant when normalizing PDF files.

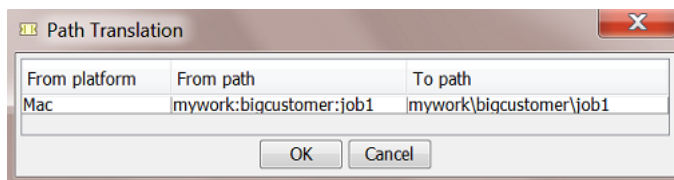
- **Optimize DCS LineWork:** When DCS linework is not optimized, the result can be difficult to edit afterwards. However it will be correct when viewed in extended preview or RIP'ed. Select this option to trigger an additional operation that combines the elements on each DCS plate to a composite and a more editable result.
- **Search for preconverted Files:** This option forces the task to look for the CT, LP or GR* equivalent for the original EPS file. If this equivalent is not found, it will use the EPS instead.
- **Link external images (OPI, DCS, Helios, ...):** This option forces the task to look for referenced images.
- **Fail if not Found:** Select this option if you do not want the task to continue when it cannot find an image. When not selected, the task will create an output file but one with missing images.
- **Images:** This option determines how images are treated when the task is run:
 - **Reconvert:** This forces the system to regenerate the images on-the-fly.
 - **Use most Recent:** This forces the system to use the existing images of a previous conversion of the same file.
- **Use masks**
 - **PS mask:** This forces the system to take the PostScript (PS) mask present in the EPF file. The mask available in the external image is discarded. If no PS mask is present in the file, no mask will be taken.
 - **External mask if any, PS mask otherwise:** This forces the system to take the mask present in the external image. The PS mask is discarded. When the external image has no mask, but there is a PS mask available in the EPF file, this PS mask will be taken.
 - **External mask if any, no mask otherwise:** This forces the system to take the mask present in the external image. The PS mask is discarded. When the external image has no mask, no mask will be taken.
 - **No masks:** The PS mask and the mask of the external image are discarded.

- **Joined external and PS mask:** This forces the system to join the available PS mask in the EPF file and the available mask in the external image.
- **Search directories:** You can here specify a list of directories where the system should look for referenced images.

Use the  'Add' and  'Remove' buttons to create this list.

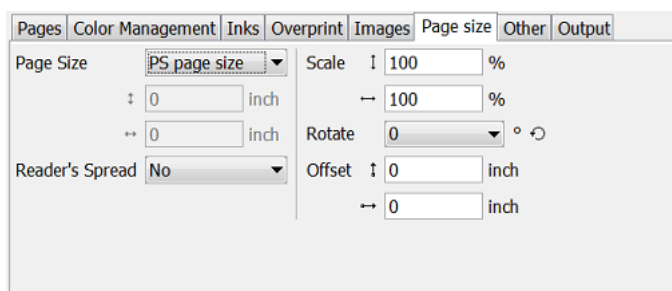
- **Path Translation...:** This option serves to create a list that helps translating network paths from one platform to another. Click the button to open a dialog and define three columns:
 - **From platform:** Click on the field to select a platform from which the files are to be retrieved: (Windows) NT, Mac, Unix or VMS.
 - **From path:** Define the syntax of the path(s) of the platform you want to retrieve files from. For example `Mywork:BigCustomer:job1`.
 - **To path:** Define the syntax of the paths so that the destination platform understands. For example `Mywork/BigCustomer/job1`.

An example: when going from Mac to Windows NT, the path translation can look like this:



- **File Translation...:** The same kind of translation can be done for file names.

130.6. Page Size

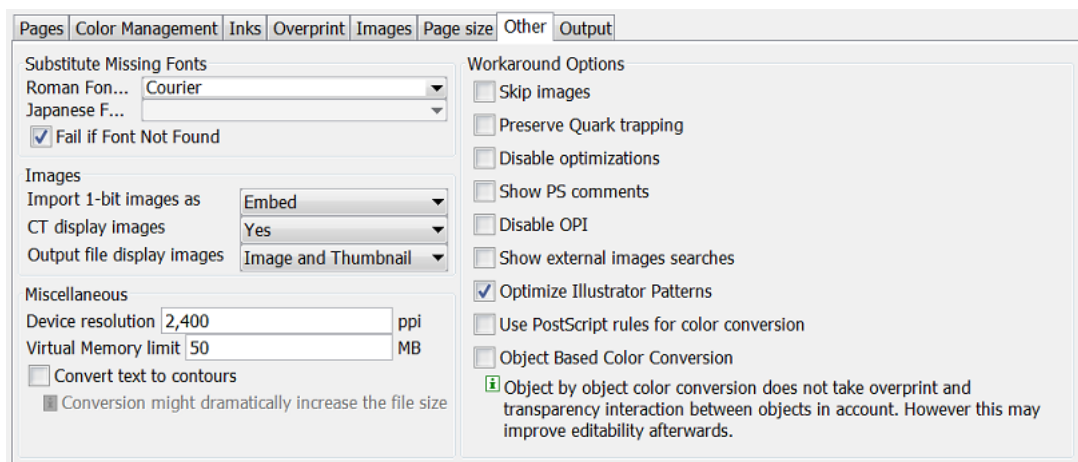


Note: The units are those defined in **Edit > Preferences > Units**.

- **Page Size:** Select the page size (Media Box) that you want for the output PDF file. Choose **'PS page size'** to keep the size of the input PostScript or PDF file.
- **Reader's Spread:** When the input file has a reader's spread format, choose from:
 - **No:** To force the reader's spread in the file into single page output.

- **Yes:** To force the file into reader's spread format. When the file contains no reader's spread info, the single pages will be set as double pages.
- **Scale:** If you want, enter a vertical and/or horizontal scale.
- **Rotate:** If you want, choose a rotation. The origin for rotation is bottom left and the available rotations are counterclockwise.
- **Offset:** These fields allow to move the content of the file in regards to the page size. The anchor point for the offsets is bottom left. A positive offset moves the content of the file up and/or to the right. A negative one moves the content of the file down and/or to the left.

130.7. Other



- **Substitute Missing Fonts**
 - **Roman Fonts by:** Choose a default replacement font for any missing Roman fonts.
 - **Japanese Fonts by:** Choose a default replacement font for any missing Japanese fonts.
 - **Fail if Font Not Found:** Select this to make the task fail when a font is not found.
- **Images**
 - **Import 1-bit images as:**
 - **Embed:** Images become internal black and white bitmaps.
 - **Linked file:** Images are imported as external referenced LP files (Esko native bitmap files).
 - **Contours:** Images are contoured during import.
 - **CT display images:** Choose **Yes** to have the task also create a display image for the generated CT files.
 - **Output file display images:** Select the type of display from the list: **None**, **Thumbnail** or **Image and Thumbnail**.
- **Miscellaneous**

- **Device resolution:** The resolution that the task uses internally during normalization.

Normally the produced output is not dependent of this internal resolution. However, in some rare cases, for example when converting RIP'ed test strips or device specific tests, it is important that this value is the same resolution as used on the RIP device that will be used to output.

- **Virtual Memory limit:** The default value is 50 Mb. The maximum you can set is 1 gigabyte (1024 Mb).
- **Convert text to contours.** Select this to convert all text to line work.

- **Workaround Options**

- **Skip images:** Select this to import the (E)PS file without linking to external images or converting embedded images.
- **Preserve Quark trapping:** Select this to force the task to keep the trapping strokes made by QuarkXpress.
- **Disable optimizations:** When not selected, the task performs a recognition of vignettes and an optimization for Photoshop multitone images (whenever possible). Disabling such optimizations was useful when an older version of the task could not yet perform the optimization of the (E)PS file that a new DTP application had exported.

- **Show PS comments:** When selected, all 'PS comments' present in the (E)PS file are mentioned in the task **Details** and in its **Log** file.

- **Disable OPI:** This option is useful when importing QuarkXpress (E)PS files that contain high resolution Tiff files for which the option 'Include tiff, omit ...' or 'Include all' was activated.

When importing such a file, and if **Link External Images** is selected, the matching of the TIFF files will surely fail. It fails because at the time the (E)PS file was generated, OPI commands were also inserted for the TIFF files. Therefore the system will try to link to images for the Tiff files. To overcome this, select this option.

- **Show external images searches:** Select this to see, in the task's log file, the path(s) where the task finds and links to external images.
- **Optimize Illustrator Patterns:** Adobe Illustrator writes patterns in a different way than PostScript does. This option normally results in less linework in the output file, which then speeds up the further processing. However, sometimes the optimization itself may take some time.
- **Use PostScript rules for color conversion:** Select this to make sure that all color management will happen using PostScript rules, instead of Esko's BGCMS. Selecting this option grays out most options in the [Color Management tab](#).
- **Object Based Color Conversion:** 'Object by object' color conversion does not take overprint and transparency interaction between objects into account, and may therefore produce undesirable results. However, it may greatly improve editability.

130.8. Output

- **Keep Layers.** Select this to keep the input file's layer information. This works for Illustrator 8 files (not v9 nor higher) and for PDF 1.5 or higher.
- **Fit Media Box (margins).** Select this to automatically fit the margins.
- **Image Directory.** When the task creates new image data, you can here indicate where these images should be written.

The default offered SmartName [Job CT URL] will create them in a 'CT' folder that is created in the root of the input file's Job Folder. Leave the field empty to have the image files written next to your output file. Or select your own (central) folder and possibly add SmartNames to that path.

131. Normalize TIFF/IT File

This old technology is still supported but no longer commercially available.

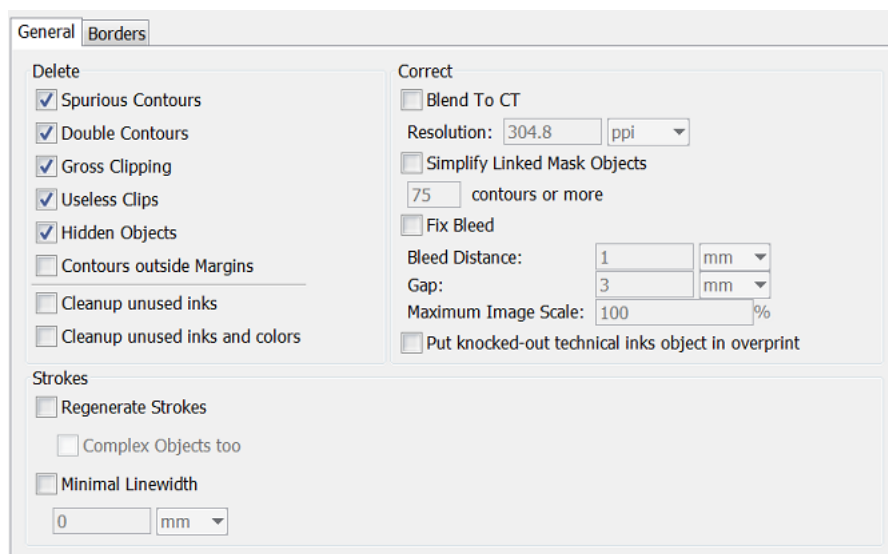
Please find its documentation in the [manual of Automation Engine 14.1 or older](#) (as part of the Reference Guide).

132. Optimize and Clean (PSFix)

PSFix is an Esko technology that optimizes and cleans files that were imported from PS or PDF files. A typical feature is the removing of redundant objects. The resulting file is easier to edit and process.

This task is typically executed right after a conversion to Normalized PDF.

132.1. General



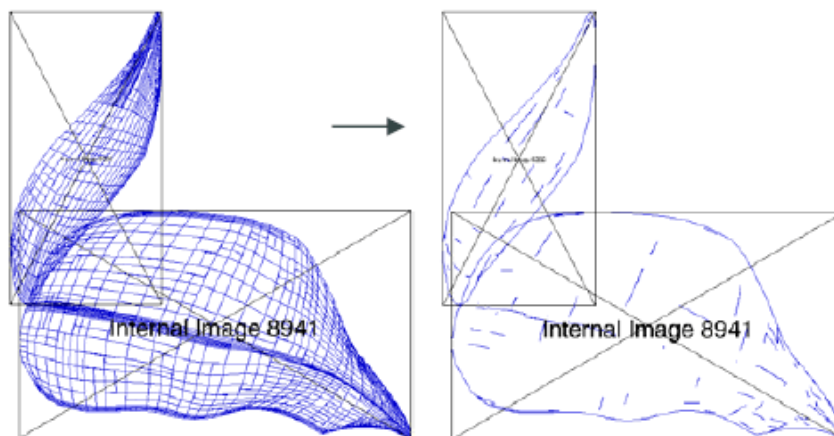
- **Delete**
 - **Spurious Contours:** These are
 - Single points that only have a fill attribute.
 - Single points that have a stroke attribute with butt or square caps.
 - Contours that contain two points and that have a mask attribute, but do not mask out any object. These contours can be created by accident or generated by PostScript printer drivers.
 - **Double Contours:** This removes double contours by recombining the fill and stroke attribute of two identical objects into one object again. Double contours are created when importing PostScript files, in which case an object with a fill and a stroke attribute is split into two objects with each one attribute.
 - **Gross Clipping:** This deletes the objects whose bounding boxes fall completely outside the bounding box of the clipping path. This also works on composed text and externally referenced objects.
 - **Useless Clips:** This deletes useless clipping paths, objects that are totally clipped away or objects that are totally covered by other objects.

- **Hidden Objects:** This deletes objects that are completely covered with another object. The designer did not want to delete them or could not delete them on a certain page, as they may have been components of a master page.
- **Contours outside margins:** This deletes contours outside the margins.
- **Clean up unused inks:** This removes all unused inks from the list of inks (separations).
- **Clean up unused inks and colors:** This removes all unused inks and also unused colors (items in the color palette of the editing application).
- **Strokes**
 - **Regenerate Strokes:** This searches objects that contain 20 points or less and converts them to the equivalent strokes.

Select '**Complex Objects too**' if you want the task to search all objects that might be degenerated strokes, so also those with more than 20 points.
 - **Minimal Linewidth:** This defines the minimal width of strokes.
- **Correct**
 - **Blend to CT:** This converts all blends to externally referenced CT images at a defined **Resolution** (1 image per blend).

In PostScript files, blends are constructed by a large amount of contours that lie close to each other and that have slightly different colors. The more accurate the blend, the more contours and colors it is made of. This leads to large file sizes and decreases the processing speed.

Note: After this conversion, the display of the blend can be different. However, the conversion does not affect the printed result.
 - **Simplify Linked Mask Objects:** This tries to reduce the number of linked contours for complex mask objects. This option is only useful for linked mask objects with a large number of contours (>50).



- **Fix bleed:** This task can automatically create bleed. Bleeds for linework objects are created in a new layer called "**Bleedlayer**". This layer can always be removed to return to the original file. This is not possible with images. Images are modified in their original location.

- **Bleed Distance:** This is the minimal amount of bleed that is required. For any object that does not have this amount of bleed the correct bleed will be created.
- **Gap:** Any object inside the 'borders' (Trim Box), and that is closer than this distance to the borders will be considered to require bleed. Typically, this value will be small. It makes sure that objects which do not really touch the borders because of inaccuracies in the design, are taken into account for bleed creation anyhow.
- **Maximum Image Scale:** There are two possible to fix bleed for images:
 - When an image is larger than its clip mask, the task creates bleed by extending the clip mask of the image. Hidden pixels so become visible and the missing bleed problem is fixed.
 - When the image is not larger than its clip mask, the only way in which bleed can be created is by scaling the image. The position of the image inside the page does not change, but it is disproportionately scaled to create the correct bleed. To avoid an unacceptable distortion of the image this parameter determines how much scaling of an image is allowed. Set the value to 0 to prevent any scaling.

In order for the bleed-fixing to work properly it is imperative that the borders of the file are set correctly (see the tab [Borders](#) on page 244).

- **Put knocked-out technical inks object in overprint:** This forces objects in technical inks in overprint mode.

132.2. Borders

- **Adjust Borders:** Select this to enable these options:
 - **Fit borders to:** Choose **All inks** or one from your input file (for example its ink 'CAD'). For a multipage file, when borders need to fit to a specified ink, the borders will be adjusted to the largest page.

- **Auto Fit Borders on Trim Marks:** When the task can detect trim marks, the borders will be set accordingly. For a multipage file, when borders are fitted to trim marks, the borders will be adjusted to the first page.

Note: The task recognizes trim marks that have an offset of at least 1 mm and have a length of at least 1 mm.

This option is useful when the trim size of the input file is unknown or unreliable (for example a missing or wrongly defined trim box in a PDF file). Even when the desired trim size is known to the user, it can still be interesting to see if the automatically determined border size corresponds to the desired one: a difference between the two is likely to point to an error.

Note that the intelligent placement of files in FastImpose and Plato allows users to neglect to work with accurately set borders. However, if you want to [fix wrong bleeds](#) it is a requirement to have the borders defined correctly.

- **Move Borders:** You can manually move any of the borders for **Even** and/or **Odd** pages.
- **Auto Fit Margins on Trim Marks:** To fit the Media Box to any trim marks.
- **Fit Margins:** To fit the Media Box to any objects in the file.
- **Set Margins:** To define a specific value for the Media Box.

133. Optimize PDF

Concept

In ArtPro+, next to editing the open file, the user can also create a list of actions to be executed, i.e. an Action List. He can execute this action list interactively - in the editor itself - or he can execute that action list in background, as a task on AE. That task is the task [Apply PDF Action List](#).

This task 'Optimize PDF' is different. It avoids that someone first has to create an Action List.

This 'Optimize PDF' task allows to combine many of those actions and then execute them in background. You define all the wanted actions in the ticket and then launch it.

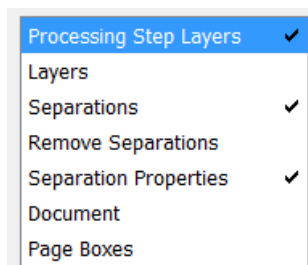
To use this 'Optimize PDF' task, you do not have to create an Action List.

Every time you launch an Optimize PDF ticket, AE first creates, hidden in background, a temporary Action List for this task.

To do this, AE uses the PAL processor, a technology that wrapped the ArtPro+/NDL kernel into a version that AE can then use in background. Learn more about the PAL Processor in [Which AE task Uses which Technology?](#)

General Behavior

- The Esko editor ArtPro+ reads and writes PDF+ files. Learn more about PDF+ in [PDF+ in Automation Engine](#).
- **Input and output files:**
 - When the input is a regular PDF file, the output is a PDF+ file.
 - When the input file doesn't have a document profile, a profile will be embedded in the output file. This ICC profile is defined in the **Configure tool > Processing Preferences > PDF+ Processing**.
 - When the input is a normalized PDF file, the output is a normalized PDF file.
- **Multipage:** When the input file has multiple pages, the actions are applied on all pages.
- **SmartNames:** Mind these rules when using SmartNames:
 - When the input field represents a distance, the SmartName value needs to end with a unit (*in, mm, cm, dm, mil, pt*).
 - When the input field represents a density (for example when outlining a page box), the SmartName value needs to either represent a fraction (between 0 and 1) or a percentage value (and then also end with '%').
- **Order of execution:** The actions are applied in the order as you see them in the ticket:
 - The order of the tabs listed on the left.
 - Within each tab: top to bottom.
 - When multiple settings in one action: also top to bottom, except when stated otherwise (see the 'Remove' actions).
- In a ticket, tabs where any kind of action is selected are indicated with a check mark:



- **Marks:** When the input file contains PDF marks, the PDF marks will be updated to reflect the updated state of the document (layers, separations, page boxes).



Attention: Any SmartMarks from a normalized PDF input file will not be updated by this task.

- **Unused Separations:** When the input file contains unused separations (especially in the case of normalized PDF), these will be removed from the output.

133.1. Tab 'Processing Step Layers'

About Processing Steps

- **What is a Processing Step?**

"Processing Steps" is a methodology to store PDF objects in a PDF that will be used for additional processing beyond the step of printing, for example embossing, gluing, cutting, folding, etc.

Learn more in the pages [PDF+, Successor of Normalized PDF](#), [PDF+ File's Info Dialog](#) (the section on layers) and [Processing Steps - Groups and Types](#).

- **Why use Processing Steps?**

- Because this information in the PDF can improve your workflow. This of course relies on applications and devices that pick up this type of PDF object.
- Giving layers the attribute of a type of processing step (for example the type 'embossing') enables to no longer use the attributes 'technical' and 'varnish' that you could set for 'Inks'. Those extra ink-type attributes are Esko proprietary attributes restricted to use in normalized PDF. PDF+ enables to skip using those and instead use this ISO conform way to use layers for this purpose.

Set Processing Step Type for Layer

- **Setting a Layer to the Type 'Processing Step'**

- Defining the name of the layer:
 - Either type the name or select it from the list of layers of the input file.
 - Layer names can contain wildcards (*) and SmartNames. It can be a comma separated list of layer names.
 - The matching to layer names is not case sensitive. For example: the layer 'tech' will also match to 'Tech'.
- Defining the type of processing step: The matching layer(s) will be set to the type of processing step that you selected from the list.



Attention: In case you use a SmartName in this field or type in a value, be aware that this field is case sensitive!

Note: The types in the list are those defined in the ISO standard. You can not define custom ones.

- The task also moves this type of layer(s) on top of all artwork layers.

- **Removing the processing step type from a layer**

When you set the field for 'processing step type' to 'None' (not case sensitive) or you leave it empty, then the layer(s) will be converted into normal layers (i.e. the processing step type is removed).

In this case, the layer order does not change.

Create Processing Step Layer from Separation

You can also create such a type of layer by using the data present in a specific separation.

- **Separation Name:** The objects that have a fill or a stroke in that separation (not case sensitive) are moved to this layer. These objects are also set to overprint.
- **Layer Name:** The specified layer (case sensitive) will be moved on top of all artwork layers. When that layer doesn't exist yet, it will be created.
- **Processing Step Type:** The specified layer will be set to the specified type.

133.2. Tab 'Layers'

Note: About defining the name of the layer:

- Either type the name or select it from the list of layers of the input file.
- Layer names can contain wildcards (*) and SmartNames. It can be a comma separated list of layer names.
- The matching to layer names is not case sensitive. For example: The layer 'tech' will also match to 'Tech'.

Rename Layers

Select or define the name of the old layer and then define its new name it should get.

Remove Layers

Specify the layers that need to be removed from the input file.

- **by Name**
- **by Processing Step**

Keep Layers

Specify the layers that were defined in the list of '**Remove Layers**' but that should not be removed.

- **by Name**
- **by Processing Step**

Add Layers

This allows to add empty layers. They are added on top of the other artwork layers.

- A comma separated list of names is here not supported (it will be seen as one name with comma's in it).
- The layer will not be added when the input file already contains a layer with the same name.
 - Exception: The name matching is case sensitive, i.e. the layer is still added when the input file contains a layer with a name that only differs in case from the specified name. Example: you can add a layer 'side' when there is already a layer 'Side'.

Update Layer Printability

Learn more about the printability of layers in the [ArtPro+ user guide](#) (Document Settings > Layers).

- **Don't Change Layer Printability:** This (default) setting does not make any changes. This is useful when you want to keep the non-printable layers. For example layers that contain base information that is used for aligning or editing.
- **Make All Layers Printable**
- **Remove Non Printable Layers:** This removes all non printable layers and their objects.

133.3. Tab 'Separations'

Note: About defining the name of the separation:

- Either type the name or select it from the list of separations of the input file.
- Separation names can contain wildcards (*) and SmartNames. You can also define a comma separated list of separation names.
- The matching of a separation name is not case sensitive (ignores the case). For example: typing 'gold' will also match with 'Gold'.

Remap Separations

- **Old and New Separation Name:**

Define the name of the separation to be renamed (old name) and its new name.

When the new separation does not exist yet, it will be created (and listed at the end of the separation list).

- **New Separation Book:** Optionally, you can select the ink book of the target separation from the list.
 - When using a SmartName or typing in a name, there is no check if that ink book exists.
- You can remap multiple inks:

- By using wildcards. For example, rename 'PMS*' to 'HKS*'.
- By using comma separated lists. When both the old and the new separation name are a comma separated list and both lists have the same number of comma separated parts, then the old name and new name lists are split where each part of the source is mapped on the corresponding part of the new name. For example: When old name 'A, B' and new name is 'X, Y', then A will become X and B will become Y.
 - When the separation book is also a comma separated list, these will be split in the same way. Otherwise (not a list), the separation book will be used for each mapping.
- **Convert Separations to CMYK**
 - Specify the (spot) colors that you want to convert to process colors (CMYK).
 - Process colors that are needed for the conversion but that are not yet in the file will be added to the output file (at the end of its list of separations).
 - **Except for:** Specify the separations that were defined to be converted but that should not be converted.
 - **Spot Color Lookup**

Choose which CMYK values should be used for the conversion of that spot color:

 - **Look in Ink Books Only:** To use the CMYK values as defined in the Esko CMS (not available for custom inks).
 - **Use Colors in File:** To use the CMYK values that are saved in the PDF file.

133.4. Tab 'Remove Separations'

You can select the separations by their **Name** or by their **Printing Method**.

Note: Selection by printing method does not support wildcards (*).

- **Remove Separations**
- **Keep Separations.** All separations that you specified in the above 'remove' section will be removed unless you have specified it here.

133.5. Tab 'Separation Properties'

- **Apply Separation Type**



Attention: The types **Varnish** and **Technical** are only valid in *normalized PDF* files. When asking to set these types on other PDF files, the task will not make any type changes and end in warning.

- **Apply Printing Method**

Printing methods can be defined in the **Configure** panel (**Pilot > Configure**) or in ArtPro+ (**Edit > Options**). This list of methods is synchronized when the editor is set up to use the AE server.

133.6. Tab 'Document'

When selected, these actions will be applied in the order as they appear in this tab. For example: first increasing the line width and then outlining the strokes,

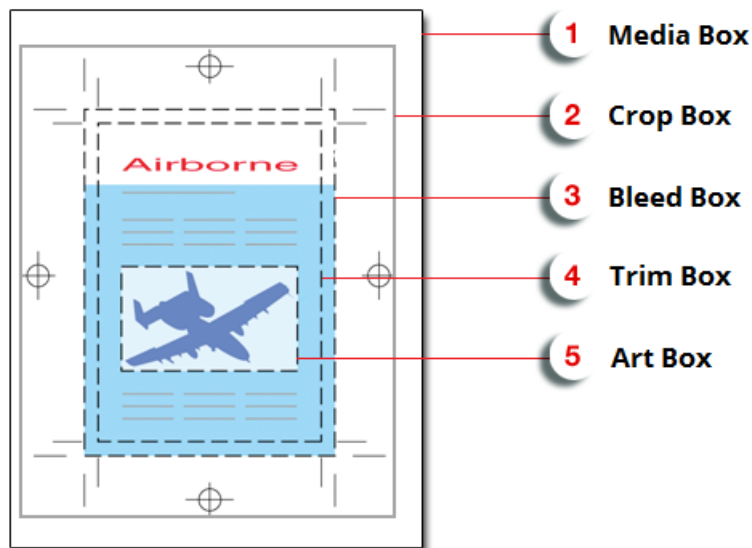
- **Merge similar path & text:** Select this to combine a path or text box that is composed of different identical objects (shape, size and position) on top of each other, into one object.
- **Contourize text:** Select this to replace editable text by a group of paths and compound (merged) paths.

Note: This function does not work on Dynamic Marks or protected objects.

- **Increase line width:** Select this to increase the stroke width of all objects that have a stroke width smaller than the specified minimum value.
 - **Minimum Line Width:** Define the minimal width that all strokes should have.
- **Outline Strokes:** Select this to replace stroked objects by a group consisting of a path (the fill object) and compound path (the outlined) stroke.
- **Clean up groups & clipping masks:** Select this to remove redundant groups and clipping masks (for example a group as sole component in another group).
- **Execute clipping masks:** Select this to crop objects on their clipping mask, and then to also remove the clipping mask and anything that was clipped away. During the process, affected strokes and live text are contourized.

133.7. Tab 'Page Boxes'

The 5 PDF Page Boxes:



- 1. **Media Box:** This is the page format.
- 2. **Crop Box:** This includes the Bleed box and all marks.
- 3. **Bleed Box:** This is the trimmed page plus the bleed.
- 4. **Trim Box:** This is the net document format.
- 5. **Art Box:** The Art box can be used to specify any section of the page.

- **Adjust Page Box**

Select the type of **Page Box** and how you want to adjust its **Size** or **Position**.

- **Based on:**
 - Select **Absolute (Background)** if you want to define the selected page box independently of the file's contents or existing page boxes.
 - Select **Content** if you want to base the selected page box on the file's contents. This takes clipping paths and masks into account.

Note: Default directions (positive values) are horizontally to the right and vertically upwards.

Note: Use a negative value to reduce the page box size or a reverse offset.

Note: The task first executes the alignment and only then the offsets.

Note: You can adjust multiple page boxes.

Learn more in the [ArtPro+ user guide](#).

- **Outline Page Box**

This makes page boxes visible by giving them a colored stroke. This allows to inspect page boxes in applications that have no means to visualize them.

134. Optimize PDF Document

This task enables you to make some prepress-specific changes to a PDF document. It so avoids having to stop a workflow task to do such edits in an interactive application.

The output will be PDF when the input file is a native PDF. The output will be Normalized PDF when the input is a Normalized PDF or a PDFPLA file.

134.1. Document

- **Optimize Document**

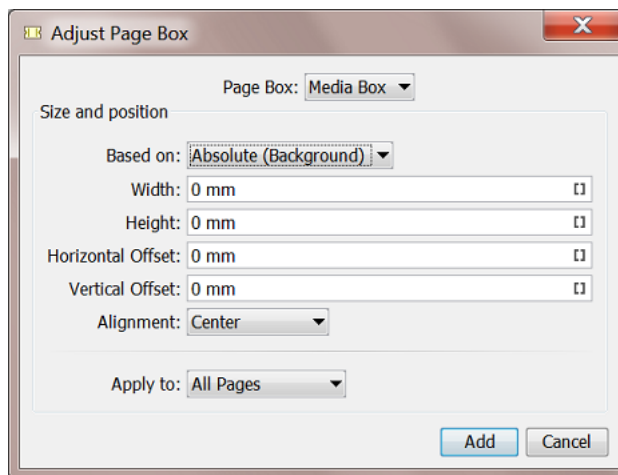
- **Preserve fonts:** Select this make sure your fonts will print or display correctly. Choose a method:
 - **Embed Fonts:** This embeds all used fonts.
 - **Embed & Rename:** This embeds 'Base 14 Fonts' under a different name (their name in the Esko PDF Library), and all other fonts under their existing name. This prevents Acrobat from replacing the document font with a local font of the same name when using live text.
- Note:** 'Base 14 Fonts' are: Courier, Courier Bold, Courier Oblique, Courier Bold-Oblique, Helvetica, Helvetica Bold, Helvetica Oblique, Helvetica Bold-Oblique, Times Roman, Times Bold, Times Italic, Times Bold-Italic, Symbol and Zapf Dingbats.
- **Vectorize:** This converts all text to outlines.
 - **Apply document's rotation flags:** In a PDF file, a 'rotation flag' specifies by what angle the contents should be rotated when previewing or printing the file.

Some older applications and devices ignore or mishandle this rotation flag. If you are sending your file to such an application or device, select this option to execute the rotation specified in the rotation flag.
 - **Outline strokes:** Select this to convert the strokes to outlines. Choose **Dash Only** to only converts dashed strokes into individual outline objects. This can significantly improve trapping.
 - If you want to change the strokes' width in your document, select **Increase line width** and enter a **Minimum Line Width**. All strokes with widths below this value will be enlarged to that width.
 - **Rotate File:** Select this to rotate the contents of your file (clockwise). This may be needed to make the contents fit on a certain device.
 - If **Apply document's rotation flags** is not selected, this changes the rotation flag's value but does not rotate the file's contents.
 - If **Apply document's rotation flags** is selected, this rotates the file's contents.
 - **Adjust Page Box:** Use this to change some or all of the document's page boxes, or add page boxes in your document. Learn more in [Adjust Page Box](#) on page 254.
 - **Outline Page Box:** Use this to outline some or all of the document's page boxes. They then become visible on proof for example. Learn more in [Outline Page Box](#) on page 255.

134.1.1. Adjust Page Box

To add or change a page box:

1. Click **Add** to open the **Adjust Page Box** dialog.



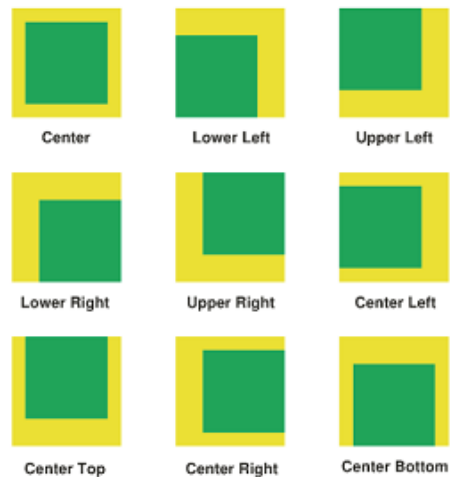
2. Select the **Page Box** to add or change.
3. Choose what you want the new size to be **Based on:**
 - Choose **Absolute (Background)** if you want to define the page box size independently of the file's contents or existing page boxes.
 - Choose **Content** if you want to base the page box size on the file's contents. This takes clipping paths and masks into account.
 - Choose **Media Box**, **Crop Box**, **Trim Box**, **Bleed Box** or **Art Box** if you want to base the size of the selected page box on that of another one.
4. Define the new **Width** and **Height**.
 - If you have chosen to use an **Absolute** size, enter the page box's **Width** and **Height**.
 - If you have chosen to base the page box size on the file's **Content** or on another page box, you can adjust the width and height in **Increase Width** and **Increase Height**.

Note: Use a negative value to reduce the page box size instead of extending it.

5. If you want, enter an **Horizontal Offset** and / or a **Vertical Offset**.
 - A positive horizontal offset will move the page box to the right, a negative one to the left.
 - A positive vertical offset will move the page box to the top, a negative one to the bottom.

Note: This is applied after the **Alignment** was done!

6. Choose the page box's **Alignment** (relatively to the old page box):



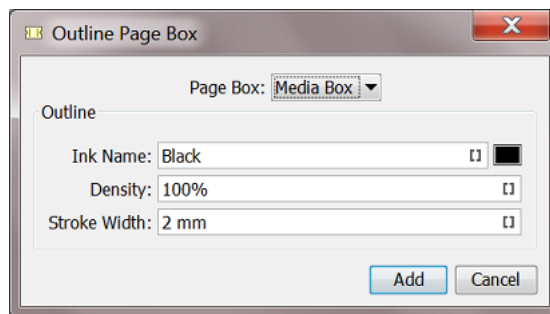
7. Apply your changes to either **All Pages** or only to the **Odd** or **Even Pages**.
8. Click the **Add** button to confirm.

Note: You can adjust multiple **Page Boxes**.

134.1.2. Outline Page Box

To outline a page box:

1. Click **Add** to open the **Outline Page Box** dialog.



2. Select the **Page Box** to outline.
3. Define the **Ink** for the stroke to use.
Type an **Ink Name**, use a SmartName or click the color patch to open a color picker.
4. Enter the ink **Density** to use.
5. Specify the **Stroke Width** to use.
6. Click the **Add** button.

134.2. Layers

- **Action 1: Rename Layers**

Click **Add** and enter the **Old** and the **New Layer Name**. You can use SmartNames and / or wild cards (to replace part of the layer name).

Tip: You can also merge layers by renaming a layer to an existing layer's name, or by renaming several layers to the same name. This works for layers that are directly on top of each other in the file.

- **Action 2: Remove Layers**

Click **Add** and enter the names of the layers you want to remove. You can use SmartNames and / or wild cards.

Except for: When using a wild card to remove layers, use this parameter to keep certain layers, even if they match the name entered in **Remove Layers**.

- **Action 3: Add Layers**

Use this to add empty layers to all pages of your PDF.

Click **Add** and enter the name of the layer to add. Repeat as necessary.

- **Update Layer Print-ability:** Select how to handle the print-ability of layers in your output file:
 - **Don't Change Layer Print-ability**
 - **Make All Layers Printable**
 - **Remove Non Printable Layers.**

134.3. Images

- **Downsample Images**

Select this to lower the resolution of the file's images.

- Choose what resolution you want to **Downsample bitmap** (black & white or one-bit) **images to, if their resolution is above** a certain resolution.
- Choose what resolution you want to **Downsample contone** (grayscale or color) **images to, if their resolution is above** a certain resolution.

- **Crop Images**

The tasks can remove unused image data from the PDF by cropping images on the bounding box of their clip path. Cropping images is done to make PDFs smaller.

Split images area when at least ... % of the images is clipped away: This parameter defines how the task will crop the image, depending on how much of it is clipped away (for example for images that have multiple clipping paths on them).

- If the part of the images that is clipped away is less than the value you enter here, the images will stay together and be cropped to the bounding box of the combined clipping paths.
- If the part of the images that is clipped away is greater than the value you enter here, the images will be split into multiple clipped images, each cropped to the rectangular bounding box of its clipping path.

- **Recompress Image Data**

- For **Color, Gray Scale** and **Soft Mask Images**, you can choose between the **JPEG** and **ZIP** compressions.
- For **Bitmap Images**, you can choose between the **CCITT Group 3, CCITT Group 4, ZIP**, and **Run Length** compressions.

135. Optimize PDF Separations

This task enables you to make changes to the separations of a PDF file.

The output file will be PDF when the input file is a native PDF. The output file will be Normalized PDF when the input file is a Normalized PDF or a PDFPLA.

When the input is a multi-page file, all requested functionality is executed on all pages.

135.1. Colors

You here define how to convert the file's (non-process) colors.

Note: The conversion is done by Esko Color Engine.

- **Embed Profiles Mode:** The task uses embedded profile(s) as source profiles for conversions. Choose from:
 - **Do not change:** This doesn't make any changes to embedding of color profiles.
 - **Embed:** This embeds all color profiles.
 - **Embed & Overwrite:** This re-embeds all color profiles, overwriting profiles that were already embedded.
 - **Remove All Embedded:** This removes all embedded profiles.
- **Convert RGB, LAB, Gray to CMYK:** Select this to convert all non-process color spaces (except spot colors) to CMYK.

Note: This will generate errors and/or warnings when trying to convert non-separable blend modes.

- **Fail When Converting Color Spaces:** Color converting objects that have transparency effects (like blend modes) can generate visually unexpected results. When this problem occurs, you can:
 - Select this option if you want the task to stop with an error.
 - Deselect this option if you want the task to only generate a warning.
- **Default CMYK Profile:** Select the default profile to use for CMYK objects without an embedded color profile. It will be used as a source profile for Color Space conversions.

Note: You can choose any CMYK profile in the Color Engine database.

- **Default RGB Profile:** Select the default profile to use for RGB objects without an embedded color profile. It will be used as a source profile for Color Space conversions.

Note: You can choose any RGB profile in the Color Engine database.

- **Default Gray Profile:** Select the default profile to use for gray-scale objects without an embedded color profile. It will be used as a source profile for Color Space conversions. Choose from:
 - Any gray profile in the Color Engine database.
 - **Convert to Black Channel,** if you want your gray-scale object to only have a value in the Black separation when outputting it to CMYK.

- **Output Color Profile:** Enter the Color Space of the output device (proofer or press) in this parameter.

Note: You can choose any CMYK profile in the Color Engine database.

- **Update spot color equivalents:** This option handles CMYK values for spot color inks. You can:
 - Select this option to overwrite the CMYK values found in the file with the CMYK values stored in the ink book.
 - Deselect this option to use the CMYK values found in the file for spot color inks.
- **Spot Color Lookup:** Indicate where the task should look for the spot colors' information. Choose from:
 - **Look in Ink Books First:** The task first looks in the ink book you defined in **Preferred Ink Book**. If it doesn't find the spot colors' information in that ink book, it then looks for it in the file.
 - **Look in Ink Books Only:** The task only looks in the ink book defined in **Preferred Ink Book**. If the task does not find the spot colors' information in that ink book, it ends in error.
 - **Use Colors in File:** The task looks for the spot colors' alternate color values (generally in the CMYK color space) in the file, and uses those values.
- **Preferred Ink Book:** Choose the preferred ink book that will be used in this task.
- **PANTONE Color Lookup:** Choose the settings for the PANTONE colors conversion. Choose from:
 - **Use destination profile:** Use the color profile defined in the **Output Color Profile** to determine CMYK equivalents of the PANTONE Color.
 - **HP Indigo CMYK x.x:** Use CMYK equivalents for the HP Indigo Press.
 - **Pantone+ Color Bridge Coated:** Use the CMYK equivalents defined in the Pantone Color Bridge Coated guide.

135.2. Inks

Note: This functionality is executed in the order as numbered: First **Action 1**, then **Action 2**, etc.



Caution: All ink-related parameters are case sensitive.

- **Action 1: Remap Inks**

Click **Add** to open the **Remap Ink** dialog, then enter the **Old** and the **New Ink Name**.

Tip: You can also merge inks by remapping an ink to an existing ink's name, or by remapping several inks to the same name.

Note: If your original ink has a PANTONE Suffix, add it to the **Old Ink Name**, even if you are changing this suffix. The reason for this is that when you use both the **Remap Inks** and **Pantone Suffix** parameters, the task renames the inks first.

Pantone Suffix: Use this to change the suffix (for example CV, CVC, CU...) of PANTONE colors. Choose from:

- **Do not change.**
- **Convert:** This changes the suffix to the one you select in the **To** list, for all PANTONE colors.
- **Convert If Found In Ink Books:** This changes the suffix to the one you select in the **To** list, for PANTONE colors found in the ink books you defined (in the [tab 'Colors'](#)).

Note: This option can also merge inks. For example if you have PANTONE 484 U and PANTONE 484 C, and you change all the suffixes to C.

- **Action 2: Convert Inks**

Use this table to convert spot colors to CMYK. You can use wild cards (*) in the ink's name.

- **Action 3: Remove Inks**

Click **Add** and enter the names of the ink you want to remove. You can use SmartNames and/or wild cards.

Except for: When using a wild card to remove inks, use this parameter to keep certain inks, even if they match the name entered in **Remove Inks**.

For example, to create a PDF file for the die-cutter, you can remove all the inks except the ink Die cut :

| | |
|-----------------------|-------------|
| Action 3: Remove Inks | Except for: |
| * | Die cut |
| Add Remove | Add Remove |

Preserve Separation Interaction: Use this parameter to define what to do when the separations you remove contain objects that knock out other separations.

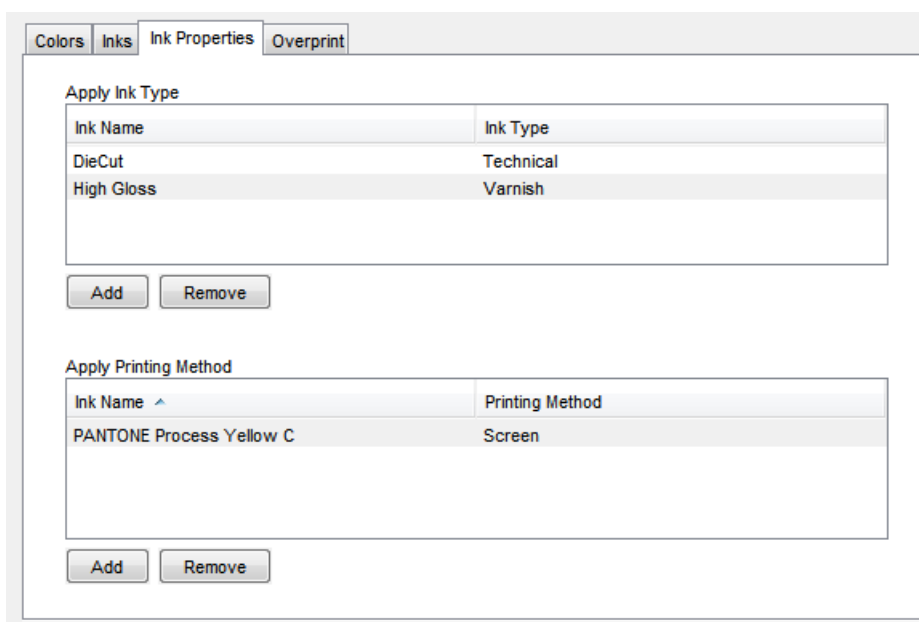
- **None:** This only deletes knock-out objects that are only defined in the removed separation(s).
Use this when removing separations that don't influence the final result (for example die cut separations).
- **Standalone:** This converts knock-out objects that are only defined in the removed separation(s) to white knock-out objects defined in one of the remaining separations. The remaining separations keep looking the same.
This method is recommended for most use cases.
- **For Versioning:** This converts knock-out objects that are only defined in the removed separations to white overprinting objects. Those are defined in a color space made from the remaining separations of the file, and overprinting on all other separations.
This ensures that when re-adding separation layers for versioning, the final result looks the same as the original file.

Note: This may create objects in 'DeviceN' color spaces, which is something that some applications cannot handle. Only use this method if you want to do versioning on your file.

- **Remove unused separations:** Select this to remove unused separations (separations containing no objects) from the file.

135.3. Ink Properties

This tab allows to apply extra properties of **Ink Type** and **Printing Method** to the existing inks. These properties can be used to steer behavior of tasks later on in the workflow, for example when using the [Extract Inks task](#) based on printing methods.



- **Apply Ink Type**

You can define the **Ink Type** for each **Ink Name**. You can use SmartNames and wild cards.

An **Ink Type** can be **Normal**, **Opaque**, **Varnish** or **Technical**. Limitations for **Opaque** can be imposed by the CMS. Process colors (CMYK) can only be **Normal**.

Note:

- When using wild cards in the ink name, the inks matching that pattern will get the specified properties. If an ink matches more than one pattern, the first one is taken.
- When matching, the letter case is ignored.

- **Apply Printing Method**

Set the **Printing Method** for a specified **Ink Name**. Choose from the list of printing methods as defined [in the Configure panel](#).

135.4. Overprints

Use these options to change the Overprint versus Knockout behavior of the inks.

- **To Knockout**

- **All overprint objects:** Select this to disable all overprints in your file.



Attention: This can change the file's appearance.

- **White text:** Use this to set white text to knockout. In this context, 'white' means having a fill or stroke of 0% of one or more inks.
- **White vector:** Use this to set white line art to knockout. 'White' here context means having a fill or stroke of 0% of one or more inks.
- **Technical objects:** Use this to set technical objects to knockout.
- **Varnish objects:** Use this to set varnish objects to knockout.
- **Opaque ink vector:** Use this to set line art in opaque ink to knockout. Opaque inks are defined in the ink book, using the Color Engine Pilot.
- **Opaque ink text:** Use this to set text in opaque ink to knockout. Opaque inks are defined in the ink book.



Caution: When an ink is explicitly defined as "opaque" in the ink book, you cannot make it "normal" with this task. You will get a warning if you try.

- **To Overprint**

- **All knockout objects:** This parameter changes all knockout objects to overprinting objects, and modifies their color space(s), so that the file keeps the same appearance.



Attention:

- Only use this parameter in creating PDF versions.
- This parameter affects how you can place the file afterwards. If you place this overprinting file on top of another file, all the channels of the bottom file that are not present in the top file will be visible.

- **Black text:** Use this to set black text to overprint. You can choose to make:
 - **All** black text overprint, or
 - black text **Smaller Than** a defined value overprint.
- **Black vector:** Use this to set black line art to overprint.
- **Technical objects:** Use this to set technical objects to overprint.
- **Varnish objects:** Use this to set varnish objects to overprint.
- **Opaque ink vector:** Use this to set line art in opaque ink to overprint. Opaque inks are defined in the ink book.
- **Opaque ink text:** Use this to set text in opaque ink to overprint. Opaque inks are defined in the ink book.

136. Outline Fonts

This task will contourize all fonts in the file and in all the files it refers to. Both live and composed text will be contourized. 'Internal' text (executed SmartMarks for example) is already contourized.

The task outputs a different PDF and by default adds the suffix `_c` to its name (use SmartNames to overruled this behavior).

Tip: When the input file did not contain any fonts, the [Details pane of the Task](#) and its log file mention this.

137. Preflight Color for Digital Printing

This task is documented in the chapter [Digital Printing Workflow](#). Find a direct link [here](#).

138. Preflight Color for Equinox

You can use this task to decide which ink set to use when sending a print job to your expanded gamut printing press.

Some print jobs can be printed just as well with less inks (reducing not only the ink cost but also the print time needed), but it's often cumbersome and time consuming to check this manually for every print job.

This task automates the checking and comparison process: it calculates the color accuracy you can achieve with the ink set(s) you are thinking of using, to help you choose a cost-effective solution that will still meet your quality standards.

Checking the Color Accuracy Achievable with a Certain Ink Set

If you want to check whether a certain file can be printed with a certain ink set and give a color accurate result:

1. Choose a color strategy made for printing with that ink set.
2. Set your color deviation tolerance (above which Delta E value you would consider the print not color accurate enough).
3. Send your file through the task.
4. The task outputs a detailed report: for each ink in your file needing conversion to your ink set, you can see the percentages of the inks on press that would be used, and whether the color accuracy would meet your tolerance.

Any ink that cannot be printed within your tolerance is given a "fail" status.

Your file only has an overall "pass" status if all its inks have a "pass" status. This means that you can print it color accurately with that ink set.

See [Task Parameters](#) on page 266 for more information about setting up your task.

Comparing the Color Accuracy Achievable with Different Ink Sets

You would typically run your file through several **Preflight Color for Equinox** tasks in a workflow: one task for each color strategy/ink set that you want to check.

Each task then outputs a report detailing the color accuracy you can achieve with that color strategy/ink set, and gives an overall "pass" or "fail" status for printing your file with that ink set.

This helps you can choose the smallest ink set that gives you a good color match for that file, so that you can combine quality and cost-efficiency.

Note: The detailed information in the reports helps you take an informed decision in difficult cases. The final decision always rests with you.

You can use this task:

- on the production floor, to help you maximize the speed and cost-efficiency of your expanded gamut printing press while still printing your jobs with good color accuracy.

See [Preflight Color for Production](#) on page 271.

- if you have a sales office, you can use it to help you quote a competitive price to your customers without skimping on quality (you can then pass on the ink set information to your prepress/printing department, saving them the time it would have taken them to check different ink sets).

If your sales office uses an MIS system, you can even integrate a **Preflight Color for Equinox** workflow with your MIS system.

See [Preflight Color for Cost Estimation](#) on page 275.

138.1. Task Parameters

Set up each task's parameters as follows:

1. Decide which ink set you want to check your file against, and select a **Color Strategy** whose output profile uses this ink set.

Depending on whether you want to decide on an ink set for production or for cost estimation, the exact color strategy you choose may be different.

See [Preflight Color for Production](#) on page 271 and [Preflight Color for Cost Estimation](#) on page 275.



Attention:

- You can only select an **Equinox color strategy**. If you select another type of color strategy (through a SmartName for example), the task will end in error.
You can create Equinox color strategies in Color Pilot, see [the Color Pilot documentation](#) for details.
- The task will also end in error if it cannot find your chosen color strategy in the color database (if for example it was deleted before you ran the workflow).

2. Select the **Delta E Formula** to use to calculate the color difference between the spot colors in your file and how they can be reproduced using your chosen **Color Strategy**.

You can choose from:

- CIELAB Delta E,**
- Delta E 94,**
- Delta E 2000,**
- CMC (1:1),**
- CMC (2:1),**
- Delta E 2000 (2:1:1).**

Note: If your company is already using one of those formulas, we recommend that you choose the same one. If not, you should choose **Delta E 2000**, which is the best reflection of the visual difference between colors.

3. Choose how close (in Delta E) the output colors must be to the colors in your input file for you to accept the print job as color accurate, and enter this number in **Delta E Tolerance for Spot Colors**.

The default tolerance is 2 Delta E, as color deviations under this threshold are generally not visible to the human eye.

138.2. Preflighting a File's Colors

You can send either PDF or Normalized PDFs files through this task. When working with regular PDFs, it will automatically normalize them using the **Normalize ticket** that is selected in the **Configure** tool's [Processing Preferences](#).

When running a file through this task:

1. The task calculates how to convert the file's separations to your chosen [Color Strategy](#)'s output profile.

It checks all separations except:

| | |
|---|--|
| separations that should be output as they are | <ul style="list-style-type: none"> • process separations • other separations used in the output profile (when checking against a multicolor profile) • separations set to "Keep in Output" in the color strategy (for example White or metallics) |
| separations that never require color management | <ul style="list-style-type: none"> • technical separations • varnish separations |

Note:

- Separations that have conversion values defined in your color strategy's exceptions list are checked.
- The **Preflight Color for Equinox** task will only check opaque inks if you are using an Equinox color strategy that is set to convert opaque inks.
- The task will only check unregistered inks if your Equinox color strategy is set to convert unregistered inks.

For more information about Equinox color strategy options, please see [the Color Pilot documentation](#).

2. For each separation, it checks whether the color difference between the converted color and the original color is within the [Delta E Tolerance](#) you have specified, and gives a **pass** or **fail** status.
3. It writes all of the **pass** or **fail** statuses for that file into an XML report, and gives an overall **pass** or **fail** status for that color strategy (**pass** means that the color difference is within your Delta E tolerance for all separations, but if at least one separation has a higher Delta E then the overall status is **fail**).

You can see the preflight results in the **Log Info** or the **XML report**. See [Color Preflight Results](#) on page 268 for more information.

4. When running your file through several **Preflight Color for Equinox** tasks in a workflow, you can see which color strategies give a **pass**, and choose to use the smallest ink set that still gives you a good color reproduction.

Note:

- To see more details on the color reproduction of each color strategy, you can either check their XML reports manually or feed them to your MIS system.
- The final decision on what color strategy to use always rests with you.

If for example one of the color strategies gives you good Delta Es for all separations but one, and that separation is only present in a very small and less important area of your file, you can still decide to use that color strategy anyway.

If none of the ink sets/color strategies gives a good color reproduction, you may want to (depending on the case) use one or more additional spot colors, print the file with one of the color strategies anyway, tweak the color strategy in Color Pilot, adjust the file...




For more information about using several **Preflight Color for Equinox** tasks in a workflow, see:

- [Preflight Color for Cost Estimation](#) on page 275
- [Preflight Color for Production](#) on page 271

138.2.1. Color Preflight Results

Processing Status


- After running the **Preflight Color for Equinox** task on your input file, the **Tasks** pane shows the processing status (and not the preflight status).

| Task status | Processing status |
|--|--|
|  Successfully done | Input file processed successfully (whether the Delta E values for the ink conversions are within your required tolerance or not) |
|  Done with warning | Input file contains unregistered inks (inks that are not part of an ink book in your color database) |
|  Failed | The color strategy is invalid or doesn't exist |

To see the preflight status (and detailed results), you should open the task's [Log Info](#), or the [XML report](#) it produced.

- When running the task in a **workflow**, the XML report is sent through a different output pin depending on both the processing status and the preflight status.

There are 5 output pins, corresponding to the following statuses:

| Output pin | Processing status | Preflight status |
|---|-----------------------------------|---|
|  Pass | Input file processed successfully | With this color strategy, all conversions are within your Delta E tolerance |

| Output pin | Processing status | Preflight status |
|---------------------|--|--|
| ● Fail | Input file processed successfully | With this color strategy, at least one of the conversions gives a Delta E above your tolerance |
| ⚠ Pass Unregistered | Input file contains unregistered inks | All conversions are within your Delta E tolerance |
| ⚠ Fail Unregistered | Input file contains unregistered inks | At least one of the conversions gives a Delta E above your tolerance |
| ✖ Error | The color strategy is invalid or doesn't exist | Cannot preflight |

Note:

Equinox color strategies have an option to convert unregistered inks or not (see the [Color Pilot documentation](#) for more details).

- If your color strategy doesn't convert unregistered inks, the preflight either passes or fails depending on the conversion values of the registered inks only.
- If your color strategy converts unregistered inks, the preflight either passes or fails depending on the conversion values of both registered and unregistered inks.

For example: you have an input file containing registered inks that can be accurately reproduced with CMYK, and an unregistered ink that cannot. You are preflighting it against a CMYK ink set.

When using a color strategy that doesn't convert unregistered inks, the preflight will succeed (the report will go through **⚠ Pass Unregistered**).

However, when using a color strategy that converts unregistered inks, the preflight will fail (the report will go through **⚠ Fail Unregistered**).

Preflight Results Details in the Log

You can see the preflight results in detail in the task's [Log Info](#).

Retrieving ink list from input file...

Ink 1: process C)
 Ink 2: process M)
 Ink 3: process Y)
 Ink 4: process K)
 Ink 5: visualizer gloss spot UV varnish)
 Ink 6: pms1000m Violet)
 Ink 7: pmetc 10249)

Using color strategy 'ColorPreflight_CMYKOV'
 Using delta E formula 'CIELAB Delta E'
 Using tolerance 2.0

Output inks:
 Process cyan
 Process magenta
 Process yellow
 Process black
 ClassicColors Violet

Results:

Ink 1 is a process ink.(process C)
 Ink 2 is a process ink.(process M)
 Ink 3 is a process ink.(process Y)
 Ink 4 is a process ink.(process K)
 Ink 5 is a varnish ink. (visualizer gloss spot UV varnish)
 Ink 6 is converted using the default conversion settings. Values = 0.0 6.7 0.0 16.9 0.0 0.0 89.8 (visualizer gloss spot UV varnish) Delta E = 0.2
 Ink 7 is converted using the default conversion settings. Values = 82.4 0.0 0.0 32.9 0.0 0.0 80.0 (pms1000m Violet) Delta E = 0.2
 PASS

Under **Results**, it lists:

- which of the input file inks were converted by your chosen color strategy (*certain ink types* are never converted)

Note: If your input file contains a double strike of an ink (a percentage above 100%), this ink will appear twice.

- the conversion values for those inks (in percentages of the printing inks)
- the Delta E achieved for each converted ink
- the overall **PASS** or **FAIL** status



Attention: After running a workflow containing the **Preflight Color for Equinox** task, make sure you open the task's **Log Info** and not the workflow's **Log Info** (as the workflow's log only contains processing information).

Preflight Results Details in the XML Report

Each **Preflight Color for Equinox** task also generates an XML report containing detailed results about the conversion to your chosen color strategy with your desired Delta E tolerance.

```
<?xml version="1.0" encoding="utf-8"?>
<CheckStrategy Strategy="ColorPreflight_CMYKOV" NumberOfInksUsed="5" OutputInksUsed="cyan;magenta;yellow;black;Violet"
Status="passed">
  <PassFailSettings DeltaEMetric="CIELAB Delta E" Tolerance="2"/>
  <SpotColorSet>
    <SpotColor InkName="C" InkBookName="process" status="IsProcessInk"/>
    <SpotColor InkName="M" InkBookName="process" status="IsProcessInk"/>
    <SpotColor InkName="Y" InkBookName="process" status="IsProcessInk"/>
    <SpotColor InkName="K" InkBookName="process" status="IsProcessInk"/>
    <SpotColor InkName="gloss spot UV varnish" InkBookName="Visualizer Standard Finishes" status="IsVarnish"/>
    <SpotColor InkName="Violet" InkBookName="PANTONE Colors Matte" DeviceColor="0.000 0.067 0.000 0.169 0.000
0.000 0.898" DeltaE="0.15" status="UsesDefaultConversionSettings"/>
    <SpotColor InkName="10249" InkBookName="PANTONE+ Premium Metallics Coated" DeviceColor="0.824 0.000 0.000
0.329 0.000 0.000 0.800" DeltaE="0.17" status="UsesDefaultConversionSettings"/>
  </SpotColorSet>
</CheckStrategy>
```

It contains the same information as the log, but is formatted to be easily usable by an MIS system (or Automation Engine's [Join XML Files](#) task, in preparation for sending to an MIS system).

If you are reading this XML report yourself:

- you can find the overall status at the top of the file (for example `Status="passed"`),
- you can check which of the input inks were converted ([ink types that are never converted](#) indicate the reason in their status, for example `Status="IsProcessInk"` or `Status="IsVarnish"`),
- for the inks that were converted, you can see the resulting percentages of the printing inks in `DeviceColor`, and the `Delta E` achieved.

138.3. Preflight Color for Production

You can use the **Preflight Color for Equinox** task on the production floor, to help you maximize the speed and cost-efficiency of your expanded gamut printing press while still printing your jobs with good color accuracy.

When using this task to prepare for production, you want to decide on the ink set to use for your print job, but you may also want to take into account any tweaks necessary to get the best color result on your particular press.

This means that for each **Preflight Color for Equinox** task that you run on your file, you should select a [Color Strategy](#) using your press profile as an output profile.

Tip:

When profiling your expanded gamut printing press in Color Pilot, you can easily generate:

- a color strategy with your press profile as output profile,
- additional color strategies with a subset of that profile's ink set as output profile (for example, if you profiled your press with a CMYKOV ink set, you can also generate color strategies to output to CMYK, CMYKO and CMYKV on that press).

See [the Color Pilot documentation](#) for details.

138.3.1. Example Workflow

One of the simplest ways to set up a workflow to check what ink set a file can be printed with is to cascade several **Preflight Color for Equinox** tasks.



1. This workflow first marks the input file with a tag (File to Preflight) then sends it to the first **Preflight Color for Equinox** task.
2. This task checks whether printing the file with a CMYK color strategy would give a good color accuracy.

Note:
 Make sure the color strategies you use in all your **Preflight Color for Equinox** tasks:

- are Equinox color strategies,
- use (one of) your expanded gamut printing press(es)'s profile as output profile.

For information about generating color strategies outputting to several ink sets from an expanded gamut printing press profile, see [the Color Pilot documentation](#).

The task outputs an XML report detailing the color accuracy that can be achieved.

- If printing the file with CMYK would give good results, the report goes through the **Pass** output pin (the first green pin), and the workflow is finished.
- If CMYK doesn't give a good color accuracy, the report goes through the **Fail** output pin (the second green pin), and the workflow continues.
- If your file contains one or more unregistered inks (inks that do not exist in your color database), it goes through one of the orange output pins (either **Pass Unregistered** or **Fail Unregistered** depending on the Delta E values).

In this case, the workflow ends with a warning (regardless of the Delta E values, the file isn't checked by any other **Preflight Color for Equinox** task).

Note: You can also choose to include unregistered inks in the conversion check, and not end the workflow with a warning straightaway. See [Workflow Variant Supporting Unregistered Inks](#) on page 273).

- If the color strategy you have selected in your first **Preflight Color for Equinox** task doesn't exist (if for example it was deleted before you ran the workflow) or is not an Equinox color strategy, the report goes through the red **Error** output pin and the workflow ends with an error.
- 3. If the first color strategy (CMYK) didn't give a good color accuracy, the XML report going through the second output pin triggers the **Select Marked File** workflow control.

This is set to select the input PDF/Normalized PDF corresponding to that XML report (using the `File to Preflight` tag and **Only select when name matches: [File]**).

See [Mark File and Select Marked File](#) for more information.

- 4. That input PDF/Normalized PDF is then passed on to the next **Preflight Color for Equinox** task, that checks whether printing the file with a CMYKO color strategy would give a good color accuracy.
- 5. If this is not the case, the file is checked against a CMYKOV color strategy, then if necessary a CMYKOGV one.
- 6. If none of the ink sets/color strategies gives a good color reproduction, the workflow ends in a warning.

You can then check the different XML reports to help you make a decision about how to print your file.

Depending on the case, you may want to use one or more additional spot colors, print the file with one of the color strategies anyway, tweak the color strategy in Color Pilot, adjust the file...

Workflow Variant Supporting Unregistered Inks

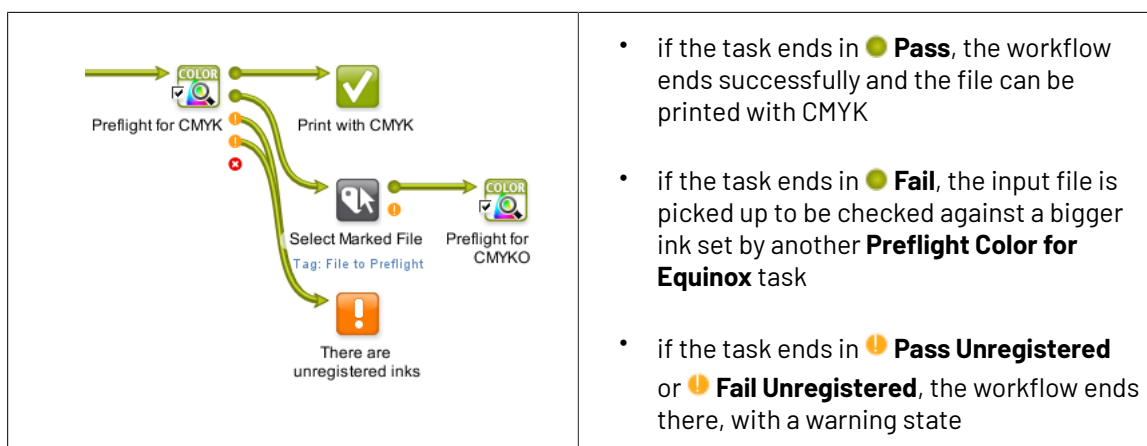
Depending on the way you work, you can choose to either have the workflow end in warning if your input file contains unregistered inks (as described above), or calculate these inks' conversion values as part of your color preflight.

To do this, you need to:

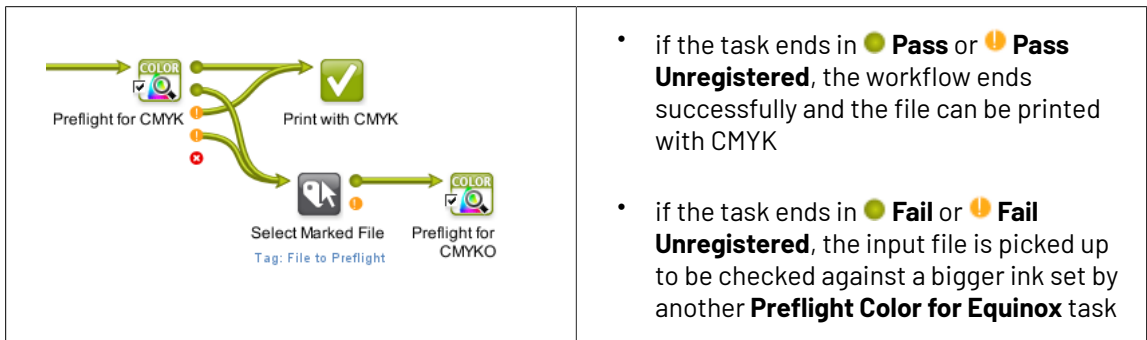
1. use Equinox color strategies set to convert unregistered inks (see [the Color Pilot documentation](#) for more details),
2. amend your workflow so that **Pass Unregistered** and **Fail Unregistered** go to the same places as **Pass** and **Fail**.

For example, for the first preflight task (**Preflight for CMYK**):

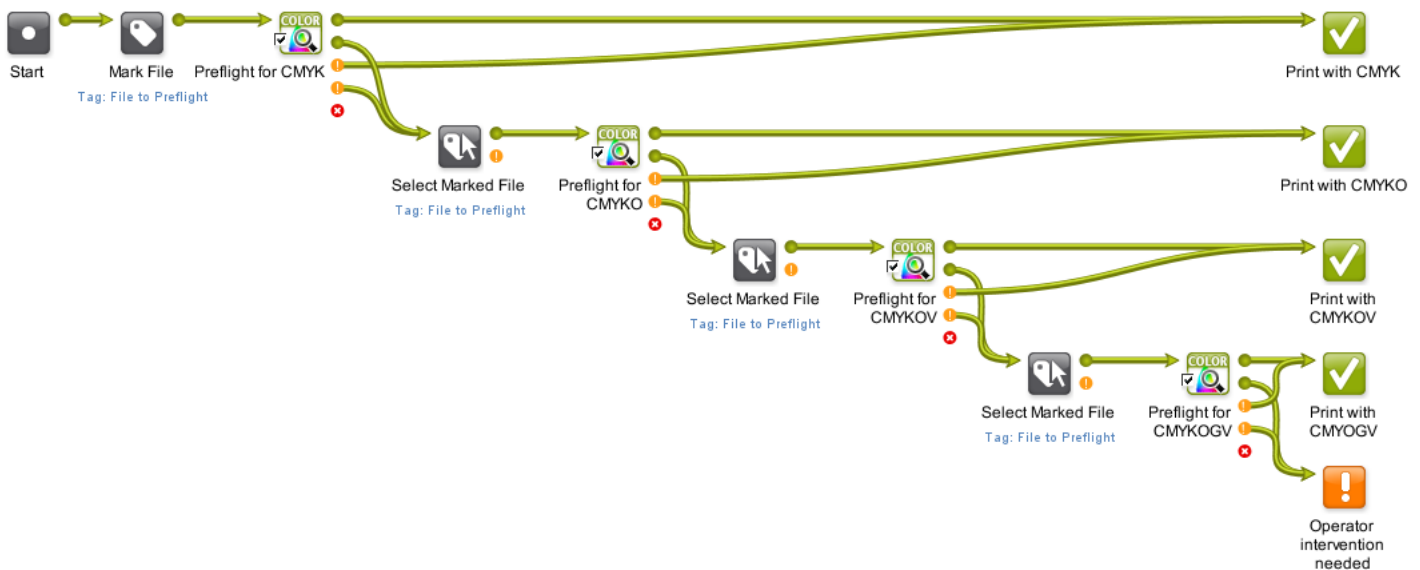
- instead of:



- you would have:



Your workflow would then look like this:



Note:

- If your color strategy doesn't convert unregistered inks, the preflight either passes or fails depending on the conversion values of the registered inks only.
- If your color strategy converts unregistered inks, the preflight either passes or fails depending on the conversion values of both registered and unregistered inks.

For example: you have an input file containing registered inks that can be accurately reproduced with CMYK, and an unregistered ink that cannot. You are preflighting it against a CMYK ink set.

When using a color strategy that doesn't convert unregistered inks, the preflight will succeed (the report will go through **Pass Unregistered**).

However, when using a color strategy that converts unregistered inks, the preflight will fail (the report will go through **Fail Unregistered**).

138.4. Preflight Color for Cost Estimation

You can use the **Preflight Color for Equinox** task at your sales office, to help you quote a competitive price to your customers without skimping on quality.

You can even connect it to your MIS system (for example CERM or Label Traxx), to get the print job information automatically, then send the color preflight results back to the MIS.

When using this task for cost estimation, the main goal is to decide on the ink set needed to print your job with a good color accuracy.

At that stage you don't need to worry about tweaking the print job to print on a specific press so you can use a [Color Strategy](#) with a generic output profile (for example `ISOcoated_V2_eci.icc` for the CMYK ink set).

138.4.1. Example Workflow

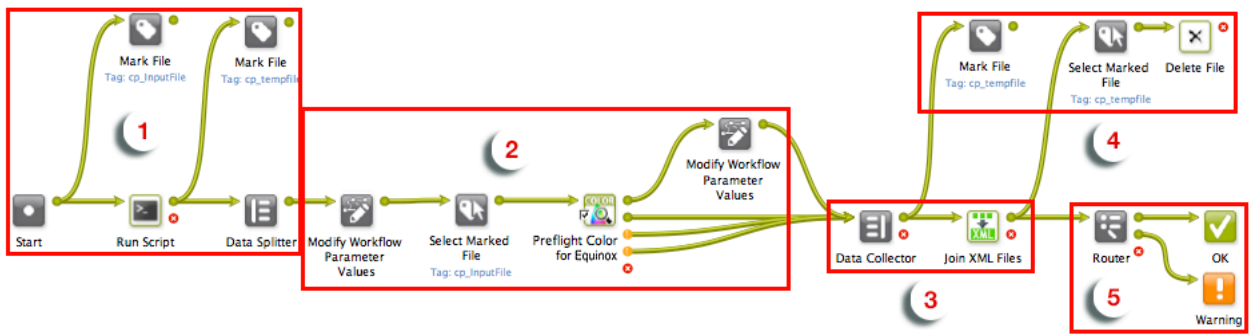
There are many ways you can set up a workflow that checks what ink set a file can be printed with so you can quote a competitive price to your customers. For example, you can:

- Set up a cascading workflow that checks the file against each ink set, then check the workflow's results to choose the ink set to use (this is similar to the [production workflow](#), but here you can use generic color strategies with the right ink sets, instead of color strategies made for a specific expanded gamut printing press).
- Set up a workflow with one **Preflight Color for Equinox** task, where the color strategy and Delta E tolerance are public parameters, and enter all the color strategies you want to check as a semicolon-separated list (for example `CMYK;CMYKO;CMYKOV;CMYKOGV`). For each color strategy you specify, your file will go through the task and you will get an XML report.
- Set up a workflow that integrates with your MIS system, so that you can automatically launch the workflow on any file that comes into your MIS system for quotation, and get the results back into your MIS system (this way you can do this from your sales office without even needing to open the Automation Engine Pilot).

Workflow with MIS Integration

This example workflow is set up to:

- take a PDF file,
- check it against a list of color strategies and a specific color tolerance (that are saved as [workflow parameters](#)),
- join all XML reports into one and save it in a location that your MIS system monitors,
- end in **OK** for the color strategies that can be used to print within the color tolerance, and in **Warning** for [all other cases](#).



1. Preparation

The input file is paired with every color strategy that needs checking, and sent through the workflow as many times as there are color strategies.

- a. The input file is marked with the `cp_InputFile` tag so it can be picked up by the workflow later on.
- b. The **Run Script** task generates an XML file for each color strategy, containing the input file name and color strategy name. Those XML files are marked as `cp_tempfile`.
- c. The **Data Splitter** sends the XML files one by one to the rest of the workflow, where they will each trigger a color strategy check.

2. Color Preflight

For each input file/color strategy pair, the **Preflight Color for Equinox** task checks the color accuracy that can be achieved, and generates a detailed report.

For each XML file sent from the **Data Splitter**:

- a. The **Modify Workflow Parameter Values** workflow control picks up the color strategy name in the XML and saves it to the `SelectedStrategy` workflow parameter.
- b. The **Select Marked File** workflow control picks up the input file and sends it to the **Preflight Color for Equinox** task.
- c. The **Preflight Color for Equinox** task checks whether converting the input file with the current color strategy (from the `SelectedStrategy` workflow parameter) would give a Delta E within the required Delta E tolerance (from the `Tolerance` workflow parameter).

It outputs an XML report detailing the color accuracy that can be achieved with that color strategy, through the [appropriate output pin](#).

- d. If the file can be printed within the color tolerance using that color strategy, the `State` workflow parameter is set to `Pass`. Otherwise it is not changed.

3. Reporting

The **Data Collector** collects all XML reports and sends them to the **Join XML Files** task, to make a single big XML file for easy consumption by the MIS system. This file is saved in a location that the MIS monitors.

4. Cleanup

The individual XML reports are marked as `cp_tempfile` and, together with the other temporary files (the XML files produced by the **Run Script** task), they are deleted.

5. Workflow End State

The **Router** directs each iteration of the input file to the right workflow end state based on the `State` workflow parameter set by the **Preflight Color for Equinox** task.

- For color strategies that gave a Delta E within tolerance (the `State` is `Pass`), the file goes to **OK**.

- For color strategies that didn't (the `State` still has an empty value), it goes to **Warning**.

The MIS system can then check the end state of the workflow and analyze the joined XML file containing the color accuracy information for the input file checked with all color strategies.

Note:

Like all Automation Engine workflows, this workflow can be triggered by a JDF file dropped into a "hot folder"/[folder access point](#) for example).

If the JDF contains information about the color strategies to check and the desired Delta E tolerance, they will overrule those set in the workflow parameters.

At the end of the workflow, the MIS system will get a JDF back, containing processing information and the location of the joined XML file.

139. Preflight with PitStop

This task is documented in the chapter [Quality Control tools](#). See [Preflight with PitStop Task](#).

140. Prepare for Inspection

This task takes a JDF Layout file and creates a JDF Inspection file that will be read by a (press) inspection system. You can set specific measurement points in the design that the inspection system will then monitor.

The task generates

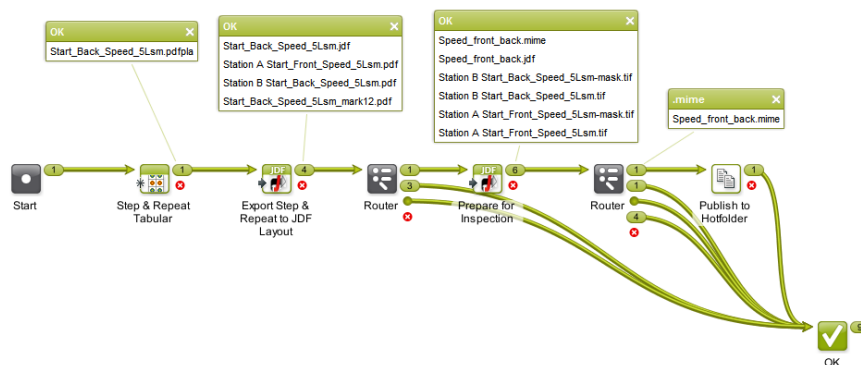
- a JDF Layout file, now with extra information for the inspection system
- a TIFF preview of the to-be-printed material
- a TIFF preview of the shape of the resulting label after die cutting (the 'Cut Mask')
- a MIME file containing all output files.

Note: The JDF Inspection file contains the layout of the sheet(s) and for each one-up PDF the information about:

- the contour of the retained area (**ClipPath**)
- the location of the barcodes (**IdentificationField**)
- the location of the text areas (**IdentificationField**)
- the location and values of Spectrometer measurements (**CIELabMeasurement**)

Learn more in [Settings](#) on page 280.

Example Workflow



- This example workflow starts by creating a PDFPLA step and repeat file.
- It then exports this file as a JDF Layout file. This creates a JDF file and a self-contained PDF file for each one-up.
- The **Prepare for Inspection** task then uses this JDF layout to create the MIME file containing the JDF file and the TIFF previews.
- The next task publishes this MIME file to a hotfolder to be picked up by the inspection system.

Note: Use the workflow control '**Router**' to make sure that the correct files are used as input file for the next step.

Example of Preview and Cut Mask

Example label (one-up):



Example preview: Note that the cut path is not visible in this preview:.

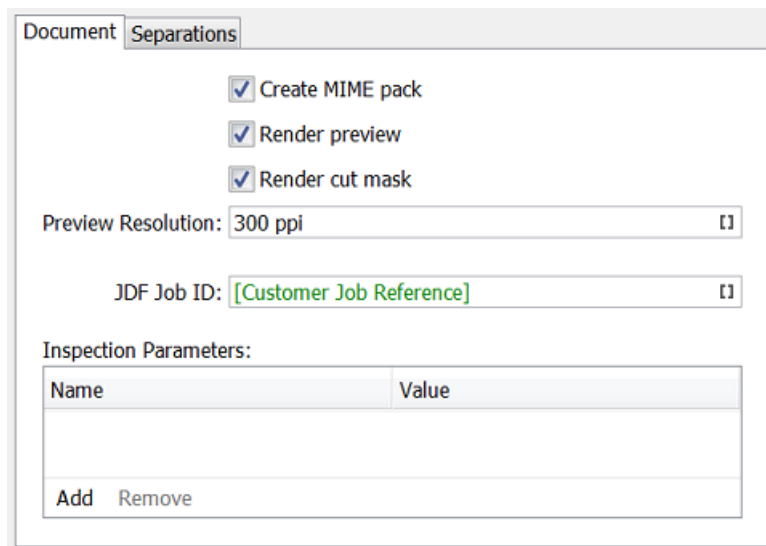


Example Cut Mask:



140.1. Settings

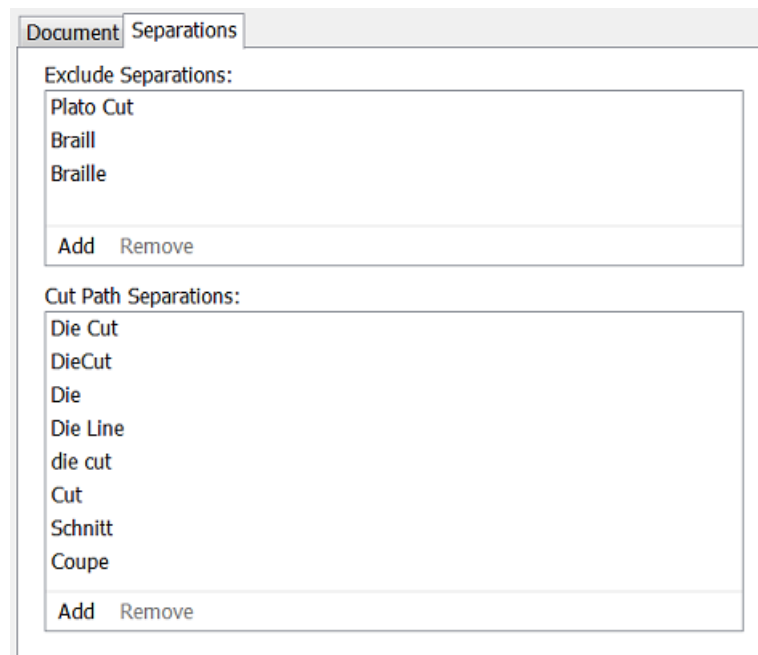
Document Tab



- Select what the task needs to create:
 - **Create MIME pack:** A self-contained set with all output files. When not selected, the requested output files are created separately.
 - **Render Preview (TIFF):** When not selected, a PDF preview is created.
 - **Render cut mask (TIFF):** When not selected, a PDF preview of the cut mask is created.
- **Preview Resolution:** Define the resolution of the TIFF files.
- **JDF Job ID:** Use SmartNames to make this result in the job identification that the inspection system should use to link the printed matter to this file.
- **Inspection Parameters:** Add extra parameters at will. For example the name of a profile that will define the settings for the inspection system (for example "adhesive label").

Separations Tab

You can here define separations to be excluded, typically all the non-printable, technical inks like "Die Cut".



Note: Using the Adobe Illustrator Plugin "Esko Data Exchange" or the application Esko PackEdge, you can include extra annotations inside the PDF file. These can serve to identify areas with different inspection requirements, or could be locations for colour measurements, including their expected LAB values and accepted tolerance. If such information is found inside the PDF file, it is added to the output JDF file.

141. Prepare for Sharing

Concept

This task serves to prepare your production PDF+ file to be shared with 'others'. It typically serves to make the shared PDF smaller, uneditable, simpler.

This is the same functionality as in ArtPro+, in **File > Export to > PDF > Export to PDF**.

This task uses the [NDL / PAL technology](#).



Attention: This task does not change the content of any placed art: Its layers are not removed, images are not re-sampled and text is not outlined. When you also want these changes applied to the content of placed art, then first use an action list including the action "Expand Object" and optionally also the action "Unlink Placed Art".

Task Settings

All these options are documented the [user manual of ArtPro+](#) (some of them in more detail).

- **Run Action List:** Aside from below options, you can use an action list to make any other changes to the output PDF.
- **Layers:** Decide which content (by layers) is relevant for the party you are sharing the PDF to.
 - **Include processing steps:**
 - **Include non printing layers:**
- **Images:** Two options to reduce the size of the output PDF.
 - **Downsample to:** When selected, all images (excluding bitmap images) are downsampled to a specified resolution.
 - **Crop images to clip mask:** When selected, only the parts of the image within the clip mask are included in the PDF file.
- **Image compression:** Compressions with the biggest result often also lead to the most loss of data.
- **Apply on Export:**
 - **Outline text:** Makes text uneditable but also creates (much) more vector data in the PDF.
 - **Apply distortion:** Does the receiver want to see the end result with the press-distortion already applied?
 - **Include color profiles:** When color profiles are not embedded in the exported PDF, this can result in a different representation of the colors.
 - **Add single-color page per separation:** Select this to add extra pages showing the separations (one page for every separation).

142. Prepare for Viewer

This task is documented in the chapter [Quality Control tools](#). See [Prepare for Viewer Task](#).

143. Prepare for WebCenter Viewer (OBGE)

This task type is by default hidden.

It is only used by a WebCenter OBGE when a WebCenter user uploads a document in WebCenter.

It had different default behavior than the regular [Prepare for Viewer](#) task.

Only Esko staff can explicitly enable this task so that its task ticket becomes visible in Automation Engine / OBGE.

144. Prepare Graphics for Nesting

The **Prepare Graphics for Nesting** task is documented in the chapter *Gang Run Printing for Sign & Display*. Find a direct link [here](#).

145. Prepare Station

This task prepares one ups for use in Step and Repeat editor or task.

Note: Some of its features are also available in the more recent task [Prepare Graphics for Nesting](#).

- **Create Station File:**

Select this if you want the task to create a PDFSTA file instead of a Normalized PDF. See down below how the sub-options are different when this is not selected.



Attention: PDFSTA files can only contain external references to Normalized PDF files. So only select this option when the input file is also a Normalized PDF (or the task will fail).

- **Extract Die using Ink:** When selected, the task creates a die line in the output file by extracting all contours of the specified Ink. This die line will automatically be used in Esko Plato or in tasks using Plato technology. When not selected, the trim box of the station file will be used as die shape.
- **Load CAD:** Select this to place a CAD file into the station file (an ARD or a 1-up CFF2 file).

Note: In case a layout CFF2 file is selected, the task will generate an error.

Note: When you only need to load a CAD file into the PDF, consider using the [Load Structural File task](#) instead.

Mapping: When loading a CFF2 CAD file, choose how the CFF2 line attributes should be mapped to the ArtiosCAD line types. Select the appropriate **CAD Style** file to determine in which separations the different CAD lines will appear.

Overview:

When loading a CAD file, the following sequence of operations takes place:

- The graphics file is placed in a station.

- When **'Extract Die using Ink'** is selected, the die shape is extracted from the graphics. If not, die shape is set to trim box.
- The CAD file is loaded and the outline of the CAD file is compared to the outline of the die shape generated in the above mentioned step. The graphics is rotated in such a way to create a maximal intersection of the CAD outline and the outline of the die shape. Any rotation is mentioned in the task's log file.

Note: In the [Load Structural File task](#) the CAD file is rotated and not the graphics.

- The CAD is taken as the die shape for the station.
- **Limit Bleed:** The bleed can be limited to a specific distance. The task create a bleed mask by spreading the die shape.
- **Graphics for Backside:** Select this to load a graphics file that will become the backside of the station file (also placed by external reference).

Note: Keep the following in mind about positioning graphics on the back side:

- If the PDF contains objects in the 'die ink', the graphics for the back side are positioned so that these objects are centered on the die of the front side.
- In the other case, the graphics on the back are positioned centered on the original borders of the front side graphics (i.e. not fitted).

- **SmartMarks:** Select this to load a SmartMarks set. Note that this one set will be used for both front and backside. Choose if you want to **Add them to the current set** or if they should **Replace** it.

When not Creating a Station file, the task creates a normalized PDF and the options are slightly different:

The screenshot shows a configuration panel with the following settings:

- Create Station File
- Fit Borders to Ink (dropdown menu)
- Load CAD
- CAD File: (text input with folder icon)
- Flip CAD
- Mapping: (dropdown menu, value: TRN)
- CAD Style: (dropdown menu, value: <None>)
- Limit Bleed: (text input: 5, unit dropdown: mm)
- Graphics for Backside: (text input with folder icon)
- SmartMarks: (dropdown menu, value: Add to current set)
- (dropdown menu, value: MAYO_MARKS)

- The input file is opened and changed as requested (so it is not placed externally).
- The only options available are now:
 - **Fit Borders to Ink:** Borders can be fitted to objects in a specific ink
 - **Limit Bleed**

- Placing **SmartMarks**.

146. Print

This task serves to print the input file on a PostScript printer that was configured on the Automation Engine server. Mind that in this case, this configuration is not part of an Esko tool, but we mean the standard way to add printing devices on that Windows computer.



Attention: These devices should be configured on the server using the **System Account** of Automation Engine. By default this is the local user **BGSYSTEM**, but you might have changed this (using the ['System Account' page in the Server Web tool](#)). The **Print** task will not be available for devices configured by other users.

The task's settings are very similar to those explained in the page on the [Export to PostScript File](#) task.

147. Print IMP File

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

148. Print On Digital Press

This task is documented in the chapter [Digital Printing Workflow](#). Find a direct link [here](#).

149. Process PDF Spreads

Action

The ticket parameters depend on what type of **Action** you selected first.

- **Split Reader Spread:** To divide the reader spread pages in a multipage PDF into 'single' pages (still in a multi-page PDF).
- **Make Reader Spread:** To change the 'single' pages in a multipage PDF into reader spread pages.
- **Make Printer Spread:** To change the 'single' pages in a multipage PDF into reader spread pages that can be used to create an imposition mock-up.

Settings for 'Split Reader Spread'

- **Spread Position:**
 - **Reference Box:** Select a page box to choose how much of the page to include in, or retrieve from a spread. For example select **Crop Box** to crop everything outside that box.
 - **Offset:** Enter an exact offset distance from the above selected reference box. The offset distance will extend beyond the box boundaries. This parameter is commonly used when creating spreads of asymmetric files.
 - **Bleed Mode:** Control the placement and size of bleeds. Choose from:
 - **Remove Bleed:** Only the content of the reference box will be kept, any bleeds present in the input file will be removed.
 - **Bleed from Bleed Box:** The bleed will be the Bleed Box but only if the reference box is the Trim Box.
 - **Bleed from Bleed Distance:** This adds the specified bleed distance to the chosen reference box. A bleed distance will extend beyond the borders of the Trim Box and therefore will set the boundaries of the Media Box when output.
- **Spread Structure:**
 - **Flow Direction:** Determine whether pages are arranged in numerical order from either left to right or right to left. '**Left to Right**' means that page one will be on the left hand side of a two-page spread, with the second page on the right. '**Right to Left**' means page one will be on the right hand side of the spread, with page two on the left hand side.
 - **First Spread Contains:** This controls how pages will be organized in the output file:
 - **Page 1 and 2**

To divide a spread into single pages. If you use this mode in conjunction with the option **Mixed Spreads** (see below), you can split spread pages in a file while leaving single pages intact.

Note: Note: The reference page for this splitting action using 'Mixed Spreads' should be a spread page, not one of the single pages.
 - **First page only**

If you place the first page of the file on the right-hand side of the first spread page; the left-hand side remains blank.

For files with an even number of pages, the last page will be also be placed on a spread page, on the left-hand side, with an accompanying blank page.

The left / right positioning of pages on spreads is determined by the selection made in the field **Flow Direction**. The description above assumes a left to right flow direction.

- **Last and First page**

In this mode, the last and first page of the input file are placed side by side on the first spread page.

In a left to right flow direction setting, the last page will be on the left and the first page on the right of the first spread page output.

In "Split Reader Spread" mode the task simply reverses the make mode. A file with spread pages will have the spread pages split but the page on the left side of the first spread will be output as the last single page of the output file.

- **Even number of pages**

Use this to prevent input files with an even number of pages from losing any pages while being split.

The parameter produces different results depending on which of these spread types it is combined with.

- Select '**Even Number of Pages**' together with the spread type '**First Page Only**' to split the output file. The left side of the first spread and the right side of the last spread will not be output.
- A combination of the **Last and First Page** spread type and the **Even number of Pages** parameter will split a file successfully.

Note: This option is active only when the Action 'Split Reader Spread' is selected and with spread types 'First Page Only' and 'Last and First Page'.

- **Mixed Spreads:**

Use this option when you need to define the Reference page for input files that have various paper sizes.

For example, if a file contains both an A4 page as page one and a two-page spread as page two, enter page two as the reference page and indicate that this page has two pages on it. All the spread pages are correctly detected and split correctly while leaving the single pages intact.

- **Auto Detect Spread Reference:** To take the most frequently featured page size as the Reference page.
- **Reference Page Number:** To specify an exact page as the Reference Page. Use the actual page number in the series of pages, not the page's number *label*.
- **Reference Page contains X One-Ups:** Enter the number of single pages to be positioned on the Reference Page.

Settings for 'Make Reader Spread'

Select this Action to, in a multipage PDF, create spread pages from single pages.

The options Spread Position and Spread Structure are the same as when you selected the Action 'Split Reader Spread'.

Settings for 'Make Printer Spread'





Select this Action to create spread pages that can be used to make an imposition mock-up from single pages.

The options Spread Position and Spread Structure are largely the same as when you selected the Action 'Split Reader Spread'.

150. Proof (FlexProof)

In the **Device** list, select the FlexRip - Proofer Output item *that you added in the Configure tool*.

150.1. General

- **Transformations**
 - **Scale V / H:** Enter a percentage to scale the design vertically and/or horizontally (the V-H as you see the file in an editor or viewer).
 - **Rotate:** Choose a rotation (counter clockwise).
 - Select **Fit On Paper** to fit the design on the paper of the selected proofing **Device**.
 -  : Choose if you want a positive or negative output file.
 -  : Choose if you want mirroring or not.
- **Original Size (incl. Margins):** The ticket shows the original size of the input file, margins included.
- **Output Size (incl. Margins):** The size shown here is the real output size, which is the original size influenced by the scaling factors, distortions and the rotation.
- **Marks:** If you want you can add **SmartMarks** to your file. SmartMarks sets are created in an Esko editor.
- **Dot Gain Compensation:**
 - **Single Curve:** Select a Dot Gain Compensation Curve (*.dgc).
 - **Automatic:** Select a screen based Dot Gain Curve (*.scredgc or *.icpro).

150.2. Inks

- **All inks:** Deselect 'All Inks' to open the **Inks** list where you can select specific inks.



Attention: In FlexProof tickets, when you want a composite (proofing) output, be aware that de-selecting the 'All Inks' option will then output (proof) each selected ink separately.

- In the column **'Merge Ink with'**, you can manually decide which inks should be merged in the output file. This is common when you use different rulings of a same ink.
 To do this, click in the column **'Merge Ink with'** on the row of a specific ink and choose the other ink from the list that pops up. Or click on the name of the column if you want this change for all inks.
 Alternatively, click **'Merge Similar Inks'** to let the task propose such combinations automatically for inks with a same name but with a different ruling or angle. Click **Reset Merge** to reset these settings and force the proofing of each ink separately.

Inks:

| <input checked="" type="checkbox"/> | Ink Name | Ink Book | Ruling | Angle | Dot ... | Merge Ink with | Ink Type | Printing ... |
|-------------------------------------|-------------------|---------------------|---------|-------|---------|----------------|-----------|--------------|
| <input checked="" type="checkbox"/> | C | process | 133 lpi | 7 ° | | | Normal | Unknown |
| <input checked="" type="checkbox"/> | C | process | 72 lpi | 7 ° | | C | Normal | Unknown |
| <input checked="" type="checkbox"/> | PANTONE Reflex... | PANTONE+ Solid C... | 133 lpi | 52 ° | | | Normal | Unknown |
| <input checked="" type="checkbox"/> | K | process | 133 lpi | 82 ° | | | Normal | Unknown |
| <input checked="" type="checkbox"/> | Y | process | 133 lpi | 7 ° | | | Normal | Unknown |
| <input checked="" type="checkbox"/> | M | process | 133 lpi | 52 ° | | | Normal | Unknown |
| <input type="checkbox"/> | CAD | designer | 120 lpi | 45 ° | | | Technical | Unknown |

- **Use technical inks in output.** Select this to include the inks with **Ink Type** 'Technical'.
- **Keep similar inks in their original separations.** Select this when you are create separated proofs and, instead of merging similar inks to one separation, you want each ink to print separately. This should not be selected for a composite proof.
- **Keep inks separated.** Do not merge the inks (enabled when you choose **'Separate'** as **Output Type** (in the tab *Output*).

150.3. Advanced

- **Hold In Rip Queue:** Select this to keep the task in the RIP-queue on hold until someone manually releases it. Learn more in the page about the tool [Queue Monitor](#).
- **CT Resampling:**
 - **Don't resample:** No re-sampling is done. This avoids most pixel shifts.
 - **Resample to highest CT resolution from job:** Select this to fix the remaining pixel shift problems, with the least up-scaling possible without data loss.
 - **Resample to automatic chosen resolution:** Select this to reduce broken dot problems, by interpolating images to at least 1.000 ppi.
 - **Resample to output resolution:** This is the slowest option, re-sampling all CT's to the output resolution.

150.4. Pre-RIP

This tab is only relevant when some objects in the file need to be simplified before they can be sent to the RIP. The task takes this decision automatically. And even when this is done, the options are best left to their default settings.

These are the special objects in a Normalized PDF that require such pre-processing:

- 'Edge vignettes': vignettes with alpha channels effects on the edge of the object.
- Barco Blends: blend objects in the legacy 'GRO' format.
- Warped CTs: warping done on external CTs.

Pre-RIP'ing creates an image (CT) of these special objects because the RIP can not interpret them.

- Specify the **CT Resolution** for these new images.
 - **Custom:** This default choice of 304.8 ppi guarantees the behavior of previous Esko applications. This option is independent of the output resolution.
 - **Output:** This creates the CTs at the same resolution as the RIP output resolution, with a maximum of 1.000 ppi. This option provides an optimal RIP output, but may slow down pre-RIP'ing and may require more disk space.
 - **Automatic:** This create the CTs at a resolution as close as possible to 300 ppi, depending on the RIP output resolution. The task calculates it in such a way that the RIP output resolution is an integer multiple of this CT resolution.
- **Anti-aliasing:** Anti-aliasing smoothens the staircase effect that you get when an image is created of lineart objects.
- **Vignette Noise:** Some vignettes or parts of vignettes will be converted to CTs. This happens when they overlap other objects with translucency or overprint. To reduce the banding effect, noise is applied on the CT, also known as 'grain'. The amount of noise can be specified here.
- **Blend to CT:** Select this to convert legacy Barco Graphics blend objects into a CT.
- **Smooth Blend:** Select this to set the amount steps in the blend objects to 255. When 'Convert Blend Objects to CT' is activated and 'Smooth Blend' also, the generated CT will ignore the original steps of the legacy (Barco Graphics) blend object. The amount of steps is set at the maximum of 255.
- **Resolve Transparency:** Doing this as a pre-RIP stage can speed up the RIP'ing. Only select this when needed.
- **Convert Strokes:** Select this if your output device requires you to do so.

150.5. Output

- **Configuration Set:** Select a configuration file. These files represent specific behavior of the selected output device. The list is filtered according the CMS license that the selected **Dispatcher** holds. For example: if it has a license for 4 channels, no multi-channel configurations will be visible here.
- **Output Folder:** Leave this empty to use the output path as defined in the Dispatcher ('EskoLink queue' - 'Output' tab). If your EskoLink queue has no output path defined, you can then define an output folder here.
- **Output File:** Leave this empty to get an output file name based on the input file. Edit this to overrule this standard behavior. Only plain characters are allowed. Unsupported characters (symbols) will be replaced by an _ .
- **Output Type:** Choose between
 - **Composite (Colored and Greyscale)**
 - **Separate (Colored and Black & White)**
 - **Colored:** All inks are converted to CMYK values
 - **Greyscale:** All inks are converted to grey values
 - **Black and White:** If you want a Black & White proof.
- **Anti-Aliasing:** Anti-Aliasing smoothens the staircase effect you get in the generated CTs of lineart objects that need pre-processing.
- Define the **Number of Copies** you need.
- Select '**Keep job files for relaunch purposes**' to be able to proof files again without having to RIP them again.

Note: The files created for the proof (and the proof job on the Fiery Command Workstation) will then have to be cleaned up manually.

• **White Coloring**



Attention: You only see this option if one of your **Configuration Sets** connects to an Epson Stylus Pro WT7900 proofer. See an example in [this next page](#).

When you use an extra white ink to print on foil (transparent or metallic), this option allows you to customize your white ink (for example, to get a cooler or warmer white).

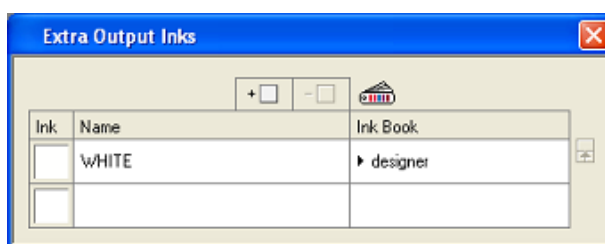
Choose between:

- **No Coloring:** This uses the proofer's white ink to print objects in the white separation, without applying coloring to this ink.
- **Custom values:** This allows you to color the proofer's white ink manually. Enter the CMYK values to add to the white inks.
- **Values from Color Management:** This uses a Color Strategy to color the proofer's white ink. This Color Strategy must have a white **Extra Output Ink** (called `white`) and map the white separation used in the file to this white output ink.

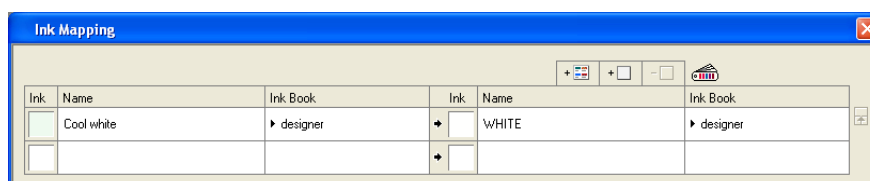
150.5.1. Example: Color Managing White Ink for an Epson WT7900 Proof

For example, you want to print a file with an ink 'cool white' on your Epson Stylus Pro WT7900 proofer.

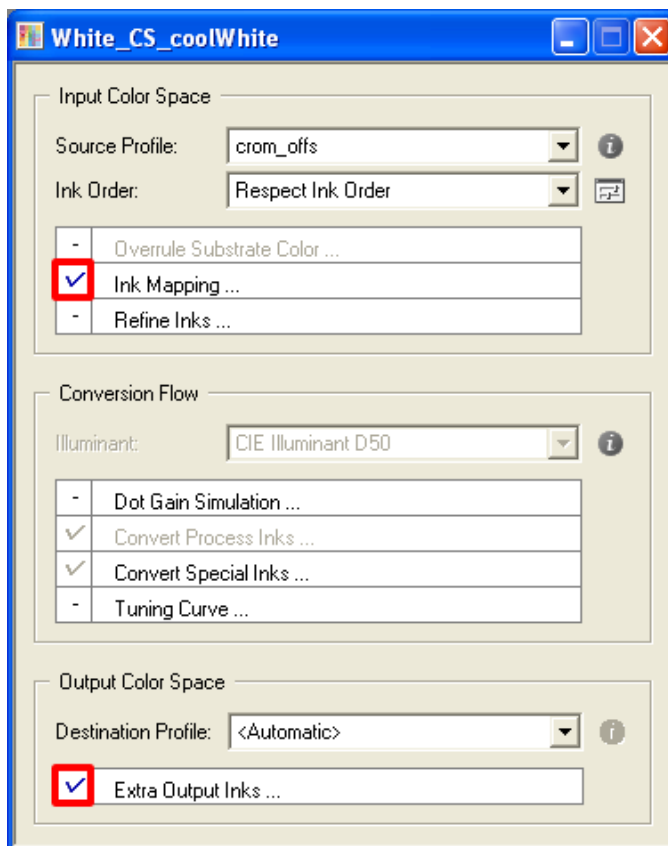
1. In Color Engine Pilot's **Designer** book:
 - a) Add your file's white ink (here 'cool white'),
 - b) Add a generic white ink. Name it 'white'.
2. Create a Color Strategy that will color manage your file's white ink:
 - a) Add your generic `white` ink as an **Extra Output Ink**,



- b) Map your file's white ink (`cool white`) to your `white` output ink,



- c) Make sure **Extra Output Ink** and **Ink Mapping** are selected in your Color Strategy.

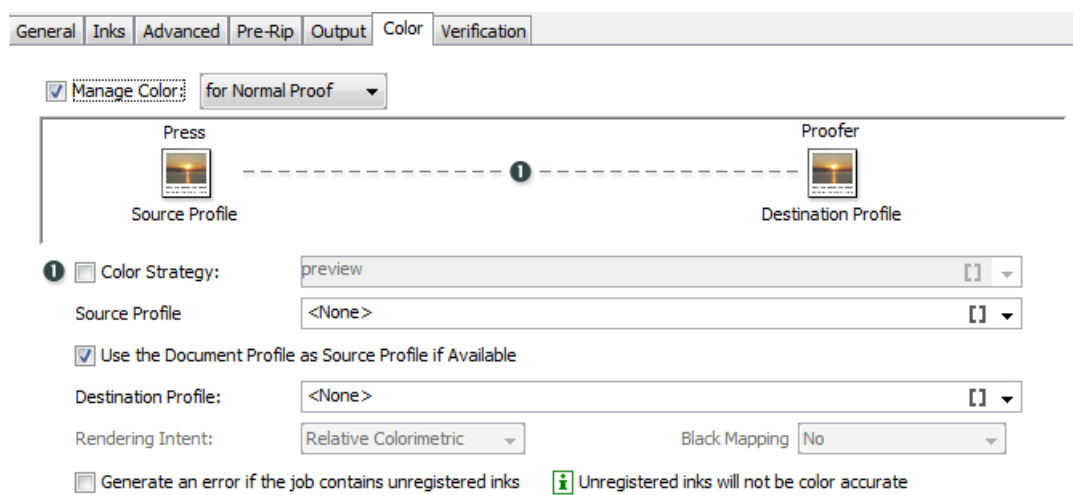


3. In the **Proof (FlexProof)** ticket, go to the **Output** tab and:
 - a) select the **Configuration Set** corresponding to your Epson Stylus Pro WT7900 proofer,
 - b) in **White Coloring**, select **Values from Color Management**.
4. In the ticket's **Color** tab:
 - a) select **Manage Color**,
 - b) select **Color Strategy**,
 - c) choose the Color Strategy with white ink mapping you created in Color Engine Pilot.

150.6. Color

If you do want to **Manage Colors**, then first select if this is for a *Normal* (simple) proof, or for an *Emulation* proof.

150.6.1. For Normal Proof



- When you select to **Manage Color for Normal Proof**, the settings of the requested color management are by default defined by the Color Strategy that you selected from the list.

When **Color Strategy** is not selected, the color management settings are entered with profile settings.

- Then, **Use the Document Profile as Source Profile if Available** is set but as this document profile may not be available, a backup of the **source profile** must still be chosen.

Choose the Process you want to simulate on the proof here. This process can be a registered ICC profile or an Esko Profile.

There are some default Esko Profiles on the system, for example crom_offs (Cromalin Offset). If you have measured an Esko Profile yourself, for example for your own Flexo press, you will be able to select it here.

- **Destination Profile**

This is the profile for the proofer. Choose the proofer profile that describes the colors of your proofer here (for example the characteristics of your proofer).

Both Esko Proofer profiles and ICC profiles of proofers are available in this list.

Also defaults are listed, for example ddcw_glossy, a description for a Digital Cromalin/ WaterProof on glossy paper.

If you profiled your proofer using Color Engine Pilot, you will be able to select your proofer profiles here as well.

Note:

The list of color strategies and destination profiles is filtered according to the CMS license that the dispatcher holds.

If the Dispatcher has no CMS license, only "preview" and "linear" can be selected as color strategies, whereas additional strategies are available with a 4-channel or multi-channel license.

- **Rendering intent**

- **Relative (no background):** Choose this if you do not want any background simulation. The white point of the source will be mapped on the white point of the destination process. This rendering intent takes into account the ability of the human eye to adapt to the surrounding white.
- **Absolute (background):** Choose this if you want background simulation and you want an exact color match, including the paper simulation.
- **Perceptual:** This will result in no background simulation (white of reference color space is mapped on white of destination color space). Choose this when you don't care too much about an exact color match but when want the pictures at least to look nice on your proofer. It will give a visually pleasing result. If the gamut of the source is wider than the proofer, the entire gamut is shrunk so that it fits inside the gamut of the proofer.
- **Saturation:** Choose this if you care especially about saturated colors. This rendering intent will map saturated colors on saturated colors.

- **Black Mapping**

This option is only available if you choose an Esko destination profile. Black will be mapped onto black or, in other words, the black separation will only be printed with black ink.

In case you want to simulate a very dark black, which is darker than the black of your proofer, you might want to deselect this option. In this case all 4 proofer inks will be used to simulate the high density of the black.

- **Handling Unregistered Inks**

Unregistered inks are inks that are not present in your color management database. They cannot be color managed which means that you cannot proof them accurately.

Therefore, we recommend you *exclude them from the output*, especially for contract proofing.

Choose what to do in case some unregistered inks are still in the list of inks to be proofed:

- Deselect '**Generate an error if the job contains unregistered inks**' if you want the task to end with a warning. All the inks you chose to include in the output will be proofed, but the unregistered inks will not be color accurate.
- Select '**Generate an error if the job contains unregistered inks**' if you want the task to end in error.

In both cases, you will also see a message in the log.

Note: When you select an Equinox source profile (or use a Color strategy with Equinox source profile) with '**Manage color**' toggle selected, this task will perform a default check. This check verifies if all the selected inks in the file are specified in the Equinox source profile. If they are not specified, the task will end in **error** with a message such as: "Proofing aborted because the following input inks are not found in the source profile: glue cut"

150.6.2. For Emulation Proof



Attention: You need an extra license to see this option.

General Inks Advanced Pre-Rip Output Color Verification

Manage Color: for Emulation Proof ▾

Conventional Press Digital Press Proofer

Source Profile ① Emulation Profile ② Destination Profile

① Color Strategy: HPI-PE-TRANS-CMYKOV [] ▾
 Source Profile: HPI-PE-TRANS-CMYKOV [] ▾
 Use the Document Profile as Source Profile if Available
 Emulation Profile: <None> [] ▾
 Rendering Intent: Relative Colorime... ▾ Black Mapping No ▾ Output Ink...
 Generate an error if the job contains unregistered inks Unregistered inks will not be color accurate

② Color Strategy: preview [] ▾
 Destination Profile: <None> [] ▾
 Rendering Intent: Relative Colorime... ▾ Black Mapping No ▾

In this mode, CMS options can be set twice:

- In the top section of the tab, you set the color management options for emulating the conventional press on a digital press (conversion from the **Source Profile** to the **Emulation Profile**).
- In the bottom section, you set the color management options for the output proofing device (conversion from **Emulation Profile** to **Destination Profile**).

The preferred method is to use a Color Strategy for both conversions. Select the emulation Color Strategy first, so that the list of color strategies for the output settings can be filtered to have the same source profile as the emulation profile selected in the emulation step.

Alternatively, you can manually select the source profile, emulation profile and destination profiles with their respective rendering intents.

Tip:

If you select a multichannel printing profile in the Emulation Profile list (such as the seven-channel **IndiChrome Plus** profile), you can use the button **Output Inks...** to enable or disable the additional inks (for example, indiChr Orange, indiChr Green, and indiChr Violet).

This allows you to use a profile like IndiChrome Plus to generate output without one or more of the additional inks (for example, without the IndiChrome Orange ink).

Handling Unregistered Inks

Unregistered inks are inks that are not present in your color management database. They cannot be color managed which means that you cannot proof them accurately.

Therefore, we recommend you [exclude them from the output](#), especially for contract proofing.

Choose what to do in case some unregistered inks are still in the list of inks to be proofed:

- Deselect '**Generate an error if the job contains unregistered inks**' if you want the task to end with a warning. All the inks you chose to include in the output will be proofed, but the unregistered inks will not be color accurate.
- Select '**Generate an error if the job contains unregistered inks**' if you want the task to end in error.

In both cases, you will also see a message in the log.

Note: When you select an Equinox source profile (or use a Color strategy with Equinox source profile) with '**Manage color**' toggle selected, this task will perform a default check. This check verifies if all the selected inks in the file are specified in the Equinox source profile. If they are not specified, the task will end in **error** with a message such as: "Proofing aborted because the following input inks are not found in the source profile: glue cut"

150.7. Verification

Note: You can only set **Verification** options if you have chosen an Esko Proof **Configuration Set** in the **Output** tab.

Print Verification Strip: To print a verification strip, select this option and fill in the options that become available.

Strip Preset: A certain number of presets come with your color database. They contain information about the strip and the measurement device to use, the tolerances in color difference, etc.

You can select a preset here, that will fill in the options below, or you can select **Custom** and fill the options in yourself. You can also start from a preset and change the other options (the **Strip Preset** field will then show **Custom**).

Learn more about strip presets in the [FlexProof/E documentation](#).

In **Strip Type**, choose between **EskoStrip** or **Esko + Solid Color Strip**. The 'Esko + Solid Color Strips' contain the same patches as the 'EskoStrips', plus a 100% patch for every spot color present in the job. When printing a color managed strip, you should use an 'Esko + Solid Color Strip'.

Learn more about available strips in the [FlexProof/E documentation](#).

Apply Color Management to Strip: If you selected **Manage Color** in the **Color** tab, the **Apply Color Management to Strip** option is available. Select it if you want to color manage the strip.

Verify strip (with Verification tool): This option is available if you have a Verification license and if you are color managing your file. Choose what to use as a **Reference** for this verification:

- Choose '**Manually load reference values**' if you want to verify the color managed strip against a standard (for example Ugra/Fogra) or a previous measurement.

You will need to load this standard manually in the **Esko Verification** tool.

- Choose '**Automatically load reference values from source profile**' if you want to verify the color managed strip against the source ICC profile (set in the Color Strategy used or defined in the **Color** tab).

dE Formula: Choose the Delta E formula to use when verifying your strip. Choose **dE CIE76**, **dE CMC**, **dE 94** or **dE 2000**. If your company is already using one of those standards, we recommend that you choose the same one. If not, you should choose the most recent one: 'dE 2000'.

Click **Edit Tolerances...** to set custom tolerances for the measurements. You can fill in:

- **General dE Limits:** The 'Delta E' values that the color patches and paper should not exceed.
- **Primary color dE Limits:** The maximum 'Delta E' values allowed for CMYK colors.
- **Hue difference Tolerance Limits:** The maximum 'Delta H' values for CMYK, CMYKRGB and grayscale colors.

Note: 'Delta H' is the difference in hue between the expected color and the printed color.

- **Tone Value Tolerance Limits**

Note: 'Delta T' is the difference in colorimetric tone value between the colors.

- **Chromaticness Tolerance Limits**

Note: 'Delta F' is the difference in saturation (or "chroma") between the colors in your file and the printed colors.

If you selected a **Strip Preset**, the tolerances may be automatically defined.

The verification will pass if the Delta E values are within the tolerances, or fail if they are bigger.

Strip Layout: Learn more in the [Pack Proof documentation](#).

151. Proof for Contract Approval

This task is part of the Pack Proof product. Learn more in the [user guide of Pack Proof](#).

152. Proof for Content Approval

This task is explained in the chapter on *Imaging Engine*. Find a direct link [here](#).

153. Proof IMP File (FlexProof)

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

154. Proof to File - Unscreened

This task is documented in the chapter on *Imaging Engine*. Find a direct link [here](#).

155. Publish Imposition on WebCenter Chain

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

156. Publish On WebCenter

This task is documented in the chapter **Integrating with WebCenter**. Find a direct link [here](#).

157. Relocate Job

This task is documented in the [separate chapter on Jobs](#). Find a direct link [here](#).

158. Remove Files from Shared Job

This task is documented in the chapter [Collaborating via Esko Cloud](#). Find a direct link [here](#).

159. Remove Job

This task is documented in the [separate chapter on Jobs](#). Find a direct link [here](#).

160. Remove Product

This task is documented in the [separate chapter on Products](#). Find a direct link [here](#).

161. Resize Shape

Concept

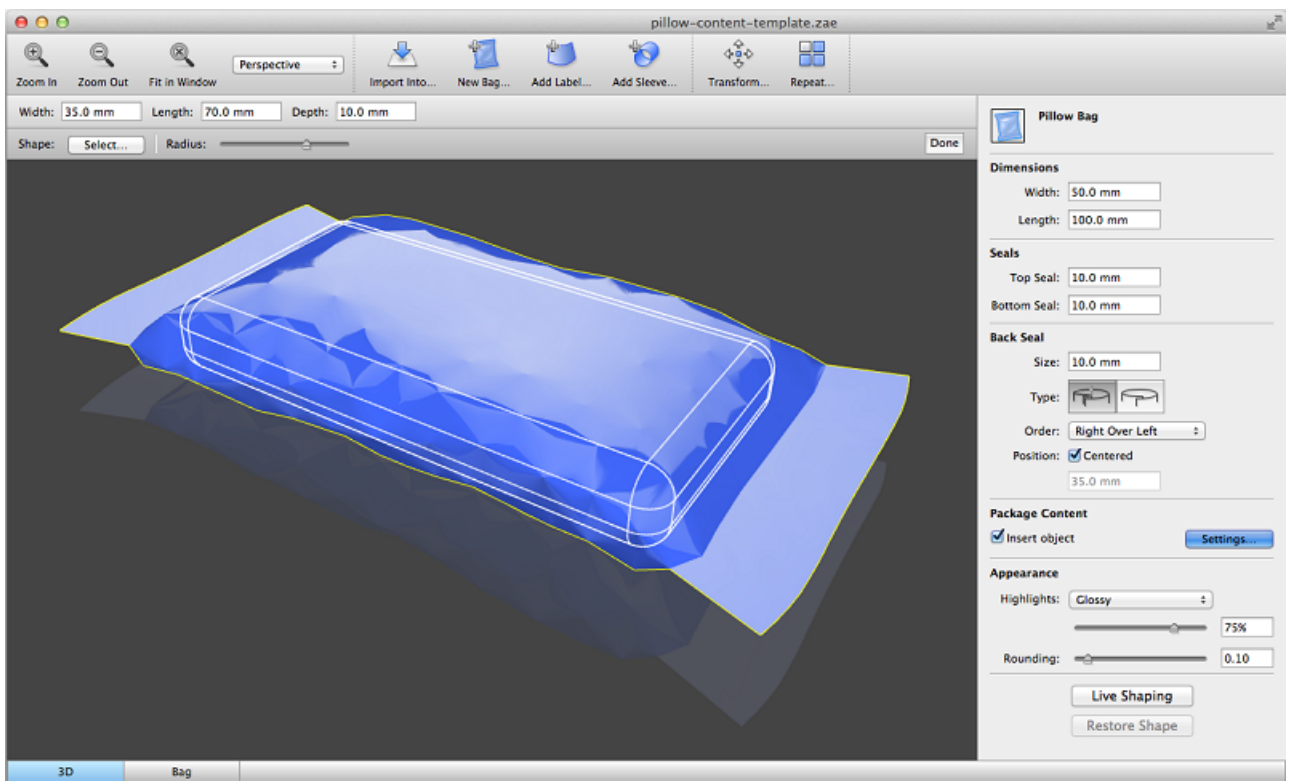
This task outputs a resized version of a Studio Toolkit .zae input file (an Archived Collada format).

Note:

- The input file may only have one bag object.
- The bag object cannot be a *Ponytail bag*.
- The task will fail when the input file was made with a newer version of the software than the one that this task uses.

Note: Learn more about Studio on [the Esko website](#).

Here's an example of a pillow bag as seen in Studio Toolkit:



Task Options

The ticket lets you specify new values for the **dimensions** of the bag, its **seals** and/or dimensions of its **package content**.

Not every option applies to every bag type. That is why you can first select the bag type of the input file in **Show parameters for:**.

If you specify a value for an option that is not used for the type of bag in the input file, then this value will be discarded.

The numeric input fields can be used for calculations, also when using SmartNames.

The output file is a Studio Toolkit Collada file with updated dimensions:

- In 3D, the model is resized, just as if you opened it in Toolkit, entered new dimensions and saved it. However, the 3D orientation and height (distance to floor) are preserved.



Attention: Any "Live Shaping" improvements in the input file are lost.

- In 2D, the technical drawing is also adjusted. The dimension lines are preserved and the arrows preserved their relative position to the updated anchor points.

162. Resize PDF for Output

This task allows to resize a PDF's pages or its contents before output to a proofer or RIP.

Output Page Size:

- Select '**Resize to a specific page size**' to adjust the PDF markup for a given paper size.
- Deselect it if you only want to adjust the page contents (page boxes, etc.).

This option affects which parameters you see in **Page Size** and **Page Content**:

162.1. Resizing to a Specific Page Size

When **Resize to a specific page size** is selected, you have these options:

1. In the **Page Content** area, select the **Page Box to Use** for positioning, scaling, etc.
2. Select how to **Position** this page box and its contents on the page:
 - **Don't Fit**: The file is placed "as is".
 - **Center on Page**: The file is centered in the selected page box.
 - **Scale to Fit (Reduce Only)**: The task scales the file down if necessary, so it fits in the selected page box.
 - **Scale to Fit (Reduce & Enlarge)**: The task scales the file up or down if necessary, so it fits in the selected page box.
 - **Scale to Fit (Disproportional)**: The task disproportionally scales the file up or down if necessary, so that it fits in the selected page box.
 - **Use Proportional Tiling**: The task tiles the file over several pages as necessary, but make all tiles the same size.
 - **Gripper on Top**: The task leaves space for the gripper at the top of the page.
 - **Gripper at the Bottom**: The task leaves space for the gripper at the bottom of the page.

When selecting **Use Proportional Tiling**, you can enter the size of the **Tile Overlap** (where two tiles are partly on top of each other).

When selecting **Gripper on Top / Bottom**, enter the amount of space needed for the gripper in **Gripper Size**.

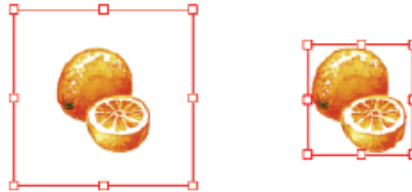
3. **Mirror page** mirrors the page contents and the page boxes horizontally.
4. If you want, use the **Scale** parameter to scale the artwork before placing it on the page.
5. If you want, enter a **Horizontal** and/or a **Vertical Distortion** to apply to the artwork before placing it on the page.

You can either enter the distorted output values (for example 97% or 103%), or the positive/negative distortion values (for example -3% or +3%).

6. Select **Clip on selected page box** to clip away all artwork outside the page box that you selected in **Page Box to Use**.

Note: The artwork outside the selected page box is not deleted, just clipped away by a clipping path (it is invisible but still present in the file).

7. Select **Crop to fit** if you want to crop your Page Box to the content of your original file.



8. In the **Page Size** area, select the page size you intend to print to in **New Page Size**.

This page size is used by the **Scale** and **Position** parameters.

- If you select a predefined page size, the option **Orientation** allows to select the orientation of the paper that you intend to use. Choose either **Portrait** or **Landscape**.
- If you select **Custom** as a page size, you will see a **Page Width** and a **Page Height** fields where you can enter the dimensions of the custom paper you intend to use.

9. Enter the **Page Margins** required by the output device.

The **Page Margins** value is used for the four sides of the page. These margins cannot be used for exposing.

162.2. Not Resizing to a Specific Page Size

If you don't select **Resize to a specific page size**, you can resize or reposition the PDF contents:

1. In the **Page Content** area, select the **Page Box to Use** for positioning, scaling, etc.
2. Select **Center content on page** if you want to center the page contents on the page.
3. Select **Mirror page** if you want to mirror the page contents horizontally.
4. If you want, use the option **Scale** to define a scaling to apply to the artwork before placing it on the page.
5. If you want, enter a **Horizontal** and/or a **Vertical Distortion** to apply to the artwork before placing it on the page.

You can either enter the distorted output values (for example 97% or 103%), or the positive/negative distortion values (for example -3% or +3%).

6. In the **Page Size** area, use the option **Set Orientation** to alter the orientation of every page without resizing it. Choose between **Keep**, **Portrait** or **Landscape**.
7. Use the options **Rescale page boxes** and **Rescale page size** to define what happens when you scale the page contents:
 - a) Select **Rescale page boxes** to scale the page boxes together with the contents.
Deselect it to only scale the page contents and not the page boxes.
 - b) Select **Rescale page size** to scale the page size together with the contents.

Deselect it to only scale the page contents and not the page size.

163. Resolve OPI

This task serves to replace the low-resolution images in a PDF with their high-resolution versions that the PDF links to via OPI comments.

Repository tab

- **Add** the location(s) of the external folder(s) that contain(s) the OPI-files.
- If necessary, add the location(s) of the **excluded folders**. These folders will not be searched.

Note: Use this option if all images can be found on the same volume and you want to exclude all folders containing low-resolution files.

- Select '**Update OPI links only**' to only update the links to the high-resolution images and to not replace the links by embedding the high-resolution images.

Mapping tab

You can here specify a list of how file extensions should be mapped:

- Click **Add** and enter the original extension in the **From** field. If left blank, the extension in the **To** field will be applied to all linked files.
- In the **To** field, enter the new extension to give the linked files, or a comma-separated list of extensions to use as replacement for the original extension.

Note: If you enter multiple extensions, the task searches for a file matching one of them. Use the backslash (\) to preserve a character (for example to use a comma as part of an extension and not as a separator).

164. Restore Job

This task is documented in the [separate chapter on Jobs](#). Find a direct link [here](#).

165. Reverse Trap

Concept

Reverse trapping generates white lines to avoid colors touching or overlapping in case of mis-registration.

This is useful to prepare a job for Dry Offset printing (e.g. metal beverage cans) where overprinting of inks is not allowed as the inks would contaminate each other on the blanket.

Task Settings

- **Distance:** The size of the reverse trap.
- **Joins:** A Mitered corner closes in one point. A Miter limit of 4 is used. This means the corner will be cut off at a distance of 4 times the trapping distance. A Rounded corner joins the corners with a circular arc with the diameter equal to the trapping width.
- **Trap Position:** Enter a value (%). 100% will position the Reverse Trap object completely in the selected direction (in most cases into the lightest ink). 50% will place the trapping object 50% in both directions (i.e. centered on the edge).
- **Close gaps smaller than:** Some files contain very small unintentional gaps between neighboring objects. These gaps prevent trapping of these objects. Although it is better to clean up such files before trapping, this task can ignore these gaps automatically. If you wish to use this, enter the maximum size that these small gaps can have.

Note: If you set a big gap size, trapping may become slower and some small parts may be ignored.

Learn all about its settings in the [manual of ArtPro+](#), in **Prepress functions > Trapping > Trapping mode: Reverse Trapping > .**

About (Reverse) Trap layers

This task creates a new layer "**Reverse Trap Layer**". Its type will be "Automatic Trap Layer", and it will contain all trapping objects.



Attention: A file can not contain both an Automatic Trap Layer and a Reverse Trap Layer. Creating a Reverse Trap Layer will remove an earlier created Automatic Trap Layer.

Reverse Trapping takes into account all objects in **printing layers**.

Non-printing layers and Processing steps will not be taken into account.

166. RIP IMP File to Screened and Unscreened Tiff File

Learn more in the dedicated document on "Commercial Print (Imposition) workflows in Automation Engine". Find it next to the "Complete Manual" of version AE v18.1 on <https://www.esko.com/en/Support/Product?id=Automation%20Engine&ver=18.1>.

167. RIP to CDI LEN File


This task requests a FlexRip/C to create LEN files for a CDI.

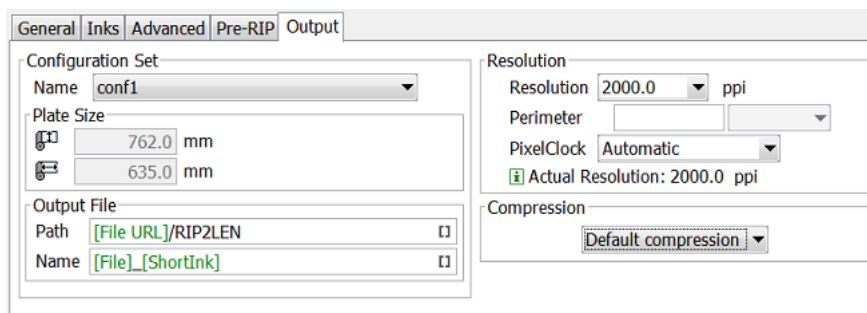
First select the **Device** you added in [the Configure tool](#) (a FlexRip/C).

This task has five tabs:

- **General** (see the [same tab in the task 'RIP to Screened Tiff File'](#))
- **Inks** (see the [same tab in the task 'RIP to Screened Tiff File'](#))
- **Advanced** (see the [same tab in the task 'RIP to Screened Tiff File'](#))
- **Pre-RIP** (see the [same tab in the task 'RIP to Screened Tiff File'](#))
- **Output**.

167.1. Output

Note: Parameters that have been specified in the Dispatcher Queue Settings are enforced in this ticket. Some are preceded by an icon of a Dispatcher: .



- **Configuration Set**
 - **Name:** Select a configuration file. These files contain specific behavior of the output device.
 - **Plate Size:** The plate size of the above selected configuration set is shown.
- **Output File**
 - **Path:** Leave this empty to use the path as defined in the Dispatcher (EskoLink queue - Output tab). If the EskoLink queue has no value for this path, you can define it here.
 - **Name:** Leave this empty to get output file names based on the input file. The default output file name is [File]_[PageNrOfMultiPageFile]_[ShortInkName]. When changing this, be aware that only plain letters and numbers are allowed. Any unsupported characters (symbols) will be replaced by an _.
 - **Resolution** of the output file:

- **Perimeter:** When a configuration set is chosen, this field is grayed out and shows the CDI's 'perimeter' that was set in the device queue (in [the Configure tool](#)). When no configuration is chosen, you can edit this field.
- **Pixelclock:** Choose the appropriate Pixelclock of your CDI. This field will most probably be fixed as it does read what CDI type your device queue was based on (in [the Configure tool](#)).

Note: CDIs with 'VariablePLL' will not show the Pixelclock field nor the Perimeter field.

- **Actual resolution:** This field shows the actual resolution that will be used by the RIP. This is the combination of the requested resolution and the effect of the perimeter on that requested resolution.

Note: The FlexRip rounds off any non-integer number (see the task's log file).

- **Compression:** Choose the compression method for the output files.


The **LZW** compression is most commonly used. **CCIT group** compressions are more effective but take longer to generate (and to decompress on the receiving side).

168. RIP to Screened and Unscreened DCS File


Select a **Device** that was configured in [the Configure tool](#).

This task has five tabs:

- **General** (see the [same tab in the task 'RIP to Screened Tiff File'](#)).
The ticket to RIP to an unscreened DCS file does not show the screening options.
- **Inks**.
- **Advanced** (see the [same tab in the task 'RIP to Screened Tiff File'](#)).
- **Pre-RIP** (see the [same tab in the task 'RIP to Screened Tiff File'](#)).
- **Output**.

Note: Parameters that have been specified in the Dispatcher Queue Settings are enforced in this ticket. Some are preceded by an icon of a Dispatcher: .

168.1. Output

Note: Parameters that have been specified in the Dispatcher Queue Settings are enforced in this ticket. Some are preceded by an icon of a Dispatcher: .

- **Configuration Set**
 - **Name:** Select a configuration file. These files contain specific behavior of the output device.
 - **Plate Size:** The plate size of the above selected configuration set is shown.
- **Output File**

- **Path:** Leave this empty to use the path as defined in the Dispatcher (EskoLink queue - Output tab). If the EskoLink queue has no value for this path, you can define it here.
- **Name:** Leave this empty to get output file names based on the input file. The default output file name is [File]_[PageNrOfMultiPageFile]_[ShortInkName]. When changing this, be aware that only plain letters and numbers are allowed. Any unsupported characters (symbols) will be replaced by an _.
- Select a **Resolution** for the output files.

Single File DCS: When selected, all separations are first RIP'ed to separate files and then included in a final single DCS file (in the end only one file is created). When not selected, a DCS master file is created that refers to plate files, one for each separation.
- **Compression:** Choose the compression for the output TIFF files: Flate, LZW or CCITT Group.

The **LZW** compression is most commonly used. **CCIT group** compressions are more effective but take longer to generate (and to decompress on the receiving side).
- **Preview:** Define the type and resolution of the preview files:
 - **For Placement Only:** To use in a DTP application.
 - **Proofable Preview:** For composite printing from a DTP application.

168.2. Inks

- **All inks:** Deselect 'All Inks' to open the **Inks** list where you can select specific inks.



Attention: In FlexProof tickets, when you want a composite (proofing) output, be aware that de-selecting the 'All Inks' option will then output (proof) each selected ink separately.

- In the column **'Merge Ink with'**, you can manually decide which inks should be merged in the output file. This is common when you use different rulings of a same ink.

To do this, click in the column **'Merge Ink with'** on the row of a specific ink and choose the other ink from the list that pops up. Or click on the name of the column if you want this change for all inks.

Alternatively, click **'Merge Similar Inks'** to let the task propose such combinations automatically for inks with a same name but with a different ruling or angle. Click **Reset Merge** to reset these settings and force the proofing of each ink separately.

Inks:

| <input checked="" type="checkbox"/> | Ink Name | Ink Book | Ruling | Angle | Dot ... | Merge Ink with | Ink Type | Printing ... |
|-------------------------------------|-------------------|---------------------|---------|-------|---------|----------------|-----------|--------------|
| <input checked="" type="checkbox"/> | C | process | 133 lpi | 7 ° | | | Normal | Unknown |
| <input checked="" type="checkbox"/> | C | process | 72 lpi | 7 ° | | C | Normal | Unknown |
| <input checked="" type="checkbox"/> | PANTONE Reflex... | PANTONE+ Solid C... | 133 lpi | 52 ° | | | Normal | Unknown |
| <input checked="" type="checkbox"/> | K | process | 133 lpi | 82 ° | | | Normal | Unknown |
| <input checked="" type="checkbox"/> | Y | process | 133 lpi | 7 ° | | | Normal | Unknown |
| <input checked="" type="checkbox"/> | M | process | 133 lpi | 52 ° | | | Normal | Unknown |
| <input type="checkbox"/> | CAD | designer | 120 lpi | 45 ° | | | Technical | Unknown |

- **Use technical inks in output.** Select this to include the inks with **Ink Type** 'Technical'.

- **Keep similar inks in their original separations:**
- **Keep inks separated:** When 'All inks' is selected, select this to avoid merged inks.
- Select '**Highlight modified values**' to have all modified values highlighted and marked with an asterisk.

Inks:

| <input type="checkbox"/> | Ink Name | Ink Book | Ruling | Angle | Dot Shape |
|-------------------------------------|---------------|------------|-----------|--------|-----------|
| <input checked="" type="checkbox"/> | C | process | 133 lpi | 7 ° | C * |
| <input checked="" type="checkbox"/> | C | process | 72 lpi | 7 ° | C * |
| <input checked="" type="checkbox"/> | K | process | * 120 lpi | 82 ° | |
| <input checked="" type="checkbox"/> | PANTONE Re... | PANTONE... | * 120 lpi | 52 ° | |
| <input checked="" type="checkbox"/> | Y | process | * 144 lpi | 7 ° | |
| <input checked="" type="checkbox"/> | M | process | 133 lpi | * 82 ° | |

169. RIP to Screened and Unscreened PDF File


Select a **Device** that was configured in [the Configure tool](#).

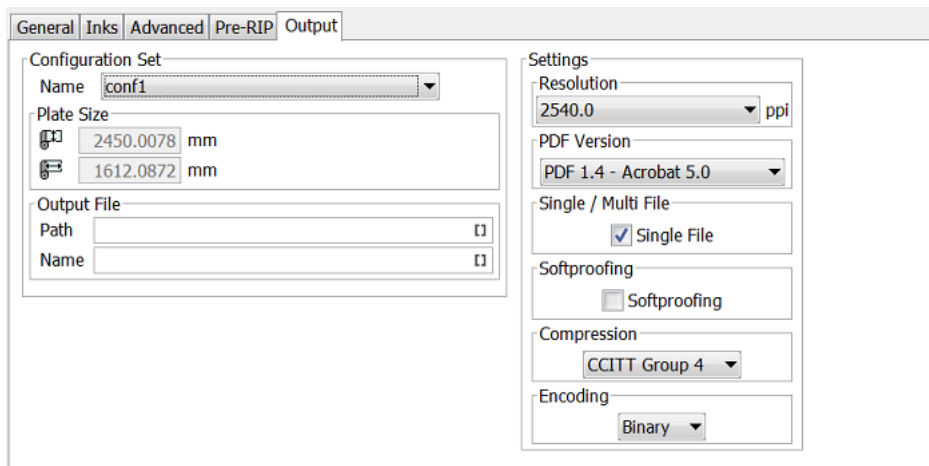
This task has five tabs:

- **General** (see the [same tab in the task 'RIP to Screened Tiff File'](#)). The ticket to RIP to unscreened PDF does not show the screening options.
- **Inks** (see the [same tab in the task 'RIP to Screened Tiff File'](#))
- **Advanced** (see the [same tab in the task 'RIP to Screened Tiff File'](#))
- **Pre-RIP** (see the [same tab in the task 'RIP to Screened Tiff File'](#))
- **Output**.

Note: The fields in gray are the presets that are defined in the Dispatcher Queue settings.

169.1. Output

Note: Parameters that have been specified in the Dispatcher Queue Settings are enforced in this ticket. Some are preceded by an icon of a Dispatcher: .



- **Configuration Set**
 - **Name:** Select a configuration file. These files contain specific behavior of the output device.
 - **Plate Size:** The plate size of the above selected configuration set is shown.
- **Output File**

- **Path:** Leave this empty to use the path as defined in the Dispatcher (EskoLink queue - Output tab). If the EskoLink queue has no value for this path, you can define it here.
- **Name:** Leave this empty to get output file names based on the input file. The default output file name is `[File]_[PageNrOfMultiPageFile]_[ShortInkName]`. When changing this, be aware that only plain letters and numbers are allowed. Any unsupported characters (symbols) will be replaced by an `_`.
- Select a **Resolution** for the output files.
- **Anti-Aliasing** (option appears when RIP'ing to unscreened files): Anti-Aliasing smoothens the staircase effect you get in the image data generated from line-art objects that need pre-processing.
- **PDF Version:** Choose a version:
 - **PDF for Illustrator:** Select this version if the PDF 1.4 file will be opened in Adobe Illustrator CS2 or higher. Because Adobe Illustrator only supports an undocumented subset of PDF 1.4 features, some objects and/or color-spaces must be split up, transformed and/or pre-RIP'ed in order to correctly represent them in Illustrator.
 - **PDF/X-1a:2001 (ISO 15930-1)**
 - **PDF/X-3 - (ISO/DIS 15930-2)**
 - **PDF 1.4 - Acrobat 5.0.**
- **Single / Multi File**

When selecting 'single file' output, all separations are first RIP'ed to separate files first and then included in the final PDF / PS file. When this option is not selected, the task creates a Master file and also plate files that it refers to (one per separation).
- **Softproofing**

When selected, the task writes a composite PDF file that combines the different separations in a single PDF page. This PDF file can be used for colored viewing in Acrobat.

The combination of 'Single file' with 'Softproofing', can lead to four situations:

 - No soft-proofing, multi file: All separations are written in a different page, and all pages are written in a separate output file.
 - No soft-proofing, single file: All separations are written in a different page, and all pages are combined in a single file.
 - Soft-proofing, multi file: Separations are kept together per page, and all pages are written in a separate output file.
 - Soft-proofing, single file: Separations are kept together per page, and all pages are combined in a single file.
- **Compression:** Choose a compression method.
- **Encoding**
 - **Binary:** The image data is represented as binary data. This results in compact files. Such files are not editable in a common ASCII editor. Nor can these files be transferred using a communication protocol that relies on control characters in the data stream itself.
 - **Hex:** This forces the output to remain editable with an ASCII editor. It can then also can be transferred using whatever communication protocol is available. The drawback is that hexadecimal image data can take up to twice as much size as binary data.

- **ASCII 85:** Encodes binary data in an ASCII base-85 representation. This encoding uses nearly all of the printable ASCII characters. The resulting expansion factor is 4:5, making this encoding more efficient than hexadecimal.


170. RIP to Screened and Unscreened PostScript File

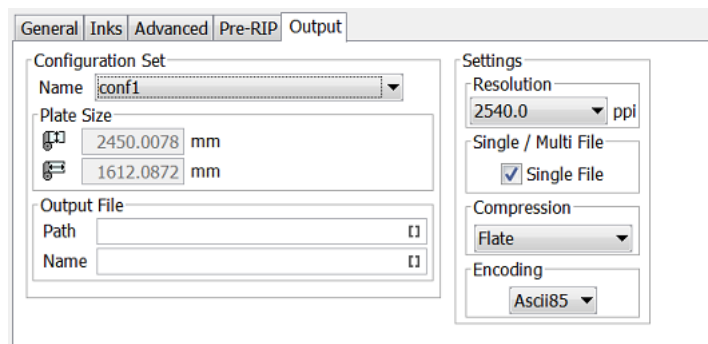
Select a **Device** that was configured in [the Configure tool](#).

This task has five tabs

- **General** (see the [same tab in the task 'RIP to Screened Tiff File'](#)). The ticket for unscreened output does not show any screening options.
- **Inks** (see the [same tab in the task 'RIP to Screened Tiff File'](#))
- **Advanced** (see the [same tab in the task 'RIP to Screened Tiff File'](#))
- **Pre-RIP** (see the [same tab in the task 'RIP to Screened Tiff File'](#))
- **Output**.

170.1. Output

Note: Parameters that have been specified in the Dispatcher Queue Settings are enforced in this ticket. Some are preceded by an icon of a Dispatcher: .



- **Configuration Set**
 - **Name:** Select a configuration file. These files contain specific behavior of the output device.
 - **Plate Size:** The plate size of the above selected configuration set is shown.
- **Output File**
 - **Path:** Leave this empty to use the path as defined in the Dispatcher (EskoLink queue - Output tab). If the EskoLink queue has no value for this path, you can define it here.
 - **Name:** Leave this empty to get output file names based on the input file. The default output file name is [File]_[PageNrOfMultiPageFile]_[ShortInkName]. When changing this,

be aware that only plain letters and numbers are allowed. Any unsupported characters (symbols) will be replaced by an _ .

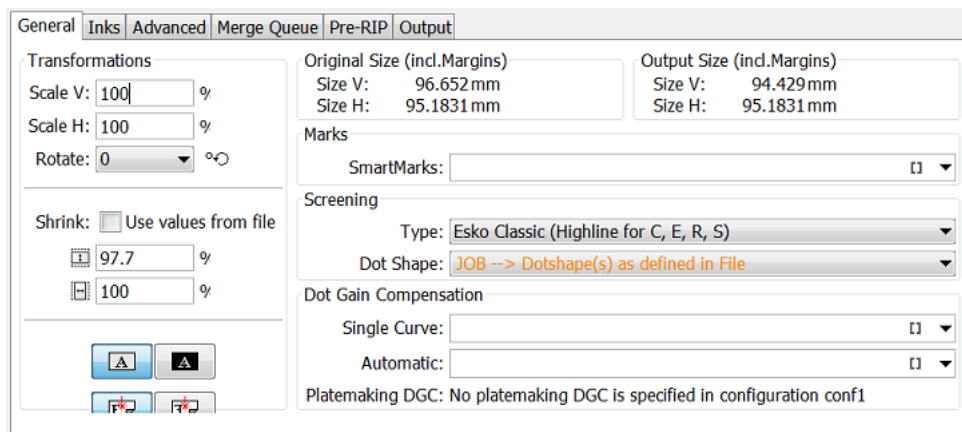
- Select a **Resolution** for the output files.
- **Anti-Aliasing** (option appears when RIP'ing to unscreened files): Anti-Aliasing smoothens the staircase effect you get in the image data generated from line-art objects that need pre-processing.
- **Single / Multi File**
When selecting 'single file' output, all separations are first RIP'ed to separate files first and then included in the final PDF / PS file. When this option is not selected, the task creates a Master file and also plate files that it refers to (one per separation).
- **Compression**: Choose a compression method.
- **Encoding**
 - **Binary**: The image data is represented as binary data. This results in compact files. Such files are not editable in a common ASCII editor. Nor can these files be transferred using a communication protocol that relies on control characters in the data stream itself.
 - **Hex**: This forces the output to remain editable with an ASCII editor. It can then also can be transferred using whatever communication protocol is available. The drawback is that hexadecimal image data can take up to twice as much size as binary data.
 - **ASCII 85**: Encodes binary data in an ASCII base-85 representation. This encoding uses nearly all of the printable ASCII characters. The resulting expansion factor is 4:5, making this encoding more efficient than hexadecimal.

171. RIP to Screened and Unscreened Tiff File

Select a **Device** that was configured in [the Configure tool](#).

Note: Options that are grayed out are values that were already defined in the Dispatcher queue settings.

171.1. General





- **Transformations**

- **Scale V / H:** Enter a percentage to scale the design vertically and/or horizontally (the V-H orientation is the one that you see when the file is opened in an editor or viewer).
- **Rotate:** Choose a rotation (counterclockwise).
- **Shrink: Use values from file:** When the input file is a Plato file that has shrink values defined inside the PDFPLA file, it will show these values here. Deselect this option to edit and overrule those values.



Attention: If you use both scaling and shrink (distortion) options, then both these scaling values will be executed! For example: If your ticket requests a shrink V 98% but also a Scale V 95%, then the output-size for V will be 98% of 95% (which is 93.1%). So the file is first scaled and then distorted.

- : Choose if you want a positive or negative output file.
- : Choose if you want mirroring or not.
- **Original Size (incl. Margins):** The ticket shows the original size of the input file, margins included.
- **Output Size (incl. Margins):** The size shown here is the real output size, which is the original size influenced by the scaling factors, distortions and the rotation.

- **Marks:** If you want you can add **SmartMarks** to your file. SmartMarks sets are created in an Esko editor.
- **Screening** (in tickets for screened output):
 - **Type:** Choose the type of screening.
 - **Dotshape:** Choose a dot shape. When dot shapes were defined in your input file, you can use those by choosing '**JOB # (Dotshape(s) as defined in File)**'. This option will display in orange when the input file does not have any predefined dots (in its ink menu).



Attention: When a dot shape is displayed in orange, you can select it but the RIP's default dot shape will be used instead.

- **Dot Gain Compensation**
 - **Single Curve:** Select a Dot Gain Compensation Curve (*.dgc).
 - **Automatic:** Select a screen based Dot Gain Curve (*.scredg or *.icpro).
 - **Platemaking DGC:** This displays the platemaking DGC (if any) defined in the FlexRip **Configurator** tool.

Tip: The compensations are also applied to the SmartMarks. To prevent this, consider using specific inks or rulings for the inks used in your SmartMark objects.

171.2. Inks

The screenshot shows the 'Inks' tab in a software interface. At the top, there are tabs for 'General', 'Inks', 'Advanced', 'Merge Queue', 'Pre-RIP', and 'Output'. Below the tabs, there are three checkboxes: 'All inks' (unchecked), 'Use technical inks in output' (checked), and 'Keep inks separated' (unchecked). Below this is a table titled 'Inks:' with the following columns: 'Ink Name', 'Ink Book', 'Ruling', 'Angle', 'Dot Shape', 'Merge Ink with', 'Ink Type', and 'Printing ...'. The table contains seven rows of ink data. At the bottom of the table, there is a checkbox 'Highlight modified values *' (checked) and two buttons: 'Merge Similar Inks' and 'Reset Merge'.

| Ink Name | Ink Book | Ruling | Angle | Dot Shape | Merge Ink with | Ink Type | Printing ... |
|--|------------------|---------|-------|-----------|----------------|-----------|--------------|
| <input checked="" type="checkbox"/> C | process | 133 lpi | 7 ° | CS * | | Normal | Unknown |
| <input checked="" type="checkbox"/> C | process | 72 lpi | 7 ° | CS * | C | Normal | Unknown |
| <input checked="" type="checkbox"/> PANTONE Reflex Bl... | PANTONE+ Soli... | 133 lpi | 52 ° | CS * | | Normal | Unknown |
| <input checked="" type="checkbox"/> K | process | 133 lpi | 82 ° | CS * | | Normal | Unknown |
| <input checked="" type="checkbox"/> Y | process | 133 lpi | 7 ° | CS * | | Normal | Unknown |
| <input checked="" type="checkbox"/> M | process | 133 lpi | 52 ° | CS * | | Normal | Unknown |
| <input checked="" type="checkbox"/> CAD | designer | 120 lpi | 45 ° | CS * | | Technical | Unknown |

- **Inks on separate TIFF files:** This option only appears when you're outputting to a merging device (as defined in the Configure tool). Select it to make sure that different inks end up on different films.
- **All inks:** Deselect 'All Inks' to open the **Inks** list where you can select specific inks.



Attention: In FlexProof tickets, when you want a composite (proofing) output, be aware that de-selecting the 'All Inks' option will then output (proof) each selected ink separately.

- In the column **'Merge Ink with'**, you can manually decide which inks should be merged in the output file. This is common when you use different rulings of a same ink.

To do this, click in the column **'Merge Ink with'** on the row of a specific ink and choose the other ink from the list that pops up. Or click on the name of the column if you want this change for all inks.

Alternatively, click **'Merge Similar Inks'** to let the task propose such combinations automatically for inks with a same name but with a different ruling or angle. Click **Reset Merge** to reset these settings and force the proofing of each ink separately.

Inks:

| <input checked="" type="checkbox"/> | Ink Name | Ink Book | Ruling | Angle | Dot ... | Merge Ink with | Ink Type | Printing ... |
|-------------------------------------|-------------------|---------------------|---------|-------|---------|----------------|-----------|--------------|
| <input checked="" type="checkbox"/> | C | process | 133 lpi | 7 ° | | | Normal | Unknown |
| <input checked="" type="checkbox"/> | C | process | 72 lpi | 7 ° | | C | Normal | Unknown |
| <input checked="" type="checkbox"/> | PANTONE Reflex... | PANTONE+ Solid C... | 133 lpi | 52 ° | | | Normal | Unknown |
| <input checked="" type="checkbox"/> | K | process | 133 lpi | 82 ° | | | Normal | Unknown |
| <input checked="" type="checkbox"/> | Y | process | 133 lpi | 7 ° | | | Normal | Unknown |
| <input checked="" type="checkbox"/> | M | process | 133 lpi | 52 ° | | | Normal | Unknown |
| <input type="checkbox"/> | CAD | designer | 120 lpi | 45 ° | | | Technical | Unknown |

- **Use technical inks in output.** Select this to include the inks with **Ink Type** 'Technical'.
- **Keep similar inks in their original separations**
- **Keep inks separated:** When 'All inks' is selected, select this to avoid merged inks.
- Select **'Highlight modified values'** to have all modified values highlighted and marked with an asterisk.

Inks:

| <input type="checkbox"/> | Ink Name | Ink Book | Ruling | Angle | Dot Shape |
|-------------------------------------|---------------|------------|-----------|--------|-----------|
| <input checked="" type="checkbox"/> | C | process | 133 lpi | 7 ° | C * |
| <input checked="" type="checkbox"/> | C | process | 72 lpi | 7 ° | C * |
| <input checked="" type="checkbox"/> | K | process | * 120 lpi | 82 ° | |
| <input checked="" type="checkbox"/> | PANTONE Re... | PANTONE... | * 120 lpi | 52 ° | |
| <input checked="" type="checkbox"/> | Y | process | * 144 lpi | 7 ° | |
| <input checked="" type="checkbox"/> | M | process | 133 lpi | * 82 ° | |

171.3. Advanced

General | Inks | **Advanced** | Merge Queue | Pre-RIP | Output

Hold In RIP Queue

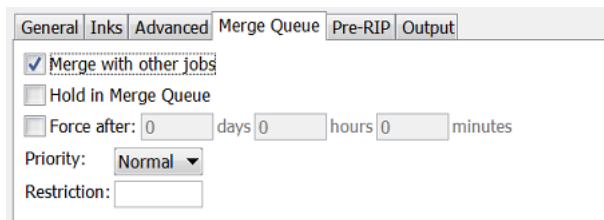
Yellow Ruling: Don't change Y ruling

CT Resampling: Don't resample

- **Hold In RIP Queue:** Select this to hold the task in the RIP-queue until someone manually releases this task.

- **Yellow Ruling:**
 - **Don't change Y ruling:** The ruling of the yellow ink is not adapted.
 - **Change Y ruling:** Choose from: -15%, -7%, 0% (no change), + 7% and +15%.
 - **Change Y ruling stochastic:** Same as above but the dot shapes are also adapted to the **Monet** dot.
- **CT Resampling:**
 - **Don't resample:** No re-sampling is done. This avoids most pixel shifts.
 - **Resample to highest CT resolution from job:** Select this to fix the remaining pixel shift problems, with the least up-scaling possible without data loss.
 - **Resample to automatic chosen resolution:** Select this to reduce broken dot problems, by interpolating images to at least 1.000 ppi.
 - **Resample to output resolution:** This is the slowest option, re-sampling all CT's to the output resolution.

171.4. Merge Queue



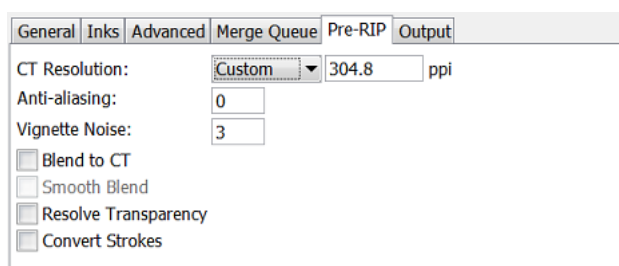
This tab appears when the configuration of the selected **Device** has the "**Merge**" function on '**Yes**' (see its setting in the [Configure tool](#)).

Note: 'Merging' here means making an optimized layout of separations next to each other.

- **Merge with other jobs:** Select this to merge the separations that this ticket creates with separations from other files that were also RIP'ed for this FlexRip device.
- **Hold in Merge Queue:** This will 'hold' the separations in the merger database. This means they are 'not to be considered for merging'. Use the tool "[Merger Monitor](#)" to see this database and to manually release entries that were put on hold.
- **Force after:** Separations that were put on hold can automatically be released again after a chosen time. This prevents having to wait too long before the '**Minimum Fill %**' has been reached. Learn more in [FlexRip - Screened Output](#).
- **Priority:** Define the priority that entries will have in the merger database. Entries with a high priority will be chosen sooner for merging with other entries.
- **Restriction:** The separations will only merge with other separations of files that have received the same restriction value from this field. This value can be anything, whatever makes sense for your workflow. Some examples:

- `fruit`: The word 'fruit' could be used to make sure that these separations will only be merged with other separations that were also sent with that word 'fruit'. The goal could be that you wish to merge the separations of the 'banana', 'cherry' and 'apple' jobs all on the same film.
- `Bob`. The word 'Bob' could be operator Bob's restriction to only get films with separations of 'his own jobs'.

171.5. Pre-RIP



This tab is only relevant when some objects in the file need to be simplified before they can be sent to the RIP. The task takes this decision automatically. And even when this is done, the options are best left to their default settings.

These are the special objects in a Normalized PDF that require such pre-processing:


- 'Edge vignettes': vignettes with alpha channels effects on the edge of the object.
- Barco Blends: blend objects in the legacy 'GRO' format.
- Warped CTs: warping done on external CTs.

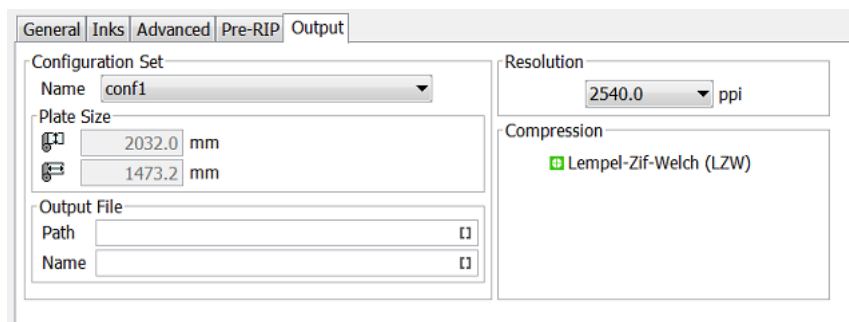
Pre-RIP'ing creates an image (CT) of these special objects because the RIP can not interpret them.

- Specify the **CT Resolution** for these new images.
 - **Custom**: This default choice of 304.8 ppi guarantees the behavior of previous Esko applications. This option is independent of the output resolution.
 - **Output**: This creates the CTs at the same resolution as the RIP output resolution, with a maximum of 1.000 ppi. This option provides an optimal RIP output, but may slow down pre-RIP'ing and may require more disk space.
 - **Automatic**: This create the CTs at a resolution as close as possible to 300 ppi, depending on the RIP output resolution. The task calculates it in such a way that the RIP output resolution is an integer multiple of this CT resolution.
- **Anti-aliasing**: Anti-aliasing smoothens the staircase effect that you get when an image is created of lineart objects.
- **Vignette Noise**: Some vignettes or parts of vignettes will be converted to CTs. This happens when they overlap other objects with translucency or overprint. To reduce the banding effect, noise is applied on the CT, also known as 'grain'. The amount of noise can be specified here.
- **Blend to CT**: Select this to convert legacy Barco Graphics blend objects into a CT.
- **Smooth Blend**: Select this to set the amount steps in the blend objects to 255. When 'Convert Blend Objects to CT' is activated and 'Smooth Blend' also, the generated CT will ignore the original steps of the legacy (Barco Graphics) blend object. The amount of steps is set at the maximum of 255.

- **Resolve Transparency:** Doing this as a pre-RIP stage can speed up the RIP'ing. Only select this when needed.
- **Convert Strokes:** Select this if your output device requires you to do so.

171.6. Output

Note: Parameters that have been specified in the Dispatcher Queue Settings are enforced in this ticket. Some are preceded by an icon of a Dispatcher: .



- **Configuration Set**
 - **Name:** Select a configuration file. These files contain specific behavior of the output device.
 - **Plate Size:** The plate size of the above selected configuration set is shown.
- **Output File**
 - **Path:** Leave this empty to use the path as defined in the Dispatcher (EskoLink queue - Output tab). If the EskoLink queue has no value for this path, you can define it here.
 - **Name:** Leave this empty to get output file names based on the input file. The default output file name is [File]_[PageNrOfMultiPageFile]_[ShortInkName]. When changing this, be aware that only plain letters and numbers are allowed. Any unsupported characters (symbols) will be replaced by an _.
- Select a **Resolution** for the output files.
- **Compression :** Choose the compression for the output TIFF file. Which compression to use depends on the device you are creating the TIFF files for.
 The **LZW** compression is most commonly used. **CCIT group** compressions are more effective but take longer to generate (and to decompress on the receiving side).

172. Route Approval Cycle

This task is documented in the chapter [Integrating with Share & Approve](#).

Find a direct link [here](#).

173. Router

This Workflow Control is documented in the chapter ["Workflows"](#). Learn more in [Router](#).

174. Run ArtiosCAD Standard

Concept

This task creates an ArtiosCAD ARD design based on an existing ArtiosCAD standard.

The task requires parameters as board information, units, grain direction, print side and dimensions.

More Info

This task is set up by an Esko Solution Architect. Learn about Esko Solution Services on <https://www.esko.com/support/solution-services>.

For more information, search for online articles on this topic in the [Esko Knowledge Base](#).

175. Run Script

This task is documented in the chapter [Using Scripts](#). See [The Run Script Task](#).

176. Select File

This Workflow Control is documented in the chapter "[Workflows](#)". Learn more in [Select File](#).

177. Select Files on Shared Job

This task is documented in the chapter [Collaborating via Esko Cloud](#). Find a direct link [here](#).

178. Select Mark File

This Workflow Control is documented in the chapter [Workflows](#). See [Mark File and Select Marked File](#).

179. Select Job

The **Select Job** workflow control is documented in the chapter [Workflows](#). Find a direct link [here](#).

180. Select Product

The **Select Product** workflow control is documented in the chapter [Workflows](#). Find a direct link [here](#).

181. Select Referenced File

This Workflow Control is documented in the chapter "Workflows". See [Select Referenced File](#).

182. Send File to Automation Engine Agent

This task is documented in the chapter on [Automation Engine SaaS](#).

Find a direct link [here](#).

183. Send E-mail

This task uses your E-mail server to send E-mails.

Your mail server must first be correctly configured in the [E-mail item in the Configure tool](#).

The E-mail can contain:

- Custom text, typed in this ticket
- Any information that Automation Engine has, by using SmartNames,
- The task's input files.

1. Enter the E-mail address(es) you want the E-mail to be sent **To**.

When you work in a Job context that has customer information filled in, check if you can here use any of the customer E-mail addresses as a SmartName (category **Job Information**).

You can also use SmartNames to add the E-mail address of the Task Owner (category **Task information**). Learn more about SmartNames in [this chapter](#).

Note:

- Multiple addresses in one field need to be separated by a semicolon " ; ".
- When you here use SmartNames, make sure they resolve to a valid E-mail address.

2. If you want, add extra E-mail address(es) in the **Cc** field (copy).

3. If you want, add extra E-mail address(es) in **Bcc** (blind copy). The recipients' E-mail address will not be displayed to the receiver.

4. Enter an E-mail **Subject**.

There are many SmartNames that can summarize the context of this message. An example:
Please check the attached file for job " [Job Name] ". Please mind its due date: [Job Due Date] - [Job Due Time] .

5. If you want, you can change the sender of the E-mail in **From**. By default the E-mail address of the **Task Owner** will be used.



Attention: This field requires a valid E-mail address, not just a name, alias or user name.

Note: This ability to send E-mails on behalf of the task owner (or whoever you here filled in) is subject to the configuration on your mail server. When in doubt, please consult your IT administrator.

6. Enter your **Message**.

Combine custom text with SmartNames to add a lot of variable information.

7. **About text encoding:** By default, this task uses the system's local encoding. If you notice unreadable characters when reading an Automation Engine E-mail in your E-mail program (for example Asian characters), you best change the encoding to UTF-8.

This table shows how to enforce specific encodings:

| Add this to the Message field: | to... |
|--|---|
| <code>#set (\$SubjectCharSet="utf-8")</code> | set the encoding of the Subject to UTF-8. |
| <code>#set (\$ContentType="text/plain;charset=utf-8")</code> | set the encoding of the Message to UTF-8 and use plain text. |
| <code>#set (\$ContentType="text/html;charset=utf-8")</code> | set the encoding of the Message to UTF-8 and use HTML. |
| <code>#set (\$AttachmentsCharSet="utf-8")</code> | set the encoding of the file name of the attachments to UTF-8. |

8. If you want to include the task input files, select **Attach input files**.
Mind the size limits that your mail server has on attachments.
9. Select **Ignore unresolved smart addressees** if you want the task to continue when an E-mail address is set via a SmartName that cannot be resolved.
Some examples of when this can happen: when a Job Parameter does not exist for this job, when the SmartName has been deleted or when a Workflow Parameter does not exist in this workflow.
10. In the ticket's menu item '**Advanced**', you can set **public parameters** if you want users to be able to fill in E-mail settings when they submit files from [Shuttle](#).
Learn more in [Using Public Parameters in Workflows](#).
11. Save your ticket. When you used many SmartNames, it will be valid for many situations and workflows.



Attention: Self-closing tags are not supported. For example `
` or `<address/>`. When setting up HTML E-mails, you have to use a separate opening tag and closing tag (example `<address> </address>`), or the empty variant (example: `
`).

184. Send PostScript File to Device

This task sends a PostScript file to a PostScript device that was configured on the computer of the Automation Engine server.

Use the drop-down list to select the PostScript device you want to output to.

185. Set Priority

This Workflow Control is documented in the chapter "[Workflows](#)". See [Set Priority](#).

186. Share Job

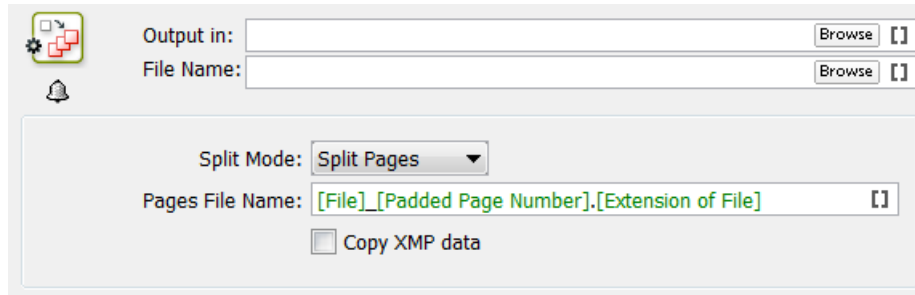
This task is documented in the chapter *Collaborating via Esko Cloud*. Find a direct link [here](#).

187. Sort

This Workflow Control is documented in the chapter "[Workflows](#)". See [Sort](#).

188. Split PDF File

This task splits multi page PDFs into single page PDFs or PDFs with a specific range of pages. The task also generates a RunList that contains references to all output PDFs.



- **Output in:** Select where you want to output the generated PDFs and the RunList.
- **File Name:** Enter the name of the generated RunList. By default, this is **[File].jdf**.
- **Split Mode:** Choose how you want to split the pages of the input file.
 - **Split Pages:** This mode splits the PDF into individual single page files.
 - **Split In Groups:** This mode splits the PDF into several files having the same number of pages. Enter this number in the field **Group Size**.

Note: If the task cannot output files having the same number of pages, the last output file will have less pages. For example if you ask a PDF with 10 pages to split into files of 4 pages, the task will create 2 PDFs with 4 pages and 1 PDF with only 2 pages.

- **Extract Pages:** This mode extracts only the pages that you specify in the field **Page Ranges**. You can specify either single page numbers or page ranges with a hyphen, for example 1-3 to extract pages 1 to 3. You can add multiple numbers and ranges when you separate them by a comma, for 1-3, 7, 14-22.
 - **Output as one multi page document:** Select this if you want to output all of the page ranges as one document.
 - **Output remaining pages:** Select this if you also want to output the pages that you did not include in the field **Page Ranges** as one multi page PDF.
 - **Remaining Pages File Name:** This is where you define the name of those remaining pages.
- **Pages File name:** Define the name of the output files here. You can use some SmartNames that are specific for this field: [Page Label] and [Page Number]. By default the SmartName [Padded Page Number] is proposed.

Note: Padded page numbers help sorting files in alphabetical order. For example: a standard page number is 1 as in mango_1.pdf. Asking a padded page number results in mango_01.pdf. And when there are more than 99 pages, the padded page number result will be mango_001.pdf.

- **Copy XMP data:** Enable this option to copy the XMP data of the input file into the output files.

189. Split XML

This task is documented in the chapter [Integrating with External Systems](#). Find a direct link [here](#).

190. Start Approval Cycle on Share & Approve

This task is documented in the chapter [Integrating with Share & Approve](#).

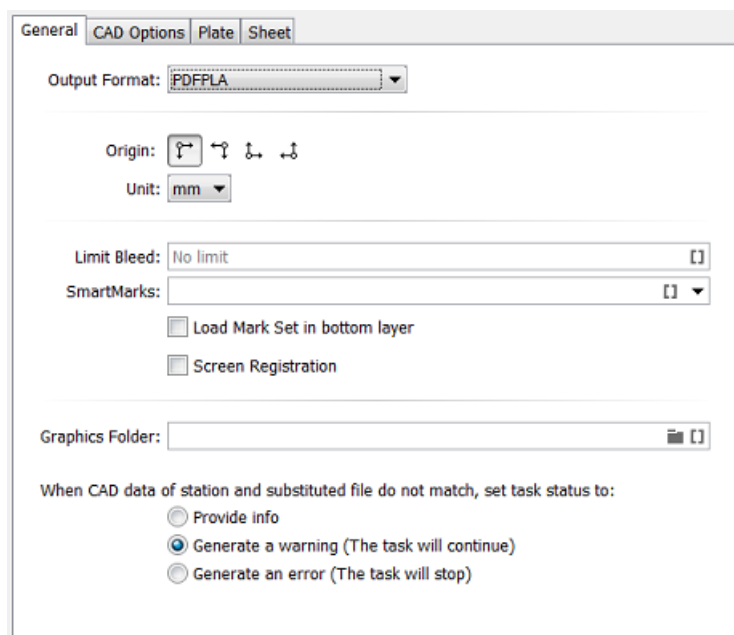
Find a direct link [here](#).

191. Step & Repeat CAD based

This uses a CAD layout file as input file and places graphic files on the different designs in that CAD layout.

This task supports MFG files (Artios Manufacturing files) and CFF2 files.

191.1. Tab 'General'



- **Output Format**

- **PDFPLA:** In this format, the placed stations are referenced files, they are not embedded into the layout file. This keeps the layout file small but limits its use to applications that support such external references: Esko editors, Esko RIPs or any next workflows steps in Automation Engine that make use of this smart referencing.



Attention: If the input file of this task was a native PDF, this output mode will make the task end in error because a "PDFPLA can only contain references to normalized PDF".

- **Normalized PDF (embed all):** In this format, because all data is embedded, the PDF can be used to exchange this layout file to remote sites that also use tools that read this Esko Normalized data. For example: off-site printers that also use an Esko RIP.

This file format is larger in Mb, however it is important to know that the technique of "PDF forms" is used: each station is only embedded once into the output file. For example if it contains 5

banana labels and 5 lemon labels, the size of the PDF will only be slightly larger than the size of 1 banana PDF plus 1 lemon PDF file.

- **PDF:** This native PDF will have all data embedded and will also use "PDF forms" to optimize its size (as explained here above). Choose this output type PDF when you need to send this data to a non-Esko environment or device.



Attention: This output is only advised when the task input file is one or more native PDF(s). The advantage is then that there is no 'on the fly' normalization done on these native PDF stations ; they are untouched and are only placed into the native layout PDF.

This PDF has in its XMP also a description of the contents of its grids, their station names and amounts. Any distortion factor (here named "**Shrink**") will be calculated/executed in the PDF.

Note: Choosing this output type disables the options '**Screen Registration**' and '**Include CAD info for Digital Flexo Suite**'.

- Choose the matching icon for the **origin** of the plate.
- Select '**Limit Bleed**' to limit any bleed to a specific distance. The bleed mask is created by spreading the die shape.

Note: Learn more about what happens when bleed from panels overlaps in [Bleed and overlap](#) on page 97 and in [Bleed Overlap Priority Decided by ArtiosCAD Artwork Panels](#) on page 98.

- Add **SmartMarks** by selecting a SmartMark set from the drop-down list. Or use a SmartName to select it.

Select '**Load Mark Set in bottom layer**' if you want to make sure the marks are positioned in the bottom layer, to make them appear 'behind' the graphics.

- **Screen Registration:** When selected, the origin of the screening will be reset for each station on the layout. This guarantees that the exact same screening will be applied for each station. This is for example required when printing stamps. When not selected, screening will be done continuously throughout the complete layout.



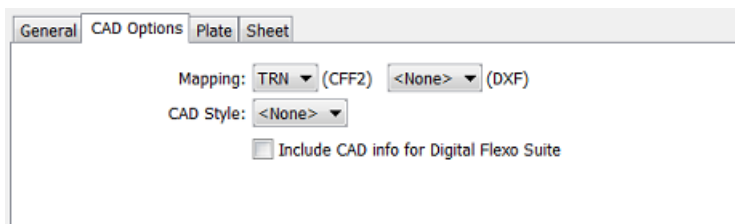
Attention: This option defines an attribute in the PDF that is only supported by **Imaging Engine** or **FlexRip**. It is ignored by any other RIP..



Attention: Screen registration is not available when you choose the output format **PDF**.

- **Graphics Folder.** Define the folder where the task can find the graphic files that should be repeated (a.k.a. 'stations').
- **When CAD data of station and substituted file do not match, set task status to:**
 - **Provide info**
 - **Generate a warning (the task will continue).**
 - **Generate an error (the task will stop).** The task will not create an output file.

191.2. Tab 'CAD Options'



Both **Mapping** and **CAD Style** are options you can define in the Esko Editors.

- **Mapping:** When the CAD file is a CFF2 or DXF file, you here select the set of mapping rules. These rules map line styles (cut, crease, bleed), layer names and color numbers onto ArtiosCAD line types. These sets of mapping rules can be created in Esko PackEdge or Plato. Learn more in [their user documentation](#), more specifically in their section on placing files (PackEdge) or on importing CAD data (Plato).
- The **CAD Style** changes the appearance of the (imported) ArtiosCAD type lines.

Note: This CAD Style is only applied on lines from the design (ARD) that was stepped in the layout file (MFG). Lines manually drawn next to the placed designs (the so called "objects at layout level") will always be ignored by the task.

The styles you can select here were also created in PackEdge or Plato. Learn more in [their user documentation](#), more specifically in the section on placing ArtiosCAD files, and the option for "CAD Style".

- **Include CAD info for Digital Flexo Suite:**

If you are using the Esko [Digital Flexo Suite](#) (DFS), select this option to add the technical inks data into the header of the output file (this is usually the cut and crease lines). This data is then visible in the Esko Bitmap Viewer and also embedded in the LEN files created by an Esko RIP.

The DFS can export this information into ACM files for an Esko Kongsberg cutting table. In Esko PlatePatcher workflows, this information can be used to print onto the plastic sheet where the pieces of flexo plate are re-assembled. These technical lines can also represent text that is then added onto the (back of the) flexo plates, using a pen on the Kongsberg table.

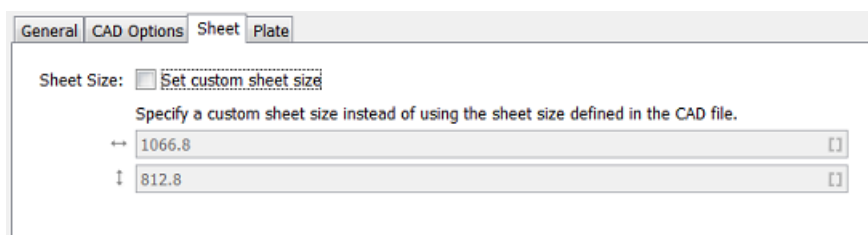


Attention: This option is disabled when you choose the output format (native) **PDF**.

191.3. Tab 'Sheet'

The sheet is the substrate that this layout will be printed on.

Sheet Size



- **Set custom sheet size:** Select this when you do not want to use the size that is defined in the CAD file. Then enter its size below.

191.4. Tab 'Plate'

The sheet size is automatically extracted from the CAD template but neither Artios MFG nor CFF2 files have a notion of 'plate'. As a result, the plate size and the position of the sheet on the plate have to be specified in this **Plate** tab.

- **Plate Size** : Select **Set custom plate size** when the plate size needs to be different than the sheet size. Then enter your custom plate size below (and possibly also the sheet position and offset).
- If you want, enter horizontal and/or vertical **Shrink** values (in percentage) to compensate for printing distortion (especially in Flexo).
The default value is 100, both horizontally and vertically, which means no distortion compensation. Learn more about when and how they are applied in the topic 'shrink' [on this page](#).
- Define the **Sheet Position** by clicking or dragging the sheet (inner rectangle) to its position versus the plate (outer rectangle).
- **Offset**: When enabled, add a H and/or V offset of the sheet versus the plate.

192. Step & Repeat CAD based (Dynamic)

This task creates a final sheet layout containing a number of copies of 1 or more designs. For example: a layout with 10 copies of a small box and 5 copies of a large box.

Note: This task uses Esko's NDL (PDF+) based graphic kernel. It aims to replace the tasks [Create Sheet Layout](#) on page 90 and [Step & Repeat CAD based](#) on page 361.

This task accepts various input file types. It outputs PDF+ file(s).

Input and Output File Types

Input file types

The task accepts multiple input files.

The task allows different types of input files:

- PDF(+)
- Normalized PDF
 - without CAD object info
 - with CAD object info. This CAD object could have been added in Adobe Illustrator, ArtPro, ArtPro+, PackEdge or by the task '[Load Structural File](#)'.
- XML

Note:

- When one or more of the input files are 2-sided PDF files, then duplex is performed automatically.
- It is possible to mix 1-sided and 2-sided documents ; some input files can define both front & back, some can have only the front side.
- PDFSTA files are not supported.

Output file type

- PDF+ file(s)

General Behavior

- Input file(s)
 - When the input file(s) are PDF, the task uses the default XML values to create a station (see [below page on XML input](#)).

Note: When the input file is a normalized PDF, then:

- Technical Inks become opaque inks.
- Protected objects, such as unsupported barcodes, DeskPack Dynamic Marks (DMK) and Smart Text objects are converted to linework.
- Supported barcodes are regenerated. When a barcode has live text in a font that is not available on the system, OCR-B will be used.
- The default Color Profile is added as Document Profile. An existing profile is kept when it is a supported format.
- All normalized PDF XMP data is removed.
- When a linked normalized PDF is placed in the file, the linked file will be embedded.
- When a linked non-normalized PDF file is placed in the file, the linked PDF is kept as linked placed art.
- When a supported structural design file is linked in the file (ARD, CF2), the link to the structural design file is kept.
- When a missing or unsupported structural design file is linked in the document (ZAE, DAE, BAG, DXF, DDES, VLM, ...), the structural design object will be converted to linework.
- When the normalized PDF contains links to unsupported images (EPS, DCS, ...), the conversion will fail.

- When the input file(s) are XML, the task supports multiple ways to define the stations. Learn more in [below page on XML input](#).

- CAD Layout

- Stations: ARD and CF2 file formats are supported as structural design files for the stations. DXF is not supported.

Note: Structural information in Stations is not mandatory but their names and bounding boxes can help to attach a station to its place in layout.

- Layout: This task gets its CAD layout structure from MFG templates (the native format of ArtiosCAD) or from CF2 layout templates or from PDF+ layouts created in ArtPro+.

- Output file

- The PDF+ file contains 2 layers: the CAD layer and a layer containing the placed stations.
- When Dynamic Marks from ArtPro+ are used an extra layer 'Dynamic Marks' is created, containing static objects.
- The output file has a trim box (the sheet) and a media box (the plate).
- It contains these inks:
 - all the inks of the input files
 - all the inks created during import of the CAD layout template
 - all inks that might be added by Dynamic Marks.

Automatic VDP mode

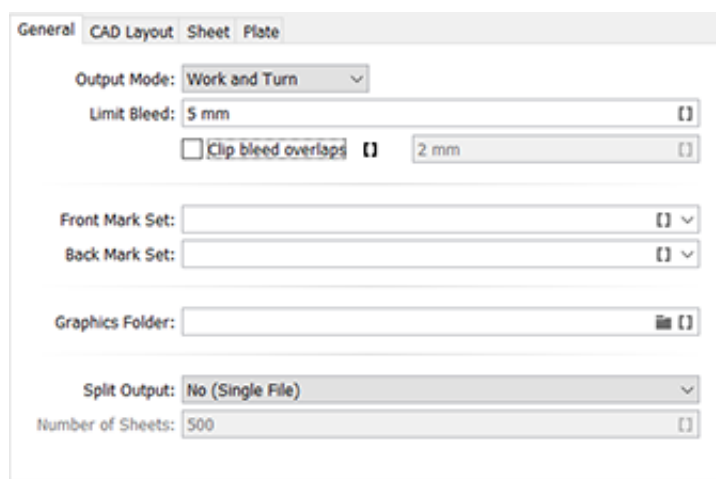
When the task's input is one or more PDF files with *more than 2* pages each, the 'VDP mode' is enabled for this task. Such multi-page files are considered as output files of a VDP expansion. This mode then creates a multi-page output where every station on the layout is populated with a unique page from the input file(s).

Note: In this version the VDP mode supports only single side jobs (printing only front (recto) side) and also only one group of stations is supported.

Note: Depending on *filling order* (Stack-by-stack or Sheet-by-sheet) and number of one-ups in the input it is possible that there are empty stations in the output.

Note: In this VDP mode, the output is automatically optimized by embedding all 1-ups (any link to the original document is removed) and all marks are expanded.

192.1. Tab 'General'



- Output **Mode**: You can choose to
 - **Work and Turn** (rotate over a vertical axis) or **Work and Tumble** (rotate over a horizontal axis).

Note: In order to make a CAD sheet with a front and a back, you need a multi-page PDF file. The first page is placed on the front, the second on the back.

- Or you can choose to output only one side: **Front Only** or **Back Only - Turn** or **Back Only - Tumble**.
- **Limit Bleed**:
 - When using a **CF2 / MFG template**, this value is the actual value of bleed that is applied (like it is visible in ArtPro+ "Clip bleed at").
 - If the job is specified **using an XML file** and the XML contains a bleed value, then this Limit Bleed value is used to clip the value from the XML (the smallest of these two is used). If the Limit Bleed value is empty then the value from the XML is used without modification.
 - When using a **PDF template**, this value means the creation of an extra clipping path on top of the bleed that is provided in the template. When this Limit Bleed value is empty, no additional clipping path is created.

So if you use an **MFG template and there is no job XML** (or a bleed key is missing in the XML), then the bleed is based on this Limit Bleed value. **If it is left empty it is interpreted as 0.0** and so there will be a tight clipping mask.

Note: When using a SmartName, the resolved value should contain a number and a unit ((case insensitive): mm, cm, in, inch, mil, point, pt. When no unit is specified, the default value mm is taken.

- **Front Mark Set / Back Mark Set:** Select a Dynamic Mark set to be put on the front or back side of the layout.

Note: Only Dynamic Marks created in ArtPro+ are supported. SmartMarks or Dynamic Marks from DeskPack can not be used.

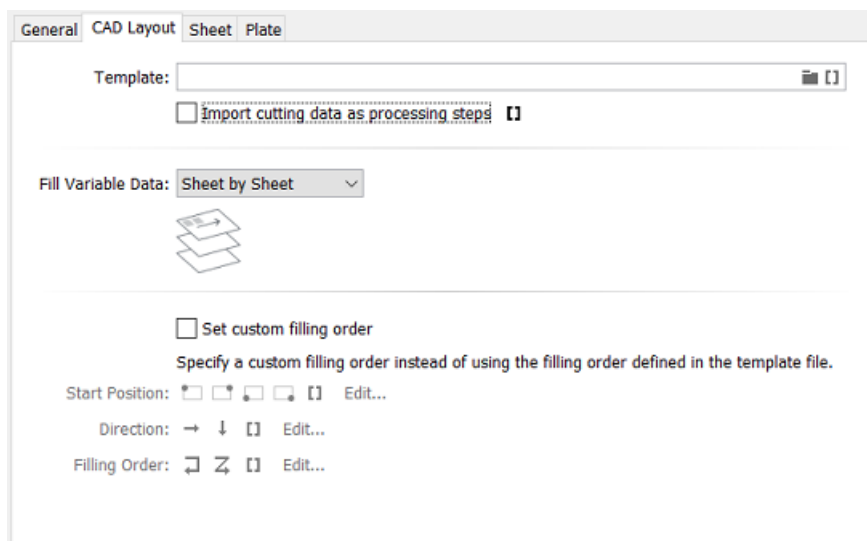
The marks in the output PDF of this task will be 'live' objects (except in VDP mode), which means they are still editable when you open the output file in ArtPro+.

Note: Unlike other 'Dynamic' S&R tasks, this task does not offer the "optimize output" as a separate option in the ticket (as described in the page of the as it exists in the task [Add Dynamic Marks](#)).

- **Graphics Folder:** This is the folder where the task searches the graphic files. This option is only applicable when the input mode of the task is XML and when the XML does not offer a full absolute path (only a partial path or only the name of the input file). Learn more in [Using XML as Input File](#) on page 371.
- **Split Output File:** This option helps to process large jobs produced by VDP input. A huge PDF file can be difficult to process by RIPs. Splitting it into several smaller ones is then advised.
 - When having selected **On Number of Sheets**, define the maximum of sheets (pages describing a layout) that this output PDF may have.

Learn about the VDP mode of this task at the bottom of the page [Step & Repeat CAD based \(Dynamic\)](#) on page 365.

192.2. Tab 'CAD Layout'



- **Template:** Select an MFG, CF2 or PDF+ template file.

Note: A PDF+ file can serve as a template when it was a CAD file that you can open in ArtPro+, where you can add marks and where you can define bleed and overlaps. In other words: when it is not a PDF+ files with grids.

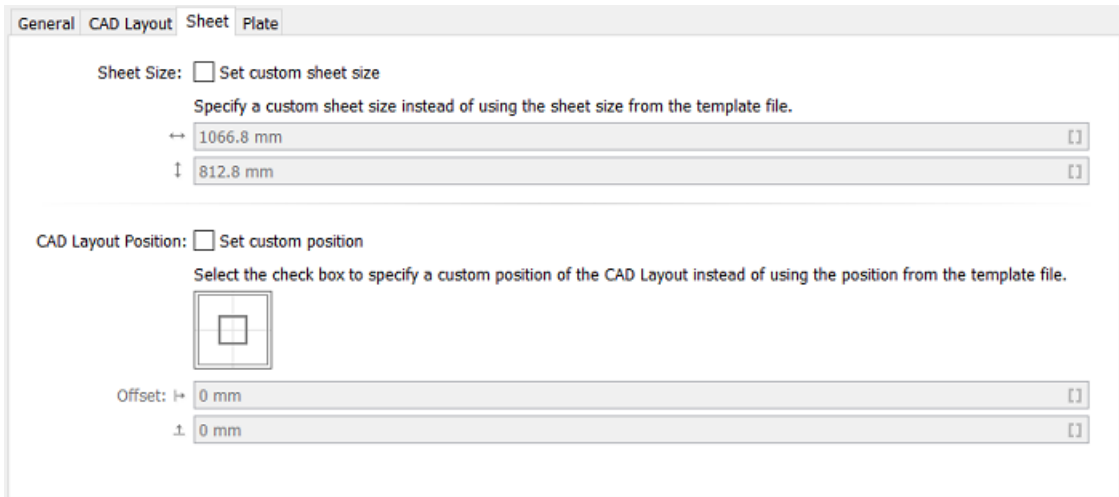
- **Import cutting data as processing steps:** Select this to import the cutting data from an MFG or CF2 template into a processing step layer named "cutting data".
- **Fill Variable Data:** Define how, in VDP mode, the stations should be filled: **Sheet by Sheet** or **Stack by Stack**.

Learn about the VDP mode of this task at the bottom of the page [Step & Repeat CAD based \(Dynamic\)](#) on page 365.

- Select **Set custom filling order** to specify a filling order that is different than the one defined in the selected template file.
 - The filling order is defined by selecting a **Start Position**, **Direction** and type of **Filling Order**. Learn more about using SmartNames to define these buttons in [SmartNames of Parameter Values](#).

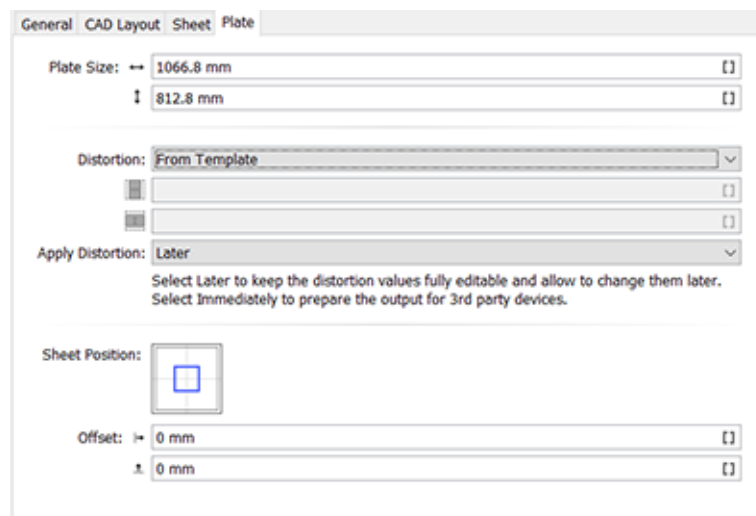
Note: The sequence of the designs is determined by taking the center points of the designs and sorting these in rows and columns. Keep in mind that designs with different sizes, or layouts with staggered designs can result in more rows or columns than expected.

192.3. Tab 'Sheet'



- If you want to use a custom sheet size instead of the **Sheet Size** defined in the CAD file, then select **Set custom sheet size** and enter its dimensions.
- **CAD Layout Position:** You here position the content of the CAD Layout template versus the sheet. This content is defined by the bounding box of all cutting and creasing lines from the template.
Select **Set custom position** if you want to use a different position for the CAD Layout than the one defined in the template file.
 - **Position on Sheet:** Click or drag the inner square (the CAD Layout) in a position versus the outer square (the sheet).
 - **Offset:** Define by how much the CAD Layout should be offset from the sheet corner, horizontally and vertically.

192.4. Tab 'Plate'



The sheet size can be automatically extracted from the CAD template but neither an ArtiosCAD MFG file nor a CFF2 file have a notion of 'plate'. As a result the plate size and position of the sheet on the plate have to be specified in this **Plate** tab.

- **Plate Size:** Specify the plate's horizontal and vertical size.
- **Distortion:**
 - **Custom:** To compensate for distortion on the output device or press, you can add vertical and horizontal distortion values.
When using a SmartName to decide this choice, its value should resolve to `custom`; any other value will select `From Template`.
 - **From Template:** Select this to make the task use the distortion values present in the selected template file.
- **Apply Distortion:** When should it be applied?
 - **Later:** The task makes no changes to the file's page boxes but only adds the requested value in the output file's meta data. When you open that file in ArtPro+ you can see it mentioned in the document setup dialog. You can still change these values.
 - **Immediately:** The requested distortion is executed on the file's page boxes and objects. Also the marks and grids are expanded. This is advised when sending to the output PDF to 3rd party devices.
When using a SmartName to decide this choice, its value should resolve to `immediately`; any other value will select `Later`.
- **Sheet Position:** Click and drag the inner square (the sheet) to the right position on the outer square (the plate) to position the sheet on the plate.
- Define any extra horizontal and vertical sheet **Offset**.

Tip: When using SmartNames, make sure they return a value that the field expects. For example a SmartName in the field 'Plate Size' should return a number.

192.5. Using XML as Input File

Concept

When the business system (MIS, ERP) provides an XML description, this task can fully automate the folding carton step and repeat process.

When using XML input file(s), the task supports 2 modes:

- **The <Job> element mode** is an older v18.0 compatible mode supporting the XML format. Advantage of this mode is that you can use the **Product ID**. This is used for example in flexo printing. Learn about this XML specification below.
- **The <RunList> / Dynamic mode** is compatible with the XML used in the '**Dynamic**' Step & Repeat tasks. Advantage of this mode is that you can specify a page range (in case your input file is a multi-page file). This is used for example in VDP. Learn about this XML specification below.

Specification of the Mode based on the Element <JOB>

In the v18.0 compatible mode, the task scans the XML file for elements called <JOB>. Multiple <JOB> nodes are allowed when these are placed under a <JOBS> node.



Attention: All XML elements are case sensitive. For example, the element <JOB> must be in capital letters.

An example:

```
<?xml version="1.0" encoding="UTF-8"?>
- <JOB>
  <FileName>\\homer\beou_container\beou_CAD_demo\Input\demo\anybox.pdf</FileName>
  <Quantity>7</Quantity>
  <Bleed>2.0</Bleed>
</JOB>
```

It's also possible to combine multiple graphics in the XML file. In that case, multiple <JOB> elements are gathered in one <JOBS> element. An example:

```
<?xml version="1.0" encoding="UTF-8"?>
- <JOBS>
  - <JOB>
    <FileName>\\homer\beou_container\beou_CAD_demo\Input\demo\otherbox.pdf</FileName>
    <Quantity>2</Quantity>
    <Bleed>2.0</Bleed>
    <Page number="1"/>
  </JOB>
  - <JOB>
    <FileName>\\homer\beou_container\beou_CAD_demo\Input\demo\anybox.pdf</FileName>
    <Quantity>7</Quantity>
    <Bleed>2.0</Bleed>
    <Page number="1"/>
  </JOB>
</JOBS>
```

Each <JOB> element will create a station according to its sub elements:

| XML Element | Description |
|---|--|
| Filename (mandatory) | <p>URL of the graphics. Both URLs and UNC paths are supported. Both absolute URLs and relative URLs are supported. In case the URL is relative, the Graphics Folder specified in the ticket is used to resolve the URL of the graphics. Only one of either FileName or ProductID may be specified. Some examples:</p> <pre><FileName>file://myserver/myfolder/mygraphics.pdf</FileName></pre> <pre><FileName>\\myserver\myfolder\mygraphics.pdf</FileName></pre> <pre><FileName>mygraphics.pdf</FileName></pre> <pre><FileName>myfolder\mygraphics.pdf</FileName></pre> |
| Product ID (mandatory if Filename is not used) | <p>ID of the Product to use for the graphics. Only one of either FileName or ProductID may be specified.</p> <ul style="list-style-type: none"> If a product contains multiple parts, the first part is used. The second part will be used (if present) as back side graphic. When a product has 2 parts, you can use a Product Part parameter to define which side of the sheet this part should go on. To do this, name the Product Part parameter 'side' and as value, and give it one of these values: <ul style="list-style-type: none"> '1' or 'front' or 'recto' |

| XML Element | Description |
|-------------|---|
| | <ul style="list-style-type: none"> '2' or 'back' or 'verso' |
| Quantity | Number of times the graphics needs to be placed. Allowed values are either a number or the keyword "Maximum" (the default, case insensitive, can be abbreviated to "Max"). In case multiple graphics are using 'quantity = maximum', they will be evenly placed on the number of matching placeholders. |
| DieShape | Ink name representing the die line of the graphics. Allowed values: <ul style="list-style-type: none"> the name of a spot color, 'TRIMBOX' (or 'BORDERS') will use the trim box of the PDF graphic. 'DEFAULT' will search for a CAD object inside the PDF file. When no CAD object is found, the trim box will be used. This also the default value of this element. |
| Bleed | The amount of bleed allowed outside the die shape. Sets a bleed mask, in mm, starting from the die line. When no bleed is specified, no bleed mask will be applied. |
| Page number | Select a specific page from the specified PDF graphic. If no page is specified, all pages of the graphics file will be loaded. |

Specification for the <Runlist> Mode - compatible with Dynamic Step&Repeat

In the **Dynamic Step&Repeat** compatible mode, the task will scan the XML file for elements called <RunList>, which contain one or multiple <RunListItem> nodes.

A <RunListItem> node consists of the following sub-nodes:

| Node | Description |
|-----------|--|
| FileName | URL or UNC of the PDF graphic to be placed. Relative URL's are allowed, the 'Graphics Folder' will then contain the base path. |
| Repeats | Number of copies required for this graphic. Allowed values are either a number or the keyword "Maximum" (case insensitive, can be abbreviated to "Max"). |
| FirstPage | Number indicating the first page to be used. Learn more in Specification of RunList XML in Dynamic Step & Repeat tasks on page 398. |
| LastPage | Number indicating the last page to be used. Learn more in Specification of RunList XML in Dynamic Step & Repeat tasks on page 398. |

Extra XML Parameter when working Front and Back Graphics

Table: Back side handling in XML (all optional)

| XML Element | Description |
|-------------|--|
| BackGraphic | UNC (or URL) of the PDF file to be used as back side. Example: <pre><BackGraphic>file://myserver/myfolder/mybackgrphic.pdf</BackGraphic></pre> |

| XML Element | Description |
|-------------|--|
| | <p>Note: No page selection is possible for the back graphic. Only the first page of the back graphic PDF is used)</p> |
| | <p>Note: Either this element <code>BackGraphics</code> is used to define the background or it is defined by the a product part parameter 'side'. These 2 methods serve the same purpose but cannot be combined.</p> |

Other nodes as listed above (DieShape, BackGraphic) are optional.

193. Step & Repeat Tabular

This task creates a step & repeat layout where the stations (one-ups) do not overlap ; their bounding boxes do not intersect.

In this ticket, data can be entered

- manually, entering numeric values.
- using SmartNames. These can be
 - **Formulas**. For example [VPLATE]. The names of these formulas are similar to those used in Esko Plato.
 - any other types of SmartNames. These can get their values from (job) parameters within Automation Engine or they could retrieve these values from external databases, by doing SQL queries. See an example in [here](#). Learn more in [Database Query SmartNames](#).

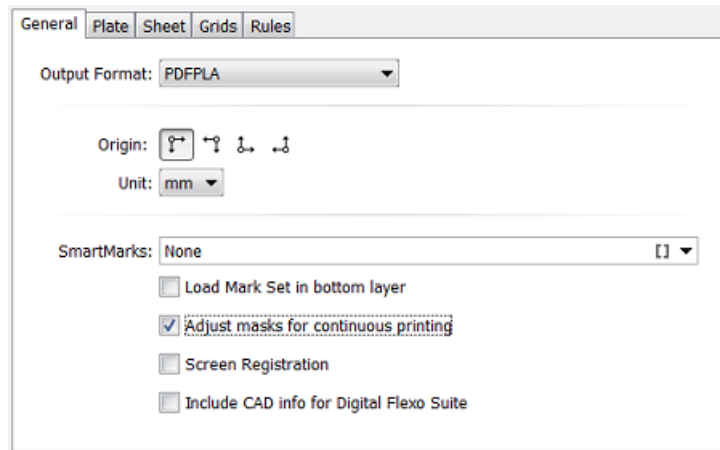
Note: Some ticket fields only accept SmartNames of the category 'Step and Repeat' whereas others also allow 'Global' SmartNames. Learn more in [SmartName Categories](#).

Comparing this task to the 'Dynamic' version

Another tabular S&R task was created later than this one, mainly to serve workflows to digital presses. Here's a summary comparing their unique features:

- This **Step & Repeat Tabular** task:
 - The marks you can add need to be **SmartMarks** (created in PackEdge or Plato)
 - Offers **formulas** to specify the layout
 - Outputs **various output formats**.
- The [Step & Repeat Tabular \(Dynamic\)](#) task:
 - The marks you can add need to be **Dynamic Marks** (created in the [Adobe Illustrator Plug-in 'Dynamic Marks'](#))
 - Does not offer formulas to specify the layout
 - Tailored for digital presses and/or VDP workflows
 - Outputs **Native PDF**.

193.1. Tab 'General'



• **Output Format**

- **PDFPLA:** In this format, the placed stations are referenced files, they are not embedded into the layout file. This keeps the layout file small but limits its use to applications that support such external references: Esko editors, Esko RIPs or any next workflows steps in Automation Engine that make use of this smart referencing.



Attention: If the input file of this task was a native PDF, this output mode will make the task end in error because a "PDFPLA can only contain references to normalized PDF".

- **Normalized PDF (embed all):** In this format, because all data is embedded, the PDF can be used to exchange this layout file to remote sites that also use tools that read this Esko Normalized data. For example: off-site printers that also use an Esko RIP.

This file format is larger in Mb, however it is important to know that the technique of "PDF forms" is used: each station is only embedded once into the output file. For example if it contains 5 banana labels and 5 lemon labels, the size of the PDF will only be slightly larger than the size of 1 banana PDF plus 1 lemon PDF file.

- **PDF:** This native PDF will have all data embedded and will also use "PDF forms" to optimize its size (as explained here above). Choose this output type PDF when you need to send this data to a non-Esko environment or device.

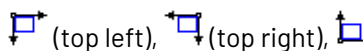





Attention: This output is only advised when the task input file is one or more native PDF(s). The advantage is then that there is no 'on the fly' normalization done on these native PDF stations ; they are untouched and are only placed into the native layout PDF.

This PDF has in its XMP also a description of the contents of its grids, their station names and amounts. Any distortion factor (here named "**Shrink**") will be calculated/executed in the PDF.

Note: Choosing this output type disables the options '**Screen Registration**' and '**Include CAD info for Digital Flexo Suite**'.

- **Origin:** Define the point of origin from which the step & repeat is to be built.

 (top left),  (top right),  (bottom left),  (bottom right).

- **Unit:** Select a unit (mm or inch) to be used for all numeric fields in this task.
- **SmartMarks:** If you want to add marks to the step & repeat, select a SmartMarks set from the drop-down list or use a SmartName.

- Select '**Load Mark Set in bottom layer**' if you want to make sure the marks are positioned in a newly created bottom layer, so that they appear 'behind' the graphics.
- **Adjust masks for continuous printing:**

When not selected, the top and bottom rows can have more bleed (top- and bottom bleed) compared to graphics that occur in the middle of the layout.

When selected, the bleed of the top and bottom row of graphics will be truncated in the same way as on the rows in the middle of the layout (i.e. truncate the bleed of the top and bottom row of graphics as if there is a continuous set of rows of graphics). This is required to enable continuous printing (around the drum).

- **Screen Registration:** When selected, the origin of the screening will be reset for each station on the layout. This guarantees that the exact same screening will be applied for each station. This is for example required when printing stamps. When not selected, screening will be done continuously throughout the complete layout.



Attention: This option defines an attribute in the PDF that is only supported by **Imaging Engine** or **FlexRip**. It is ignored by any other RIP..



Attention: Screen registration is not available when you choose the output format **PDF**.

- **Include CAD info for Digital Flexo Suite:**


If you are using the Esko *Digital Flexo Suite* (DFS), select this option to add the technical inks data into the header of the output file (this is usually the cut and crease lines). This data is then visible in the Esko Bitmap Viewer and also embedded in the LEN files created by an Esko RIP.

The DFS can export this information into ACM files for an Esko Kongsberg cutting table. In Esko PlatePatcher workflows, this information can be used to print onto the plastic sheet where the pieces of flexo plate are re-assembled. These technical lines can also represent text that is then added onto the (back of the) flexo plates, using a pen on the Kongsberg table.



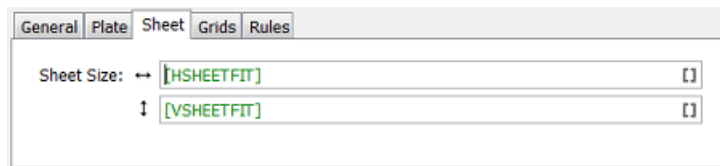
Attention: This option is disabled when you choose the output format (native) **PDF**.

193.2. Tab 'Plate'

Note: In the entry fields of this and the next tabs, click  to open the SmartNames dialog. Alternatively, right-click the field and directly choose a SmartName or formula from the offered lists.

- **Plate Size:** Enter the horizontal and vertical plate size value, formula or SmartName. Learn more in [Using Formulas](#) on page 385.
- **Shrink:** If you want, enter a shrink value, formula or SmartName. Learn more about when and how shrink is applied in [the page about the Create CAD Sheet task](#).
- **Sheet Position:** Position the sheet on the plate by moving the sheet (inner rectangle) versus the plate (outer rectangle).
- **Offset:** Enter a value, formula or SmartName.

193.3. Tab 'Sheet'



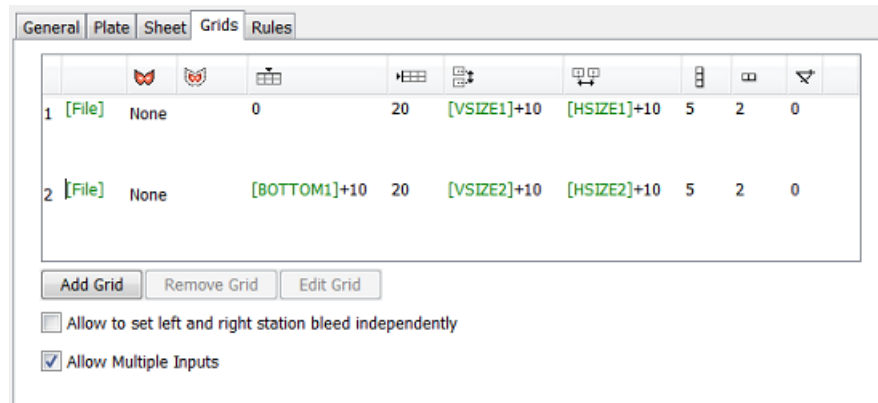
- **Sheet Size:** Enter the horizontal and vertical sheet size value, formula or SmartName. Learn more in [Using Formulas](#) on page 385.

193.4. Tab 'Grids'

A tabular layout can be composed of one or multiple **grids**.

One same graphic can also be placed in more than one grid. For example one grid where its stations are not rotated and another grid where the stations are rotated 180 degrees.

Grid Columns



Tip: Right-click a table cell to discover several editing options.

The columns from left to right:

1. **Grid number:** Click the number to select the grid that you want to remove or edit.
2. **File Name:** The name of the one-up graphic repeated in this in this grid.
3. **Die Shape:** You here define a die shape around each one-up in that grid. This will mask out any objects outside that shape. Click the field to choose between **'None'** or **'Borders'** (Trim Box).

Note: 'None' also means that these graphics will be excluded from the [SmartFlapping process](#).

4. **Bleed :** The value you type in here spreads the **Die Shape** with a bleed of this distance. The die shape is spread but die shapes will not overlap.
5. **Vertical offset to the sheet :** To define the top or bottom shift of the grid in relation to the sheet, depending on the setup of the [Origin](#).
6. **Horizontal offset to the sheet :** To define the left or right shift of the grid in relation to the sheet, depending on the setup of the [Origin](#).
7. **Vertical step:** To define the vertical distance between two stations on this grid. The distance is calculated from the center point of the one-up to the center point of the next one-up.
8. **Horizontal step:** To define the horizontal distance between two stations on this grid. The distance is calculated from the center point of the one-up to the center point of the next one-up.
9. **Vertical count:** To define the number of times you want to repeat the one-up vertically.
10. **Horizontal count:** To define the number of times you want to repeat the one-up horizontally.
11. **Angle:** To define the angle to rotate the one-up clockwise in this grid.
12. **Head Turn / Stagger:** This column shows icons that illustrate the head turn or stagger that you defined for this grid (for example or). Learn more in [Grid Settings](#) on page 380.

Managing Grids

- Click **Add Grid** to add an extra grid at the bottom of the list.

Note: When this ticket has multiple input files, it automatically adds enough grids to have one for each input file (the ticket is automatically updated). Also see the below option 'Allow Multiple Inputs'.

- To remove a grid, select it and click **Remove Grid**. There is no undo function.
- Select a grid and click **Edit Grid** to define advanced grid settings (staggering, head turns...). Learn more in [Grid Settings](#) on page 380.

Other Options

- **Allow to set left and right station bleed independently:** When selected, 2 extra columns appear, one for left bleed, one for right bleed.

Important: Before selecting this option, first fill in a general **Bleed** (for which you first need to define the **Die Shape**).

- **Allow Multiple Inputs**



Attention: When you do not see this option in some older task-ticket, then open a task ticket from the [Tickets view](#), save it as a custom ticket and you will be able to use this option.

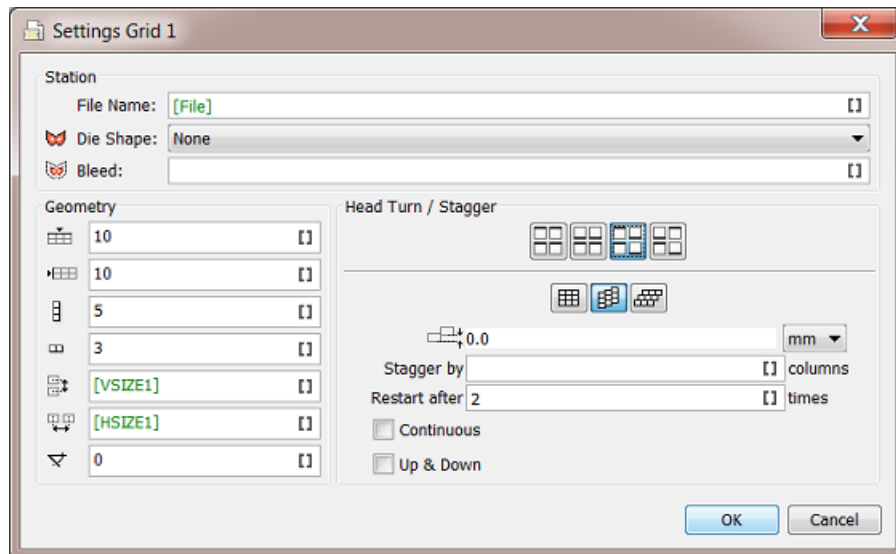
This option decides what the task should do when you launch it on multiple files.


- Select this option to generate one step & repeat file containing all of the input files. Each input file will be assigned to a different grid.

When there are multiple input files, their grid will by default be placed in alphabetical order.


- Deselect this option to treat each input file separately. The task then generates a separate step & repeat file for each input file.

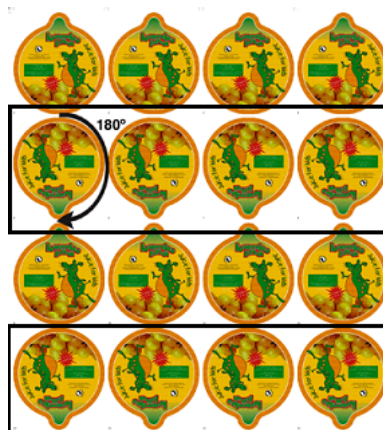
193.4.1. Grid Settings




- **Station:** These options are the same as defined in the ticket's tab **Grids**. You can choose where to define them.
- **Geometry:** These options are the same as defined in the ticket's tab **Grids**. You can choose where to define them.
- **Head Turn / Stagger**
 - **Head Turn:** Choose if and how you want to rotate certain stations on this grid by 180 degrees.
 - Choose  (first button) to keep all stations as they are, without rotating them (default).




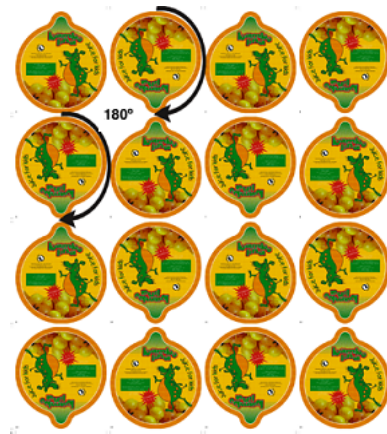
- Choose  (second button) to rotate stations in alternating rows by 180°.






- Choose  (third button) to rotate stations in alternating columns by 180°.






- Choose  (fourth button) to rotate stations both in alternating columns and in alternating rows by 180°.



- **Stagger:** Choose if and how you want to stagger (move) certain stations on this grid horizontally or vertically.
 - Choose  (first button) to keep all stations as they are, without staggering them (default).
 - Choose  (second button) to define a vertical stagger for this grid.
 - Choose  (third button) to define an horizontal stagger for this grid.

To define a horizontal or a vertical stagger:

1. Choose  or .
2. In , enter a stagger value. Choose a unit or define a percentage of the width or height of the station.

See this example of a 4 x 6 Step & Repeat with a 50% vertical stagger:

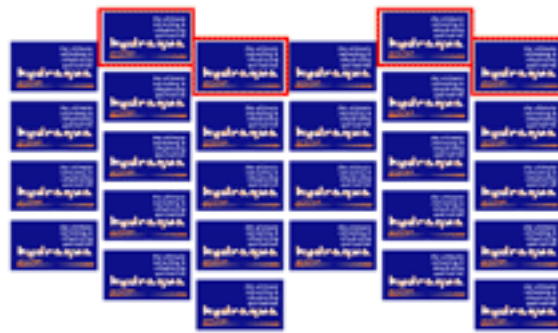


3. **Stagger by x Columns/Rows.** This value decides the amount of columns or rows after which the stagger occurs. In above examples, this was the default value of 1, so each column or row gets a different shift.
4. **Restart after x Columns:** You can choose to restart the staggering after a certain number of rows or columns. This means that:
 - For vertical staggering: the top station of that column is positioned at the same height as the top station of the first column (it has the same vertical offset from the top of the sheet).

See this example where the staggering restarts after 3 columns:



- For horizontal staggering: the first (left most) station of that row is positioned at the same horizontal offset as the first station of the first row.
 - Select **Continuous** if you want to add extra stations to fill the blank space.
- The example below is a 4 x 6 Step and Repeat (with staggering restarting after 3 columns), but the **Continuous** option added some stations vertically:



Note: In the "Dynamic" variant of this task type, this option is named **Add Partial Labels**. Learn more about this task in [Step & Repeat Tabular \(Dynamic\)](#) on page 390.

- Use **Up & Down** together with **Restart after** to go back in the other direction gradually instead of at once.

See this example where the staggering restarts after 3 columns, with the **Up & Down** option selected:

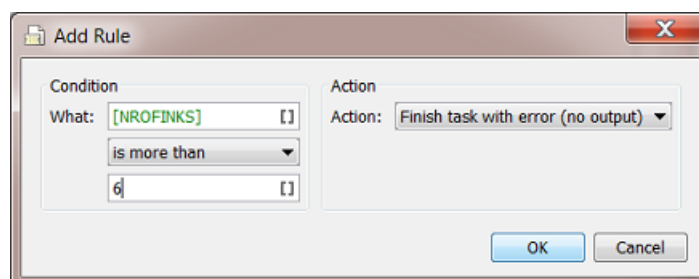


193.5. Tab 'Rules'

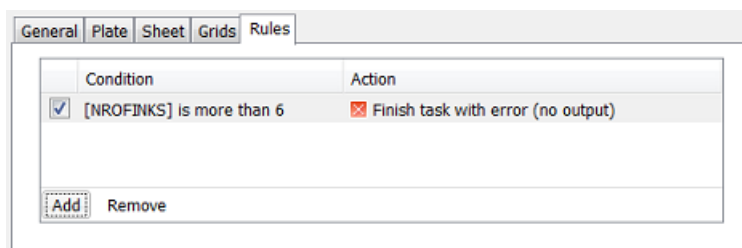
You can modify the task's end status by setting up one or multiple smart rules.

An Example

Follow these steps to add a rule that prevents the creation of step & repeat files with more than 6 inks:



1. In the tab **Rules**, click **Add** to open the **Add Rule** dialog:
2. Define the **Condition**:
 - **What**: Enter the parameter you want to check (most probably a SmartName).
 - Choose an 'expression' from the list.
 - Enter a value for the parameter.
3. In **Action**, define what needs to happen when the **Condition** is met. Choose from:
 - The **task finishes with a warning**
 - The **task finishes with a warning (there's no output)**.
4. Click **OK** to confirm. The resulting rule shows up in the tab 'Rules':



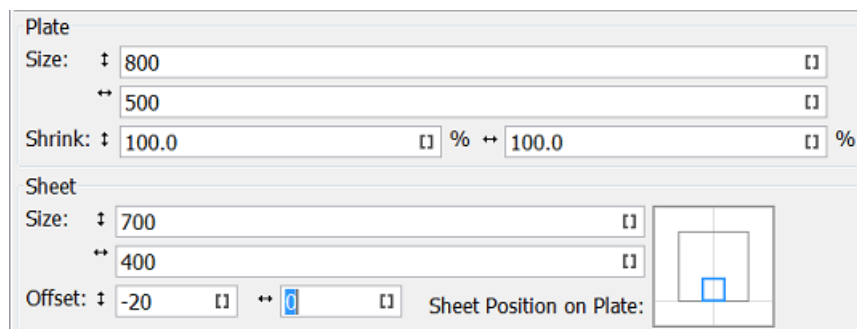
5. Add more rules if you want to. Their list will be checked from top to bottom.

Tip: You can choose to save tickets in which you switch off some rules and keep others active.









193.6. Using Formulas

Example of a Grid defining an Automatic Fill







1. First we need to define an absolute size for sheet and plate:



2. Now you can enter these grid settings:

| Grids | | Rules | | | | | | | |
|-----------------------|---|---|---|---|--|---|---|---|--|
| File Name |  |  |  |  |  |  |  |  | |
| 1 banana_y oghurt.pdf | Borders | 3.0 | $([VSHEET]/[VCOUNT1]) - ([VLABEL1])/2$ | $([HSHEET]/[HCOUNT1]) - ([HLABEL1])/2$ | $[VSHEET]/[VCOUNT1]$ | $[HSHEET]/[HCOUNT1]$ | $[VSHEET]/[VLABEL1]$ | $[HSHEET]/[HLABEL1]$ | |

Clarification of the formulas:

- First you define the vertical  (and horizontal ) count of the grid: The vertical count is the vertical size of the sheet divided by vertical size of the station: $VSHEET / VLABEL1$. For the horizontal count, use $HSHEET / HLABEL1$.
- Then you are able to define the vertical  (and horizontal ) step: Vertical step is the vertical sheet size divided by the vertical count: $VSHEET / VCOUNT1$. For the horizontal step, use $HSHEET / HCOUNT1$.
- Now for the vertical  (and horizontal ) offset: You want to center the step & repeat on the sheet. You can do that by defining the vertical offset as half the vertical step minus the vertical size of the station: $(VSTEP1 - VLABEL1) / 2$. For the horizontal offset, use $(HSTEP1 - HLABEL1) / 2$.

Some of the fields work with **formulas**, a special set of parameters unique to this task.

There are two kinds of formulas: **Global** formulas that define the whole step & repeat and **Grid** specific formulas that define individual grids.

Note: When a step & repeat contains two different graphics, there will be at least two grids. Each grid has its own number (see most left column).

Global formulas:

- **VPLATEFIT**: Vertical plate size that fits around a step & repeat sheet and SmartMarks.
- **HPLATEFIT**: Horizontal plate size that fits around a step & repeat sheet and SmartMarks.
- **VPLATE**: Vertical plate size.
- **HPLATE**: Horizontal plate size.
- **VSHEETOFFSET**: Vertical offset of the sheet relative to the Plate.
- **HSHEETOFFSET**: Horizontal offset of the sheet relative to the Plate.
- **VSHEETFIT**: Vertical sheet size that fits around the step & repeat.
- **HSHEETFIT**: Horizontal sheet size that fits around the step & repeat.
- **VSHEET**: Vertical sheet size.
- **HSHEET**: Horizontal sheet size.
- **SHEETTOP**: Top position of the sheet relative to the Plate.
- **SHEETLEFT**: Left position of the sheet relative to the Plate.
- **SHEETBOTTOM**: Bottom position of the sheet relative to the Plate.
- **SHEETRIGHT**: Right position of the sheet relative to the Plate.
- **NROFINKS**: Number of non-technical inks (Technical inks will not be printed).
- **NROFGRIDS**: Number of grids.

Grid specific formulas (x = the grid number):

- **VLABELx**: Vertical size of non-rotated station.
- **HLABELx**: Horizontal size of non-rotated station.
- **VSTEPx**: Vertical step size, from center point to center point.
- **HSTEPx**: Horizontal step size, from center point to center point.
- **VSIZEx**: Vertical size of bounding box of rotated station.
- **HSIZEx**: Horizontal size of bounding box of rotated station.
- **VCOUNTx**: Number of vertical step & repeats in grid x.

- **HCOUNTx**: Number of horizontal step & repeats in grid x.
- **ANGLE**: Angle of the rotation.
- **GRIDVSIZEx**: Vertical size of the grid (top-bottom).
- **GRIDHSIZEx**: Horizontal size of the grid (left-right).
- **TOPx**: Top position of the grid relative to the sheet.
- **LEFTx**: Left position of the grid relative to the sheet.
- **BOTTOMx**: Bottom position of the grid relative to the sheet.
- **RIGHTx**: Right position of the grid relative to the sheet.
- **BLEEDx**: Distance to spread the grid die shape with.

193.7. Using Database Queries: an Example

Many fields in this task can be defined by SmartNames. And SmartNames can get their values by doing SQL queries to non-Esko databases. This means that your tabular Step & Repeat ticket can automatically get (some of) its values directly from this external source ; no need for an Esko user to type them in again.

We use this simple example of a database describing your dies:

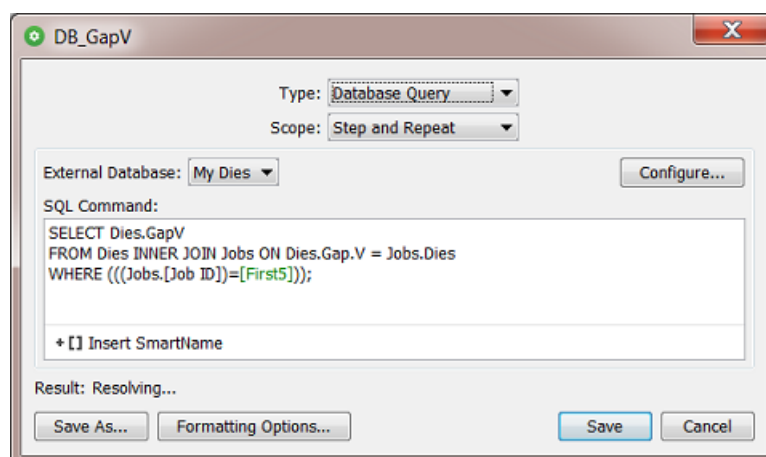
| | Die | StepV | StepH | Teeth | Teethsize | DrumV | DrumH | Cilinder | GapH | GapV |
|-----|--------|-------|-------|-------|-----------|--------------|-------|---------------|------|------|
| ▶ + | MES603 | 4 | 2 | 109 | 3.75 | 408.75 | 250 | 160.925196850 | 6 | 10 |
| + | MES604 | 4 | 2 | 106 | 3.75 | 319.45482562 | 215 | 125.769616386 | 10 | 20 |
| * | | 1 | 1 | | | 0 | | 0 | 0 | 0 |

First we need to create these SmartNames, then we add them into the task ticket.

1. See this (old) example of how an SQL query SmartName is created to retrieve the value for vertical gap.



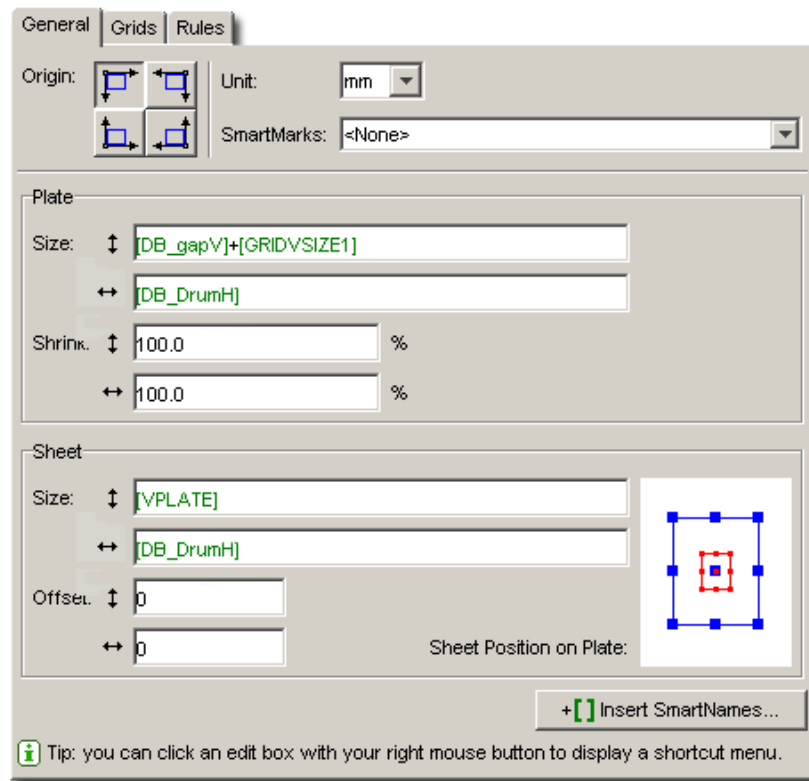
Attention: This page only summarizes how to do this. Learn more details in the chapter '[SmartNames](#)', specifically in '[Database Query SmartNames](#)'.



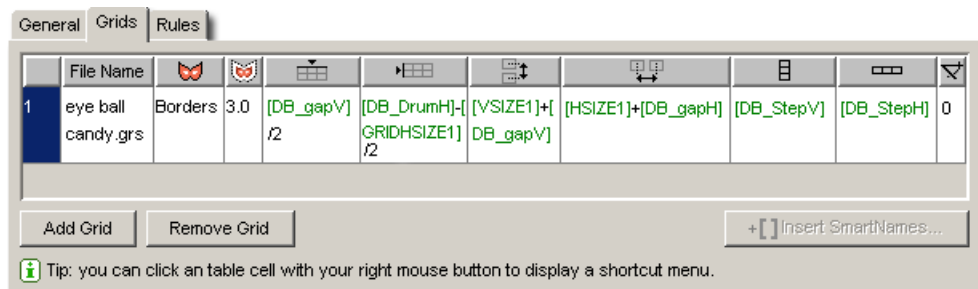
In this example, we created these SmartNames:

| CustomerName | Global | Database Query |
|--------------|-----------------|----------------|
| PhoneNumber | Global | Database Query |
| DB_DrumH | Step and Repeat | Database Query |
| DB_DrumV | Step and Repeat | Database Query |
| DB_teeth | Step and Repeat | Database Query |
| DB_gapH | Step and Repeat | Database Query |
| DB_gapV | Step and Repeat | Database Query |
| DB_StepH | Step and Repeat | Database Query |
| DB_StepV | Step and Repeat | Database Query |

- DB_DrumH: Retrieves the value for the horizontal size of the drum.
 - DB_DrumV: Retrieves the value for the vertical size of the drum.
 - DB_GapH: Retrieves the value of the gap's horizontal size.
 - DB_GapV: Retrieves the value of the gap's vertical size.
 - DB_Teeth: Retrieves the number of cylinder teeth.
 - DB_StepH: Retrieves the value of the die's horizontal step.
 - DB_StepV: Retrieves the value of the die's vertical step.
2. Now use those SmartNames in a ticket of the **Step & Repeat Tabular** task. Use the **Insert SmartNames...** button, or right-click, browse and select it.
- The **General** tab can look like this:



The **Grids** tab can look like this:



194. Step & Repeat Tabular (Dynamic)

This dynamic version of the **Step & Repeat Tabular** task allows you full interactive control over the positioning of files, much like if you would do this in ArtPro+ or in [PowerLayout Standalone](#) (an Esko plug-in for Adobe Illustrator).



Attention: The marks you add to this layout need to be **'Dynamic'** marks. You can not add 'SmartMarks' here (marks created in Esko PackEdge or Plato).

Use this task when you do *not* use a template that was created in ArtPro+ or with PowerLayout Standalone. If you do want to use such a template, then use the task [Step & Repeat Template based \(Dynamic\)](#) on page 404.

The task outputs a PDF+ file, i.e. native PDF file.



Caution: Make sure you define a specific name for the output file, this to avoid overwriting the (first) input file.

Task Options

Selecting one of the items in this field displays their available settings in the field on the right. As usual, many of these settings can also be set by using **SmartNames**.

Note: Also buttons or icons can be set by SmartNames. Learn more in [SmartNames of Parameter Values](#).

Note: Most all of the settings in this ticket are identical to those in [PowerLayout Standalone](#).

- **Job:** Use the links to learn more about your options for the complete layout:

- **Optimize Output for VDP:**

This option is similar to the 'Optimize output' as used in the task [Add Dynamic Marks](#), but goes much further in changing the output file:

- It not only calculates the marks just once and then re-uses them (leaving all marks expanded, i.e. dead objects),
- in this step & repeat task it also expands the grids and removes all links to the one-ups.

The optimization is both in the speed of this task itself and in the size of the output file. This makes it most valid for the layout of VDP jobs.

This is an output optimization, so clearly something you will not do when you still want to modify the layout file in ArtPro+.



- When **not selected**, the task adds and evaluates the added marks on each page separately. The PDF+ marks also stay live objects: when you open the output in ArtPro+, you see the marks' properties and you can modify them. Also the grid objects will still be live grid objects.

This option was formerly named "Calculate for each page (more accurate)".

- When **selected**, the task calculates the marks only once and then copies them to all pages. Both the marks (all types) and grids are stored as dead objects.

This option was formerly named "Calculate once and copy (faster)".

Note: Selecting this option will make the task fail when the input file contains a Plate ID object (mark). This type of object may not be expanded before it was applied to a LENX file. Learn more in [Working with Plate ID](#).

- [Split Output \(incl. Blocks\)](#)
- [Sheet and Plate](#)
- [Filling Order](#)
- [Marks](#)
- [Grid specific Options](#)
- **Grid selection:** Use   to **Add** or **Remove** grids.

Note: Grids are numbered sequentially. When there are 3 grids and you remove 'Grid 2', then 'Grid 3' will automatically be renamed to 'Grid 2'.

- **Preview:** The preview shows the position of all grids. The selected grid is highlighted in orange. Any others are displayed in blue.

194.1. Assignment of Input Files

How this task assigns the incoming files to a grid depends on the type of input:

- **A single PDF file with only a single page:** This triggers an automatic **Grid Filling**, i.e. every cell of the grid will be filled with the one-up input file.
- **A single PDF file with multiple pages:** The task creates only one grid with each page placed once, in a single cell, not repeated.

Tip: Use an XML input file to also repeat these pages. For example: a PDF has 3 pages, each page contains a design variant / flavor of the design. The XML can then specify that it needs 1.000 bananas (page 1), 500 apples (page 2), etc. Learn more below.

- **Multiple PDF files:** By default, the ticket automatically creates a grid for each PDF: the 1st input file will be placed in the first grid, etc.

Tip: Use the '[Sort](#)' workflow control to change this sequence of input files as they enter this task.



Attention: There is an exception that is valid in a dynamic VDP workflow (where each input file only needs to be output once): When the input files follow the naming convention `<SameFileName-Number>`, they will be grouped together in a same grid.

For example, `banana-001.pdf`, `banana-002.pdf`, `banana-003.pdf` will be placed in a same grid.

- **An XML file for each grid.** Learn more in the dedicated page [Specification of RunList XML in Dynamic Step & Repeat tasks](#) on page 398.

194.2. Splitting Output, Blocks and Gaps

To limit the size of the output PDF file, this task also uses the technique of "PDF forms": Each input PDF file is only embedded once into the output file.

When used in a VDP context, where each station can contain a different graphic, this size can become huge and easily reach the computer's processing power limit. Tasks handling such files require a lot of system memory and read/write operations, and this impacts the processing speed. Some RIPs also have problems processing huge PDFs.

This is why you can choose to split this output. The task then creates a set of smaller PDFs instead of a single large one.

Choose how you want to split the output file:

- **No (Single File).**
- **Automatically.** The task then calculates the number of sheets per file so that the output file sizes stay within reasonable limits.
- **On Number of Sheets.** This way, each output file except the first and last one contains the **Number of Sheets** (pages) specified.
- **On Block Size of Grid 1** (only valid for output to digital presses):

Note: Learn about the concept of Blocks and Gaps below.

A block with an optional gap must fit completely on sheets. This can be expressed by a formula: $(\text{block_rows} + \text{gap_rows}) \bmod \text{grid_rows} = 0$. The task will fail when this is not the case for the first grid.

Note: In formulas, 'mod' stands for the 'modulo' operation: the remainder (leftover) after division. For example "9 mod 3" results in 0, but "5 mod 2" results in 1. Learn more about 'mod' on [this wiki page](#).

Use this mode when there is only one grid or if that condition is met for all grids. This feature assumes that if the user took care to enter specific values for rows and gaps, that he then likely will want to use those same numbers for splitting.

When defining this choice via SmartNames, the resulting value must match one of these: **OFF, AUTO, SHEETS, BLOCK.**

Blocks and Gaps: Concept and Examples

Note: Some example use cases:

- You need to print 10.000 labels and deliver them on reels of 500 labels. You then define a block of 500 a add a gap between those blocks (empty one-ups).
- You want those gaps to cover the complete circumference of the reel, to cover the labels underneath and so protect them from any damage. In case of VDP each label might even be unique.

Blocks are used to split jobs into fixed length segments and to control the filling order. They are defined per grid. Each grid can have different block settings:

- **Block Length** is a number of rows.
- **Gap Length** is a number of rows ("zero" = no gap).

- **Grid Height** is the number of rows in a grid.

A gap works as a separator. It is represented by one or more empty rows inserted between two blocks.

- If $\text{block length} + \text{gap length} = \text{grid height}$, then a gap will appear on each sheet on the same place.
- If $\text{block length} + \text{gap length} \bmod \text{grid height} > 0$, then the gap will be floating ; it will appear on different positions.
- If $\text{block length} + \text{gap length} > \text{grid height}$ *and* $\text{block length} + \text{gap length} \bmod \text{grid height} = 0$, then a gap will appear on the same position on the sheet but not on each sheet.

Here are 3 examples of the above mentioned 3 cases:

block = 5
gap = 1
grid = 6

| | | |
|---|---|---|
| X | X | X |
| X | X | X |
| X | X | X |
| X | X | X |
| X | X | X |
| = | = | = |

| | | |
|---|---|---|
| X | X | X |
| X | X | X |
| X | X | X |
| X | X | X |
| X | X | X |
| = | = | = |

| | | |
|---|---|---|
| X | X | X |
| X | X | X |
| X | X | X |
| X | X | X |
| X | X | X |
| = | = | = |

block = 3
gap = 1
grid = 6

| | | |
|---|---|---|
| X | X | X |
| X | X | X |
| X | X | X |
| = | = | = |
| X | X | X |
| X | X | X |

| | | |
|---|---|---|
| X | X | X |
| = | = | = |
| X | X | X |
| X | X | X |
| X | X | X |
| = | = | = |

| | | |
|---|---|---|
| X | X | X |
| X | X | X |
| X | X | X |
| = | = | = |
| X | X | X |
| X | X | X |

block = 11
gap = 1
grid = 6

| | | |
|---|---|---|
| X | X | X |
| X | X | X |
| X | X | X |
| X | X | X |
| X | X | X |
| X | X | X |

| | | |
|---|---|---|
| X | X | X |
| X | X | X |
| X | X | X |
| X | X | X |
| X | X | X |
| = | = | = |

| | | |
|---|---|---|
| X | X | X |
| X | X | X |
| X | X | X |
| X | X | X |
| X | X | X |
| X | X | X |

| | | |
|---|---|---|
| X | X | X |
| X | X | X |
| X | X | X |
| X | X | X |
| X | X | X |
| X | X | X |

194.3. Sheet and Plate Options

The **Sheet Size** is the area where your one-up grids will be positioned within the **Plate**.

You can define:

- **Plate Size:** Define its horizontal and vertical size.

Note: The plate size will correspond to the Media Box of the generated step and repeat PDF.



Caution: Take the printer's size limits into account when defining these values.

- **Distortion:** Set a horizontal and/or vertical value. The value '100%' equals no distortion. This value (formerly known as 'shrink') is used to compensate for plate distortion, later in the output process. Learn more about this [here](#).
- **Apply Distortion:** When should it be applied?
 - **Later:** The task makes no changes to the file's page boxes but only adds the requested value in the output file's meta data. When you open that file in ArtPro+ you can see it mentioned in the document setup dialog. You can still change these values.
 - **Immediately:** The requested distortion is executed on the file's page boxes and objects. Also the marks and grids are expanded. This is advised when sending to the output PDF to 3rd party devices.

When using a SmartName to decide this choice, its value should resolve to `immediately`; any other value will select `Later`.

- **Sheet Size:** This is the printable area on your plate.

Note: The sheet size will correspond to the Trim Box of the generated step and repeat PDF.

- **Position on Plate:** The blue square in the image represents the position of the sheet on the plate. You can click or drag this blue square to match the desired alignment.



- **Offset:** Use this to fine-tune the position. The values are calculated versus the light gray lines.







194.4. Filling Order

Note: We here refer to the one-up print items as 'items'.

These **Filling Order** options define how the items should be distributed over the grid. You can specify:

- a starting point
- whether the grid should be filled by row or by column
- gaps (empty stations on the grid).

Options:

- **Scope Settings:**
 - **Same Settings for all Grids:** This applies all the settings in this tab to each grid in the layout. This automatically disables setting a filling order on grid level.
 - **Individual Settings for Each Grid:** Select this to set the (different) filling order on grid level.
- **Start Content Filling:** Choose where the first print item is printed (the next options then decide how the other items will follow):
 - : Top left. When using a *Parameter Value SmartName*, its value should be `TL`.
 - : Top right. When using a *Parameter Value SmartName*, its value should be `TR`.
 - : Bottom left. When using a *Parameter Value SmartName*, its value should be `BL`.
 - : Bottom right. When using a *Parameter Value SmartName*, its value should be `BR`.
 - Also specify whether the grid is to be filled by row  (SmartName value `rows`) or by column  (SmartName value `columns`).

See the preview of your selected options on the right hand side.

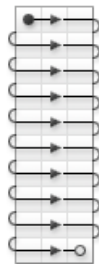
- The **Printing direction** marked with an arrow indicates the direction that the paper/substrate flows through the press.
- In that preview, a black dot shows the first record.
- Some examples:
 - The distribution starts on top left, with vertical flow:



- The distribution starts top right, with vertical flow:



- The distribution starts top left, with horizontal flow:



- **Fill over:** Choose if you want to distribute the items over the **Complete Job** or over **Blocks**. Learn about the concept of blocks [here](#).
- If you choose **Blocks**, the flow of variable data (the one-up variants) will run over blocks of a specified size, then run over the next block when the previous one is complete.

The preview also shows the blocks:



Block Size: You can define their size as the complete '**Job**' or an amount of **Sheets** or **Rows**.

- When, in '**Fill over**', you selected '**Complete Job**', then the **Block Size** will be 1 **Job** by default. You can set it to another unit if you still want to print in blocks, but without having the flow of (variable data) items respect the block. This is useful if you want to add gaps (see below).



- **Gap between Blocks:** This option is available if you have chosen to **Fill over Blocks**, or to fill over the **Complete Job** but still have blocks (as explained above).
This option adds white space in between the blocks.
Gap Size: Define the size of this gap.

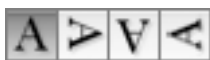
194.5. Adding Marks

Use this tab to add **Dynamic Marks** to your layout.

Learn more about Dynamic Marks in the description of the task "[Add Dynamic Marks](#) on page 14".

194.6. Setting specific Grid Options

- Specify the **Cell Width** and **Cell Height** for the one-up item ("cell").
- Set the grid **Orientation** and **Clip Bleed**.



defines the initial **Orientation** of the one-ups in this grid. Their orientation within the layout can be changed further by the option **Head Turn**.

- **Repeat**
Define how many times you want to repeat the one-up (V & H) and define the gap between these repeats (V & H).
- If wanted, specify a **Head Turn** and /or **Stagger**.
Learn more about these options [here](#).
- **Clip Bleed**

Note: Deselecting '**Clip Bleed**' can cause one-ups to overlap. This can be useful in some special layouts.

Note: Learn more about what happens when bleed from panels overlaps in [Bleed and overlap](#) on page 97 and in [Bleed Overlap Priority Decided by ArtiosCAD Artwork Panels](#) on page 98.

Note: Learn more about bleed [in the manual of PowerLayout Standalone](#).

Keep Outer Bleed:

- Keep all (default)
- Keep horizontal outer bleed only
- Keep vertical outer bleed only
- Specify the **Position** of this grid using the positioning tool and **Offset** distances.
Define the positioning reference for this grid: **Attach to** the **Sheet** or the **Plate** area.

In below example, the top center of the (bounding box of the) layout will be placed on the left bottom corner of the (bounding box of the) reference (that you defined in 'Attach to').



In '**Offset**', you can still move the layout based on the above defined position. The direction of the offset (up, down, left or right) depends on the positioning, and is indicated by the arrows.

194.7. Specification of RunList XML in Dynamic Step & Repeat tasks

Dynamic Step & Repeat tasks can use XML files to specify their input files (one-ups) and how they should be placed on the layout. Such files typically come from external systems where production planning was decided. This page describes the format that such a "RunList" XML file needs to have.

Note: RunList elements used in a JDF file (so not just the generic XML file we describe here) are different. Such a JDF input file is only supported by the template based Step&Repeat task. Learn more in [Using JDF as Input File](#) on page 407.

Structure

The XML file may contain only an XML header and a single root element **RunList**. UTF-8 coding is needed to support non-ASCII characters in file paths.

Note: While XML-files support UTF-8 encoding, all file names must follow the URL-encoding. This means that all characters other than basic ASCII letters and numbers (A-Z, a-z, 0-9) and a few punctuation marks ('-', '_', ':', and '~'), must be percent-encoded (for example a space is noted as "%20"). Learn more about percent encoding in <http://en.wikipedia.org/wiki/Percent-encoding>.

<RunList>

The **RunList** element can be used only at the root level and the current file format supports only one **RunList** element per file.

This element is used as a container that holds together one or more nodes of **RunListItem** (which describe one-ups for a specific grid).

It also contains an attribute **Version**, specifying the version of the **RunList** format. At this moment only version 1.0 is supported.



Attention: Each grid in the Step & Repeat must have an own **RunList** item and because only one is allowed per file, this means that each grid must have its own XML file.

<RunListItem>

This element is used to contain a reference to the one-up file. It contains following mandatory elements:

Table: RunListItem for Step & Repeat Dynamic tasks

| Element | Format | Description |
|------------------|---------|--|
| FileName | URL | File specification of one-up file. It must be a valid URL (absolute path). Note: Special characters must be properly coded (see common XML rules). |
| FirstPage | integer | Index of the first physical page from the used page range. The first page in PDF has index 1. |
| LastPage | integer | Index of the last physical page. Also this index starts from 1. Example: Page range 1..1 means single page with index 1. Page range 1..2 means pages 1 and 2. |
| Repeats | integer | Number of page range repetitions (value must be greater than 0). Note: Page range 1..3 is repeated in this way: 1, 2, 3, 1, 2, 3, 1, 2, 3,... Under these conditions a reserved value -1 is allowed: <ul style="list-style-type: none"> • Only one RunListItem in RunList • FirstPage must be same as LastPage. In this case the task will calculate the number of repeats automatically to fill the complete grid. Note: Note: This feature is intended for 'static' jobs (not Variable Data jobs). |

Example

This example shows a RunList with two one-ups to be used in a grid:

- The first one-up is presented by a range of three pages (1–3) from the file A.pdf and needs to be repeated two times.
- The second one-up is presented by a single page (1) from file B.pdf and needs to be repeated five times.

The final order of pages used as one-ups will be: A1, A2, A3, A1, A2, A3, B1, B1, B1, B1, B1

```
<?xml version="1.0" encoding="UTF-8" ?>
<RunList version="1.0">
  <RunListItem>
    <FileName>file://server/JobContainer/Item1/A.pdf</FileName>
    <FirstPage>1</FirstPage>
    <LastPage>3</LastPage>
    <Repeats>2</Repeats>
  </RunListItem>
  <RunListItem>
    <FileName>file://server/JobContainer/Item1/B.pdf</FileName>
    <FirstPage>1</FirstPage>
    <LastPage>1</LastPage>
  </RunListItem>
</RunList>
```

```
<Repeats>5</Repeats>
</RunListItem>
</RunList>
```

Grid Filling with an XML RunList

If the task input file consists of a single XML file,

- with only one `<RunListItem>`,
- where both the `<FirstPage>` and the `<LastPage>` are the same,
- and where the number of repeats is set to "-1",

then a special behavior is triggered, called **Grid Filling**. This means that every cell of the grid will be filled with the specified static one-up.

195. Step & Repeat Template based

Concept

This task creates a step & repeat file based on an template layout that was made earlier. This mode makes it useful for all packaging print segments: labels, boxes, flexibles, etc. It is typically used to make an identical layout but now for variant graphics with a same size as those placed in the template.

Note: About the name of the output Step & Repeat file:

- When no name is specified, the output file name will be the name of the first task input file. SmartNames based on this output file name will also follow that rule.
- When you choose the **Output Format "PDF"** and not "PDFPLA" (learn more below), the system will avoid that you ever overwrite your input file PDF name ; it will, in the output file name, automatically attach a suffix *_rep* to the name of your first input file.
- When you type in a specific output file name yourself, it will be honored, even when it then overwrites a file.

Tab 'General'

• Output Format

- **PDFPLA:** In this format, the placed stations are referenced files, they are not embedded into the layout file. This keeps the layout file small but limits its use to applications that support such external references: Esko editors, Esko RIPs or any next workflows steps in Automation Engine that make use of this smart referencing.



Attention: If the input file of this task was a native PDF, this output mode will make the task end in error because a "PDFPLA can only contain references to normalized PDF".

- **Normalized PDF (embed all):** In this format, because all data is embedded, the PDF can be used to exchange this layout file to remote sites that also use tools that read this Esko Normalized data. For example: off-site printers that also use an Esko RIP.

This file format is larger in Mb, however it is important to know that the technique of "PDF forms" is used: each station is only embedded once into the output file. For example if it contains 5 banana labels and 5 lemon labels, the size of the PDF will only be slightly larger than the size of 1 banana PDF plus 1 lemon PDF file.

- **PDF:** This native PDF will have all data embedded and will also use "PDF forms" to optimize its size (as explained here above). Choose this output type PDF when you need to send this data to a non-Esko environment or device.



Attention: This output is only advised when the task input file is one or more native PDF(s). The advantage is then that there is no 'on the fly' normalization done on these native PDF stations ; they are untouched and are only placed into the native layout PDF.

This PDF has in its XMP also a description of the contents of its grids, their station names and amounts. Any distortion factor (here named "**Shrink**") will be calculated/executed in the PDF.

Note: Choosing this output type disables the options 'Screen Registration' and 'Include CAD info for Digital Flexo Suite'.

- You can add **SmartMarks**.



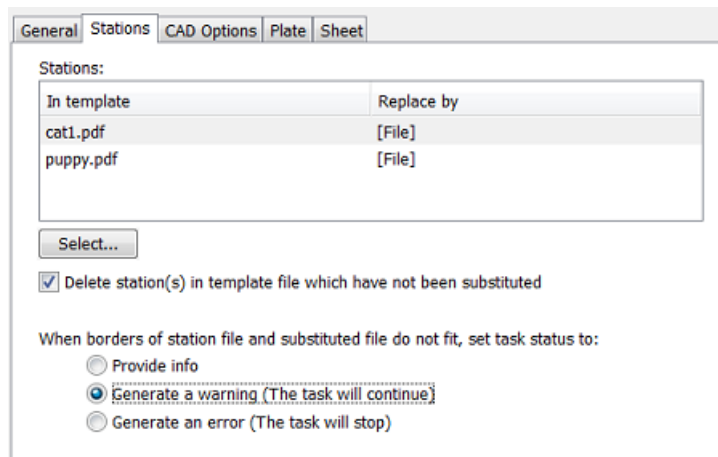
Attention: If you use a template that contains macros from the old Esko application QuickStep, these macros will be lost. You need to replace these macros with SmartMarks.

Tab 'Stations'

You here decide which files will replace the template stations in the output file.

Before you can define the new station in this ticket, you first need to select an input file before opening the ticket. Then select the template (click the browse button and select it).

The ticket reads the template and lists the stations it found in the tab 'Stations':



- The stations (referenced files in the template) are shown in the column 'In template'. The task input files are listed in the column 'Replace by'.

Changing or defining the "Replace by" stations: Click on any name of a file in the column 'Replace by' and you will see a list with options. These depend on whether the ticket you have open already has input files or not.

- <do not substitute>**: Select this to not replace that station. See the below described option **Delete station(s) ...** to decide what happens then.
 - To replace it with the first task input file
 - To replace it with the second task input file
 - Etc.
- Select....** After selecting a station in the 'Replace by' column, this button allows you to browse to another file (that was not already an input file for this ticket). Alternatively, use SmartNames.
- Delete station(s) in template file which have not been substituted.**
 - When selected, the not-replaced stations will, in the output file, be empty ("delete").
 - When not selected, the not-replaced stations will, in the output file, be those from the template ("keep").

- **When the borders of a station file and substituted file do not fit**, you can set the task status to:
 - **Provide info:** The task will end in status 'OK'. The task details and log file will mention which stations did not have the same borders.
 - **Generate a warning:** Same info is given, the task continuous, creates an output file but ends in status 'Warning'.
 - **Generate an error:** Same info is given but the task stops and ends in status 'Error'. There is no output file.

Tab 'CAD Options'

This tab is only enabled when you selected a CAD file as a template. The other types of templates do not offer such information or do not allow it to be changed.

The options are identical as described in [this page](#) of the task **Step & Repeat CAD based**.

Tab 'Sheet'

The options are identical as described in [this page](#) of the task Step & Repeat CAD based.

Tab 'Plate'

This tab is only enabled when you selected a CAD file as template. The other types of templates do not offer such information or do not allow it to be changed.

The options are identical as described in [this page](#) of the task 'Step & Repeat CAD based'.

196. Step & Repeat Template based (Dynamic)

Concept

Use this task to place one-ups (print items) onto grids described in a template file.

Important: This task is one of the "Dynamic" tasks. This means it uses the graphics engine from ArtPro+ (NDL) and also means that the print marks are of the type Dynamic Marks.

To create a Step & Repeat PDF, this task needs this info:

- Specification of the layout, which could be made of one or multiple grids.
- Specification of the one-up(s) to be placed on those grid(s); their name and location.
- Specification of any other attributes, for example print marks.

This task can get these specifications from different types of files.

For example:

- When the task's input files are the one-up PDF files, then the template file indicated in the ticket will need to provide the specification of the grid(s).
- But when the task's input file already describes all of the specifications listed above, then the ticket does not need to have a template indicated. There is a JDF format that can describe both the grids and the list of required one-ups to place.

These capabilities make it possible to use this task in 3 different modes.

3 Modes to Use this Task

- Where the input file(s) are the one-up PDF file(s). In the ticket, you then define the template and any other settings. Learn more [here](#).
- Where the input file is an XML RunList (a list of one-ups to process). In the ticket, you then define the template and any other settings. Learn more [here](#).
- Where the input file is a *JDF LanePrintJob* file. This type of JDF defines both the template and the RunList. Learn more [here](#).

Task Options - Job level

- **Template:** Select the template file that describes the grid(s).

When a template is selected, all other information in this task ticket is automatically filled in with information from the template. You can not make changes to those fields..

These file formats are supported as template file:

- an SRT file, created in [PowerLayout Standalone](#), an Esko plug-in for Adobe Illustrator. Learn more in [the manual of PowerLayout Standalone](#).
- a PDF with PowerLayout grid(s), created in ArtPro+.



Attention:

- When using a template with multiple grids, the task must have the same amount of input files.
- Each grid in the template must have a different name.

• **Optimize Output for VDP:**

This option is similar to the 'Optimize output' as used in the task [Add Dynamic Marks](#), but goes much further in changing the output file:

- It not only calculates the marks just once and then re-uses them (leaving all marks expanded, i.e. dead objects),
- in this step & repeat task it also expands the grids and removes all links to the one-ups.

The optimization is both in the speed of this task itself and in the size of the output file. This makes it most valid for the layout of VDP jobs.

This is an output optimization, so clearly something you will not do when you still want to modify the layout file in ArtPro+.

- When **not selected**, the task adds and evaluates the added marks on each page separately. The PDF+ marks also stay live objects: when you open the output in ArtPro+, you see the marks' properties and you can modify them. Also the grid objects will still be live grid objects.

This option was formerly named "Calculate for each page (more accurate)".

- When **selected**, the task calculates the marks only once and then copies them to all pages. Both the marks (all types) and grids are stored as dead objects.

This option was formerly named "Calculate once and copy (faster)".

Note: Selecting his option will make the task fail when the input file contains a Plate ID object (mark). This type of object may not be expanded before it was applied to a LENX file. Learn more in [Working with Plate ID](#).

- **Split Output options:** Learn more in [this page about the S&R Tabular \(Dynamic\) task](#).

All Other Task Options

Learn about all the other options in [this page about the Step & Repeat Tabular \(Dynamic\) task](#).



Attention: Filling Order is not applied globally. Therefore, when you specify the filling order for each grid separately, ensure that the number of grids in this ticket matches the number of grids in the template file.

Importance of the Order of the Input Files

The order of the input files is especially important when you work with templates. Input files are considered alphabetically, i.e. the order in which you selected the one-up PDFs is not relevant.

Tip: Use the '[Sort](#)' workflow control to change this sequence of input files as they enter this task.

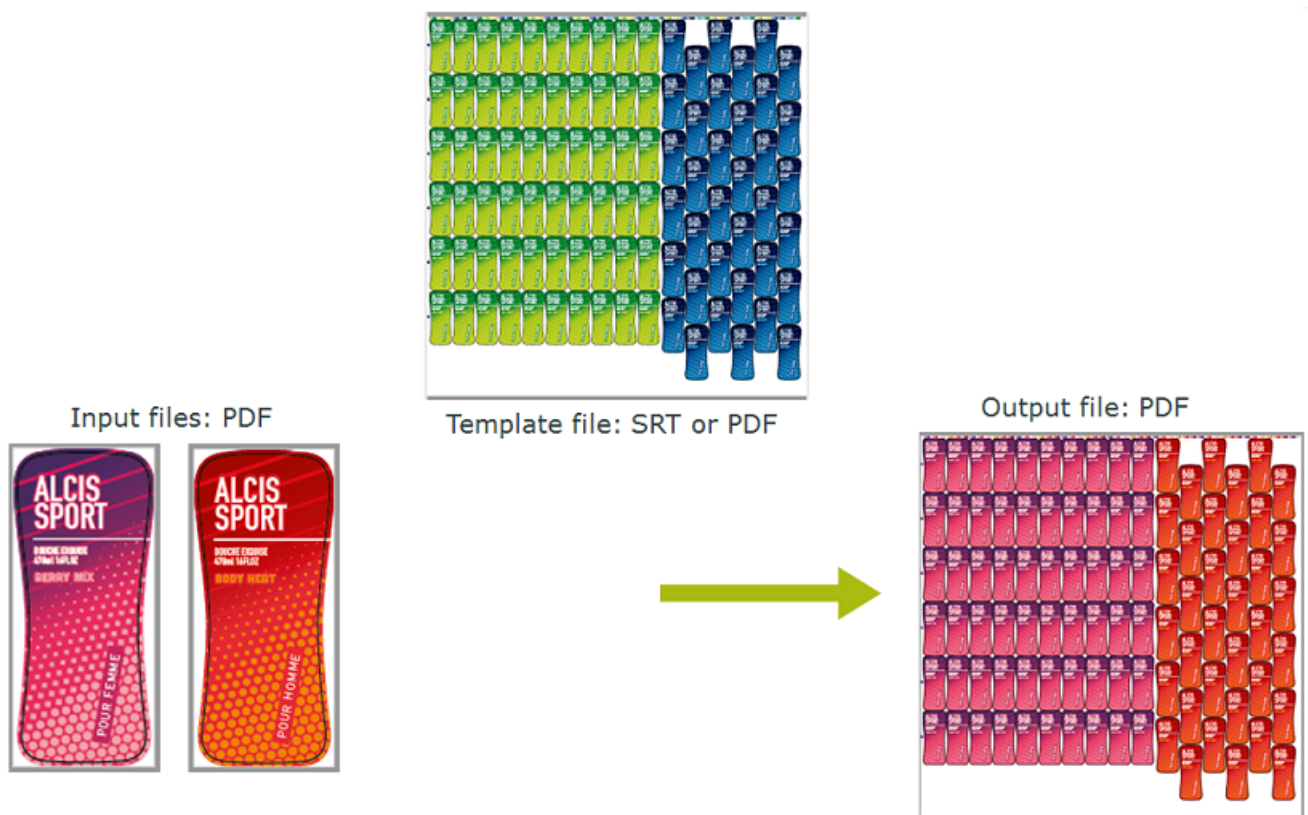
Learn more in [this page valid for both S&R Dynamic tasks](#).

196.1. Using PDF input file(s)

Concept

Template driven Step & Repeat is typically used when you have several same-size variations of a one-up.

Below example shows that making that layout in an editor once is enough (PowerLayout grids in ArtPro+ or PowerLayout plug-in in Adobe Illustrator). The next layouts with the other one-ups can be done with this task using that initial layout as template.



Note: However you select the input files, they will be handed over alphabetically to the task. The alphabetically first one will be assigned to grid 1, etc. This means that when the template's grids have stations of a different size, that you may need the *Sort* step in front of this task to control which input file is assigned to which grid.

About Marks

The marks in the output file can be the Dynamic Marks that were present in the template (PDF from ArtPro+) or other they could be Dynamic Marks added by this task, or even a combination. The marks will obviously adapt to the new input files (colors, etc.).

Marks from an SRT template will not adapt to the new input files ; those have become fixed objects.

196.2. Using RunList XML as input file

This is the same as described for the task [Step & Repeat Tabular \(Dynamic\)](#) on page 390.

See its dedicated page [Specification of RunList XML in Dynamic Step & Repeat tasks](#) on page 398

196.3. Using JDF as Input File

Concept

When external systems have all the information that this task needs, which one-up(s) and which grid(s) to use, they can deliver this information as a *JDF LanePrintJob* file. Find an example and its specification below.

As with all system integrations, Esko's [Solution Services](#) can assist you in this project.

Note: This mode, with a JDF input file, enables this task to replace the task [Import JDF Layout](#) which uses a different graphics engine (BRX, used in normalized PDF). This task is one of the "Dynamic" tasks that use the NDL graphic engine from ArtPro+.

Note: When this kind of JDF is the task's input file, then the **Template** field in the ticket should stay empty.

Example of a JDF LanePrintJob file

We here describe the layout in which lanes only contain (repeats of) 1 product. Learn more below about the VDP use case where a lane can contain (repeats of) different products.

See the example JDF file below. You can also download it from [here](#). It creates this multi grid layout, 3 grids ; the middle with 2 lanes:



```

<?xml version="1.0" encoding="UTF-8"?>
<JDF xmlns="http://www.CIP4.org/JDFSchema_1_1" ID="0000" Type="ProcessGroup"
  Types="ImpositionPreparation" Status="Ready"
  JobID="01234556" JobPartID="1" Version="1.3" xmlns:eg="http://www.esko-graphics.com/
EGSchemal_0">
  <ResourcePool>
    <eg:MultiGrid ID="Mg001" Class="Parameter" Status="Available"
    ProductID="MultiGrid124">
      <eg:Grid Grid="0" CellH="65" CellV="150" GapH="0" GapV="0" NrH="1" NrV="3"
      Rotate="0" VOffset="0" HOffset="0"/>
      <eg:Grid Grid="1" CellH="150" CellV="65" GapH="0" GapV="0" NrH="2" NrV="6"
      Rotate="90" VOffset="10" HOffset="70"/>
      <eg:Grid Grid="2" CellH="65" CellV="150" GapH="0" GapV="0" NrH="1" NrV="3"
      Rotate="180" VOffset="0" HOffset="370"/>
    </eg:MultiGrid>
    <eg:LanePrintJob ID="Pj001" Class="Parameter" Status="Available" MediaWidth="480"
    MediaHeight="470" MediaMarginLeft="5.0">
      <eg:LaneRepeat>
        <eg:MultiGridRef rRef="Mg001"/>
        <eg:Lane Lane="0" >
          <RunList PartIDKeys="Run">
            <RunList Run="1" NPage="1">
              <LayoutElement>
                <FileSpec MimeType="application/pdf" URL="file://myserver/mycontainer/
myfolder/ALCIS_SHOWER_BERRY.pdf"/>
              </LayoutElement>
            </RunList>
          </RunList>
        </eg:Lane>
        <eg:Lane Lane="1" >
          <RunList PartIDKeys="Run">
            <RunList Run="1" NPage="1">
              <LayoutElement>
                <FileSpec MimeType="application/pdf" URL="file://myserver/mycontainer/
myfolder/ALCIS_SHOWER_KIWI.pdf"/>
              </LayoutElement>
            </RunList>
          </RunList>
        </eg:Lane>
        <eg:Lane Lane="2" >
          <RunList PartIDKeys="Run">
            <RunList Run="1" NPage="1">
              <LayoutElement>
                <FileSpec MimeType="application/pdf" URL="file://myserver/mycontainer/
myfolder/ALCIS_SHOWER_KIWI.pdf"/>
              </LayoutElement>
            </RunList>
          </RunList>
        </eg:Lane>
        <eg:Lane Lane="3" >
          <RunList PartIDKeys="Run">
            <RunList Run="1" NPage="1">
              <LayoutElement>
                <FileSpec MimeType="application/pdf" URL="file://myserver/
mycontainer/myfolder/ALCIS_SHOWER_ICE.pdf"/>
              </LayoutElement>
            </RunList>
          </RunList>
        </eg:Lane>
      </eg:LaneRepeat>
    </eg:LanePrintJob>
  </ResourcePool>
  <ResourceLinkPool>
    <eg:LanePrintJobLink rRef="Pj001" Usage="Input"/>
    <eg:MultiGridLink rRef="Mg001" Usage="Input"/>
  </ResourceLinkPool>
</JDF>
    
```

Specification of JDF LanePrintJob

| eg:MultiGrid of JDF[@Category] | Description | Cardinality |
|---------------------------------------|---|--------------------|
| eg:Grid | Step & Repeat grid. | 1-infinity |
| eg:Grid/@Grid | The index of the grid (0 based numbering). | 1 |
| eg:Grid/@CellV | The height (along the web) of the repetition cell (mm). | 1 |
| eg:Grid/@CellH | The width (across the web) of the repetition cell (mm). | 1 |
| eg:Grid/@VOffset | The vertical offset of this grid from the top of the multi-grid (mm). | 1 |
| eg:Grid/@HOffset | The horizontal offset of this grid from the left side of the multi-grid (mm). | 1 |
| eg:Grid/@Rotate | The rotation (degrees clockwise) to be applied to graphics in the cells. Value should be 0, 90, 180 or 270 . | 1 |
| eg:Grid/@NrV | The number of cells along the web. | 1 |
| eg:Grid/@NrH | The number of cells across the web. | 1 |
| eg:Grid/@GapV | The height (along the web) of the gap between cells in the repetition (mm). | 1 |
| eg:Grid/@GapH | The width (across the web) of the gap between cells in the repetition (mm). | 1 |

| eg:LanePrintJob of JDF[@Category="MISPRE.ImpositionPreparation"] | Description | Cardinality |
|--|--|--------------------|
| eg:LaneRepeat/eg:Lane/RunList /RunList[@Run="1"]/LayoutElement/FileSpec/@URL | Absolute file URL pointing to the PDF to upload. The PDF has to be stored on a network share that is readable by the AE System account. | |
| eg:LaneRepeat/eg:Lane/@Lane | The lane (zero base indexed from left to right). | 1 |
| eg:LaneRepeat/eg:Lane | Element defining the Lane of a Lane-Repeat. Lanes are numbered between 0 and NrH-1 from left to right. It is allowed to omit lane elements. This will result in an empty lane. | 1-infinity |
| eg:LaneRepeat | Repeat (a Step & Repeat PDF). | 1 |
| @MediaWidth | The width of the media box. | 1 |
| @MediaMarginRight | The margin provided on right of the trim box with respect to the media box. | 0-1 |
| @MediaMarginLeft | The margin provided on left of the trim box with respect to the media box. | 0-1 |

| eg: LanePrintJob of JDF[@Category="MISPRE.ImpositionPreparation"] | Description | Cardinality |
|--|------------------------------|-------------|
| @MediaHeight | The height of the media box. | 1 |
| @Bleed | The amount of bleed. | 0-1 |

Behavior

- When the task detects a JDF as input file, it checks if it has the JDF LanePrintJob format, and if it contains information about the grids and lanes.



Attention: When such a valid JDF is detected, the field **Template** in the task ticket should stay empty. Otherwise, the task will end in error.

- These fields are mandatory in the JDF file:
 - Grid and Lane index number
 - CellH, CellV
 - VOffset, HOffset
 - MediaHeight, MediaWidth
 - Rotate
 - GapH, GapV
 - NrH, NrV
- Bleed, MediaMarginLeft and MediaMarginRight are optional.
- When mandatory fields are missing or have a blank value, the task will end in error. For example: Rotate="" , GapH=""
- When optional fields are missing or have a blank value, the task considers those elements as missing. For example: Bleed="" , MediaMarginLeft=""
- No bleed will be applied if the attribute eg:Bleed is missing in the input.
- The grid index numbering should start from 0 and should be unique. The index numbering of the grids should be in sequential order.
- The trim box is defined as union of all grids taking into account their size and position. It is then enlarged to also contain the origin point [0,0].
- The media box size is defined by the MediaHeight and MediaWidth.
- The media box position is based on the size of the trim box.
 - Vertically: center according to trim box.
 - Horizontally:
 - If no margin is defined, also center.
 - If MediaMarginLeft is defined then that is the distance from the left side of media box to the left side of the trim box.

- If `MediaMarginRight` is defined then that is the distance from the right side of media box to the right side of the trim box.
- Finally, the media box is checked to verify that the complete trim box is inside. An error is generated if it is not the case.
- `GapH`, `GapV` can also have negative values.
- The one-ups to be placed in lane depend on `LayoutElement/FileSpec/@URL` and eg: `LaneRepeat/eg:Lane`.
- The PDF file path defined in the `FileSpec/@URL` in the input XML should be in URL or UNC format. The task will end in error if the input PDF file path in the XML file is invalid or the file doesn't exist.
- The task will place the one-ups according the provided lane number of the corresponding provided grids columns (`NrH`), this in numerical order of the grid index starting from 0.
- Corresponding grid columns will be blank if the lane index number is not provided.
- When any of the following conditions are not met, the task will end in error and show relevant log messages:
 - `MediaWidth / MediaHeight` must be > 0.0
 - The media box must be \geq the trim box
 - `CellH`, `CellV` must be > 0.0
 - `NrH`, `NrV` is whole number ≥ 1
 - `Bleed`, if present, must be ≥ 0.0
- `RunList` attributes with anything other than `Run="1"` `NPage="1"` will also result in error, except when you use the VDP mode as described below.
- The tag `FileSpec` in `LayoutElement` is mandatory.

Different Products in a Same Lane (VDP mode)

Above is described how the task works with a JDF describing the single page mode. That is where each lane (column) is either completely filled with the same one-up (or the lane is empty). The one-ups (pages) are repeated to fill the complete lane. The task outputs 1 layout (1 output sheet).

When a JDF `RunList` describes at least one lane that contains two or more different products ('input pages') then the here described VDP mode (variable data printing) is used.

- In VDP mode, each lane contains only the pages explicitly mentioned in a `RunList`. These can be
 - one or more pages from single file
 - a page range from a single file
 - the same pages repeated multiple times
 - a combination of multiple pages from multiple files.

However, only the one-up pages as defined by a `RunList` are used ; in this mode, lanes are not automatically filled 'till the end of the page'.

- Input pages are filled into lanes and the longest lane defines the number of output pages. Filling of each lane starts from the top (of the first page).

- The RunList definition generally follows standard JDF RunList specification with one exception: it is not allowed to define a RunList of an unknown number of pages. A page range cannot be unfinished like "0 ~ "(from the first page to the end of document). It must be explicit, for example "0 ~ 123".

In VDP mode, nothing changes to the above described definition of a grid (<eg:MultiGrid>).

The difference is in the lane definition:

- A <eg:Lane Lane="0"> can now contain multiple <RunList> entries.
- And you are also not limited to a single page NPage="1".

Some examples:

- **Example 1:** The selected page from the document is copied multiple times, using the attribute "DocCopies".

```
<eg:Lane Lane="2" >
  <RunList PartIDKeys="Run">
    <RunList Run="1" NPage="1" DocCopies="9">
      <LayoutElement>
        <FileSpec MimeType="application/pdf" URL="file://server/container/folder/
file1.pdf"/>
      </LayoutElement>
    </RunList>
  </RunList>
</eg:Lane>
```

- **Example 2:** Specifying specific pages and/or page ranges. In below example the pages 0, 1, 2, 3, 6, 13 will be used.

```
<eg:Lane Lane="2" >
  <RunList PartIDKeys="Run">
    <RunList Run="1" NPage="6" Pages="0 ~ 3 6 13">
      <LayoutElement>
        <FileSpec MimeType="application/pdf" URL="file://server/container/folder/
file1.pdf"/>
      </LayoutElement>
    </RunList>
  </RunList>
</eg:Lane>
```

- **Example 3:** One single lane has multiple RunLists:

```
<eg:Lane Lane="0" >
  <RunList PartIDKeys="Run">
    <RunList Run="1" NPage="3" Pages="~ 1 0">
      <LayoutElement>
        <FileSpec MimeType="application/pdf" URL=" file://server/container/
folder/file1.pdf"/>
      </LayoutElement>
    </RunList>
    <RunList Run="2" NPage="1">
      <LayoutElement>
        <FileSpec MimeType="application/pdf" URL=" file://server/container/
folder/file2.pdf"/>
      </LayoutElement>
    </RunList>
  </RunList>
</eg:Lane>
```


197. Submit to Flexo CTP Device

This task is documented in the chapter [Flexo CTP Device Workflow](#). Find a direct link [here](#).

Note: Until AE v18.1.1, this task was named 'Submit to CDI'.

198. Submit to Gang Run

This task is documented in the chapter *Gang Run Printing for Sign & Display*. Find a direct link [here](#).

199. Submit to HP SmartStream Production Pro Print Server

This task is explained in the chapter [Digital Printing Workflow](#). Here is a [direct link](#).

200. Submit to Esko DFE

This task is documented in the chapter [Digital Printing Workflow](#). Find a direct link [here](#).

201. Submit to Kongsberg Table

This task is documented in the chapter *Kongsberg Production Workflow*. Find a direct link [here](#).

202. Submit to Plate Merger

This task is documented in the chapter [Flexo CTP Device Workflow](#). Find a direct link [here](#).

203. Submit XML to Gang Run

This task is documented in the chapter *Gang Run Printing for Sign & Display*. Find a direct link [here](#).

204. Synchronize ArtiosCAD Boards

What?

This task synchronizes 'board' information received from a business system with the ArtiosCAD 'board' database.

More Info

This task is set up by an Esko Solution Architect. Learn about Esko Solution Services on <https://www.esko.com/support/solution-services>.

For more information, search for online articles on this topic in the [Esko Knowledge Base](#).

205. Synchronize ArtiosCAD Companies

What?

This task synchronizes 'company' information received from a business system with the ArtiosCAD 'company' database.

More Info

This task is set up by an Esko Solution Architect. Learn about Esko Solution Services on <https://www.esko.com/support/solution-services>.

For more information, search for online articles on this topic in the [Esko Knowledge Base](#).

206. Track Edit Session

Automation Engine can track and log interactive editing actions in Esko editors. Define [in the Configure tool](#) for which editors you want this automatic tracking.

When you open a file that resides in an active Job (folder) in an Esko editor, this task will automatically start logging many important editing actions. The task automatically stops when someone closes the file in the editor.

| File Name | Task Type | Order ID | Progress | Phase | State | Launched |
|---------------------------|--------------------|----------|----------|------------------------------|-------|-----------------|
| 32386_yog.pdf | Prepare for Viewer | 001234 | 100% | | ✔ | 12/9/16 4:25 PM |
| 32386_yog_des_passion.pdf | Track Edit Session | 001234 | 0% | Editing with PackEdge 16.... | ⏸ | 12/9/16 4:24 PM |

This editing information can so also automatically

- be stored in the **Task History**.
- be made available by using **Notifications**, for example as an XML file to report to another system. You could also save all notifications locally in the Job folder or centrally and you can do this in one or several files. Learn more [here](#).

Note: This task cannot be launched interactively. It will start appearing when you [configured it](#). Keep in mind that the editor needs to be restarted to activate this setting.

Note: When editing files in ArtPro, the task only records the timings of opening and closing the file.

206.1. Viewing the Edit Session Information in the Pilot

In the Pilot, the task's **Details** already show what is logged. An example:

| Job Name | Task Type | File Name | Progress | State | Launched |
|---------------|--------------------|-------------------|----------|-------|-------------------|
| WDEs Graphics | Track Edit Session | 03_astrid_BCK.pdf | 0% | | 12/12/16 12:02 PM |
| WDEs Graphics | Track Edit Session | 03_astrid.pdf | 100% | | 12/12/16 11:40 AM |

Details

Task Type: **Track Edit Session**

Started on Server: rdvmae17

Started at: 12/12/16 11:40:50 AM

Finished at: 12/12/16 12:02:14 PM

Process Time: 0:21:23

*** Start interactive PackEdge 16.0.0 ***

Time 12/12/16 11:40 AM

User wde@rdvmae17

Automation Engine server RDVMAE17

Loading file file://eaw11dl306/WDE-AE-DATA/Graphics/03_astrid.pdf

Create layer Layer 1

Create layer Layer 2

Changed page margins to top 2.039195, bottom 0.1764173, left 0.1763889, right 0.1767041 mm

Creation or modification of barcode EAN 13 with code 5449000111654

Creation or modification of barcode EAN 13 with code 5449000111654

Saving file file://eaw11dl306/WDE-AE-DATA/Graphics/03_astrid.pdf

Saving file file://eaw11dl306/WDE-AE-DATA/Graphics/03_astrid_BCK.pdf

*** End interactive PackEdge 16.0.0 ***

Time 12/12/16 12:02 PM

Note: Notice in above screenshot how, when at the end the operator saved the file as *_BCK, that the tracking task closed and immediately started a new one, now for the file with that other name.

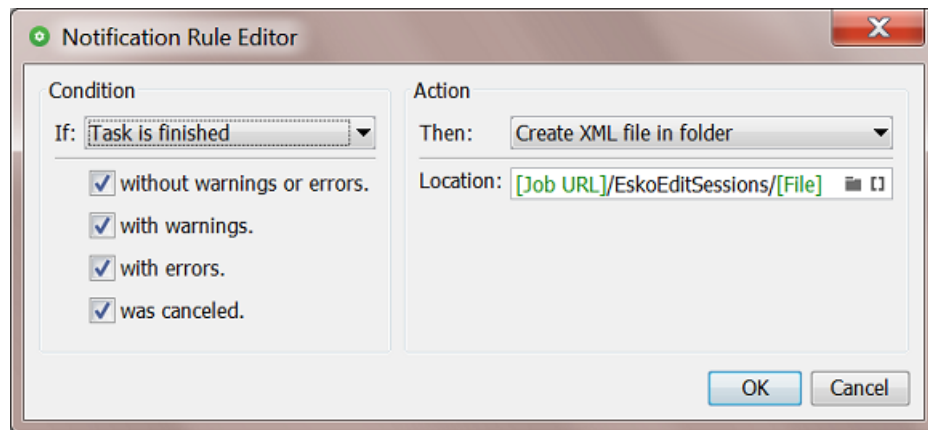
206.2. Storing the Editing Information System-Wide

How can these edit logs be stored automatically?

- Make sure the task is automatically archived into the tool [Task History](#).
- Alternatively, use the [Notification tool](#) to create a rule specific for this task:
 - Either you save all these XML logs inside the Job folder. The SmartNames you use in the output location allow you to choose if you want one (XML/TXT) log for each file or one per day or etc.
 - Alternatively, you save all these XML logs per customer or even system-wide. In that case you just indicate an output path somewhere outside the Job folder.

Follow these steps to create such a rule:

1. Go to **Configure > Notification > Rules**
2. In the **Tasks** tab, select the task **Track Edit Session**.
3. Click **Add**. The **Notification Rule Editor** opens.
4. To get an XML, select the **Action 'Create XML File in folder'**.
5. Define the folder's **Location** and click **OK**.



206.3. Which Edit Actions are Logged?

These types of edits are logged:

- Which user opens which file from which workstation?
- Start and stop time of this editing session
- Was the file saved or closed? When and with what name?
- All loading, saving, placing, exporting functions
- All changes to inks, layers, pages, page sizes
- All changes to (Esko) barcodes

- HIFI color conversions
- All trapping actions, PSFix actions, InkWizard actions
- Creating and replacing of external references
- Die object edits: adding, turning, flipping, rotating
- Writing of task notifications (when closing the edit session)
- Any loss of connection with the server.

An example:

```

*** Start interactive PackEdge 7.0 ***
Time 13/01/06 17:19
User wde@aeserver01
Automation Engine server AESERVER01
Loading file file://aeserver01/52355/Prod/52355_YummieBeer_back.pdf
Remove layer OMBRE
Trap with local ticket Default
"Modified ink angle for C from 22 to 7 degrees"
"Created ink PANTONE 123 C (100 lpi, 7 degrees, dot ?, type Normal)"
"Created ink C (170 lpi, 75 degrees, dot ?, type Normal)"
"Created ink ROUGE (170 lpi, 45 degrees, dot ?, type Normal)"
Placing file file://aeserver01/52355/Prod/52355_YummieBeer_collar.pdf
Changed page margins to top 3.998, bottom 9.998, left 4.001, right 66.001 mm
Changed page size to width 110.0024 mm and height 73.99 mm
PS-Fix: modified 2 contour(s)
Applied Job inkmapping
    
```

"Modified ink angle for C from 7 to 75 degrees"
"Removed ink M (170 lpi, 15 degrees, dot ?, type Normal)"
Changed page margins to top 7.25, bottom 7.25, left 7.25, right 8.36 mm
Exporting file file://aeserver01/52355/Prod/52355_YummieBeer_back.tif
Saving file file://aeserver01/52355/Prod/52355_YummieBeer_back2.pdf
*** End interactive PackEdge 7.0 ***
Time 13/01/07 17:22
Notification:Wrote XML file:E:\wdedata\52355\Prod\Edits\52355_YummieBeer_back.

207. Trap

Note: This task uses the graphic kernel of PDF Action List Processor.

This task accepts PDF as input file (PDF+ and Normalized PDF).

This task will overwrite the input file when you didn't specify a different name or location.

The task used the units specified in the preferences of the Pilot.

All required values of SmartName fields are case-insensitive.

Task Settings

Use Trap Settings from File:

Trap Distance:

Truncate: [Edit...](#)

Joins: [Edit...](#)

End Caps: [Edit...](#)

Image Traps:

Apply Pullback:

Inherit Trap Settings:

Pullback Distance:

Truncate: [Edit...](#)

Joins: [Edit...](#)

End Caps: [Edit...](#)

Close gaps smaller than:

Allow Overshoot:

Powered by PDF Action List Processor

- **Use Trap Settings from File:** In ArtPro+, you can save trap settings, even per object.
 - **Never.** You then define all options here in this ticket.
 - **When Available:** Select this when you want to use settings that are present in the input file. The task ends in error when no such settings are found.

When using a SmartName, its value must be either 'When Available' or 'Never'. These fields is case-insensitive. The default option selected is 'Never'.

- **Trap Distance:** Enter the width of the traps. The default width is 0.2 mm (or its equivalent in *your chosen unit*).
- **Truncate:** Truncate the trap so that it doesn't stick out on another color. Select 'On Center' or 'On Edge'. When using a SmartName, its value must be either 'Center' (default) or 'Edge'.
- **Joins:** How should the sharp corners of the traps be handled? Select 'Round' or 'Mitered'. When using a SmartName, its value must be either 'Round' (default) or 'Mitered'.
- **End Caps:** 'Object Dependent' means a logical continuation of the contour of the spread object. 'Square' ends the trap at right angle to the adjoining object. SmartName values must be 'Dependent' (default) or 'Square'.
- **Image Traps:**
 - **Original Data:** When spreading an image, the task uses the underlying image data (when the image is clipped) to create the trap. SmartName value must be 'Original'.
 - **Extend Data:** The task automatically extrapolates the image along its clipping path edge to ensure the trap looks as expected, even if there is no clipped image data outside the visible image. SmartName value must be 'Extend'.
- **Apply Pullback:** When a color area is composed of multiple inks bordering to a very light background, you can 'pull back' all inks except the darkest ink. This prevents individual inks from that composed color to become visible in the background.
 - **Inherit Trap Settings:** When set to 'yes', the same settings will be used as those set above for trapping. SmartName value can be 'yes' (default) or 'no'.
 - **Pullback Distance:**
 - **Truncate:**
 - **Joins:**
 - **End Caps:**
- **Close gaps smaller than:** Some files contain very small unintentional gaps between neighboring objects. These gaps prevent trapping of these objects.
The default value is 0.01 mm
- **Allow Overshoot:** Indicate if you want to allow trap objects to overshoot out of the (thin) objects that they are trapping in to. Learn more in the [user guide of ArtPro+](#) (**Prepress functions > Trapping**).

208. Trap with PowerTrapper

Learn about the concept of trapping in [What is Trapping?](#) on page 428.

This task uses the Esko technology "PowerTrapper" (as a part of Esko's graphic kernel 'BRIX').

Its input file needs to be a native or normalized PDF.

The resulting trapping objects are created in a dedicated (new) layer.

The output of this task is a Normalized PDF file.

The task's many settings are spread over these tabs:

- [Distance & Direction](#) on page 429
- [Color & Shape](#) on page 431
- [Processing](#) on page 432
- [Rules](#) on page 434
- [Output](#) on page 435

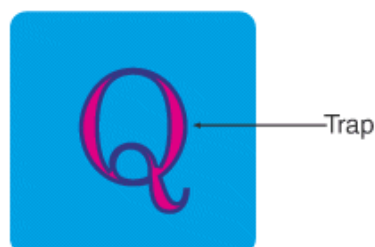
208.1. What is Trapping?

The **trapping** process is a safeguard against possible fluctuations in the printing process. Minor discrepancies in registration and slight paper shifting can cause inks to misregister.

When two adjoining colored objects do not touch exactly, the printed result can show a white gap, as well as areas with a dark overlap:



'Trapping' these objects causes the objects to slightly overlap each other:



In general, trapping is necessary when two adjoining color areas don't share a common ink.

Adding a fine area where they join, made of a color that contains components of both adjoining colors, can effectively 'trap' such areas.

208.2. Distance & Direction

1. Trapping: Choose between two modes:

- **Normal Trapping:** This selects adjoining color pairs, which are likely to cause registration problems like ugly light gaps, and unwanted halo effects. Lighter colors are generally trapped into darker colors to minimize the visual effect of the trap.
- **Reverse Trapping:** This mode avoids overprinting of inks. It prevents overprint of adjoining color areas by trapping these color pairs with a white knockout (erasing) trap. The white knockout trap is put on top of the lighter of the two colors. This is useful to prepare a file for "Dry Offset" printing (example: printing on metal cans).

2. Trapping Distance: Enter the width of the traps. The default width is 0.2 mm (or its equivalent in [your chosen unit](#)).

Below, you can define specific distances when trapping **Into black**, **Into spot** color, **Into image** or adding a **Pull Back** (see below).

3. Minimum Ink Difference

Trapping is applied to two adjoining colors, when either:

- The two colors each consist of at least one ink but they have no common inks.
- The two colors have common inks but there is a difference of at least the **Minimum Ink Difference** percentage for two or more inks making up these colors.

These differences in ink percentages must be in opposite directions.

Note: An example: With the default minimum ink difference percentage of 10%, the following two colors are trapped:

- 1st color: C 5%, M 10%, Y 50%, K 15%
- 2nd color: C 5%, M 10%, Y 85%, K 5%
- => These colors have 2 inks that differ 10% or more: K is 10% different, Y is 35% different.

Increase the **Minimum Ink Difference** to trap colors that differ more ; lower it to trap colors that are similar.

4. Image Trapping

- **Automatic:** This determines the most suitable trap direction automatically. It compares the average lightness of the image with the lightness of the adjoining area, and then traps the lighter color into the darker one.
- **Always Towards Image:** This always traps line art under adjoining images.
- **Always Towards Line Art:** This always traps images under adjoining line art.

Select '**Trap images to images**' if you want images to be trapped with each other.

5. Pull Back

When a color area is composed of multiple inks bordering to a very light background, you can '**pull back**' ink to keep away all ink except the darkest ink. This prevents individual inks from that composed color to become visible in the background, typically due to registration errors during printing.

- **Automatic:** This creates pull backs on **rich black** or rich spot colors, when the color left in the pull back area is not very different from the composed color.
- **Only Pull Back Rich Black:** This only creates pull backs on **rich black**.
- **Do Not Pull Back:** This never creates any pull back.

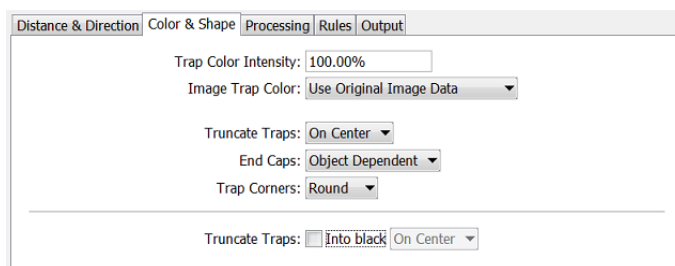
There will be automatic pull back for the darkest color. Select '**Also pull back light inks**' to create pull backs even when the pull back ink (i.e. the ink remaining in the pull back area) is visibly different from the composed color. Select '**Pull back images and gradients**' to create pull backs on images and gradients.

6. Trap Decision

- **Use Lightness:** This uses the color luminance to define the trapping direction, except for opaque inks, where it uses the inks order.
 - Trap direction: from brightest to darkest.
- **Treat Spot Colors as Opaque:** Color luminance is used only for CMYK. For opaque and spot inks, the trap direction is determined by the ink sequence.
 - Trap direction for spot colors only: towards the separation that is listed the lowest in list of inks.
 - Trap direction goes from the process to the spot color if the spot color is below the process color in the list of inks.
 - Trap direction if the spot color is above the process color: from brightest to darkest.

- **Use Separation Order:** The trapping direction is determined by the ink sequence for all inks, including CMYK.
 - Trap direction: towards the separation listed the lowest in the list of inks.
 - **Use Reverse Separation Order:** As above, but using the reverse ink sequence.
 - Trap direction: towards the separation listed the highest in the list of inks.
7. **Overshoot Mode:** See some visual examples in the [PackEdge user manual](#) (**Menu > Trapper > PowerTrapper**).
- **Automatic:** The centerline behavior is according the rules determined in the color pair list.
 - **Never on Dark Areas:** The centerline is forced not to get beyond the center of dark areas.
 - **Never:** The centerline is forced not to get beyond the center of any area.

208.3. Color & Shape

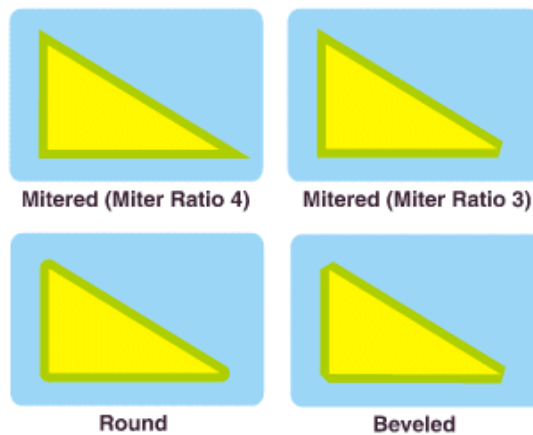



- **Trap Color Intensity:** By default, the task uses the full color of the object to spread in the trap area (100% trap color intensity). You can create a trap of a lighter color by reducing this percentage.
- **Image Trap Color:** Choose how to trap your images:
 - **Use Original Image Data:** When the image is clipped, the task uses the underlying image data to create the trap. When there is no underlying image data (when the image is not clipped), an empty trap is created.
 - **Extend Image Data:** The task automatically extrapolates the image along its four edges to ensure that the trap looks as expected, even if there is no clipped image data outside the visible image.
 - **Use an Approximate Flat Color:** Instead of using existing or extrapolated image data in the trap, the task uses a solid color. A suitable color is determined by averaging the image's colors along its boundary with the object to trap.
- **Truncate Traps:** Truncating the trap object avoids that it sticks out on another color. Choose a mode:
 - **On Center:** When a portion of a trap comes too close to the contour of another object, it is limited to half the distance between the trapped object and the other object.
 - **On Edge:** When a portion of a trap comes too close to the contour of another object, it is truncated on the other object's edge.

- **End Caps:** Choose the shape of the ends of an open trap:
 - **Square:** The trap ends at a right angle to the adjoining object.
 - **Round:** This rounds the ends of the trap. This is typically only used in combination with white knockout ('Reverse Trapping').

Note: We recommend that you do not to use 'Round End Caps' together with 'Truncate Traps On Center', as this can generate some artefacts (the round caps are truncated).

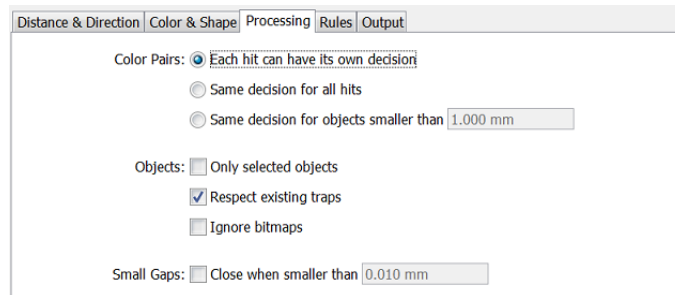
- **Object Dependent:** The trap is a logical continuation of the contour of the spread object.
- **Trap Corners:** Choose how sharp corners should be handled:



- **Round:** Corners end in a round cap.
- **Beveled:** Sharp corners are cut off.
- **Mitered:** If the distance from the base of the trap to the corner point is larger than the  **Miter Ratio** multiplied by the trap distance, then the corner will be **beveled**, otherwise it will remain sharp.

The default miter ratio is 4. This means that if the length of the sharp corner is more than 4 times the **Trapping Distance**, the corner is cut off (beveled). If it is less than 4 times the **Trapping Distance**, the corner is left as it is.
- **Truncate Traps:** If you want to truncate traps into black differently, select **Into black** and choose the truncation mode (**On Center** or **On Edge**).

208.4. Processing



• **Color Pairs:**

Before creating trap objects, PowerTrapper scans the file for color pairs where this will be needed. A color pair can occur only once or it can occur many times. The task can trap all hits (occurrences) of a color pair in the same way or it can recalculate the trap direction for different hits.

- **Each hit can have its own decision:** This recalculates the trap direction for each hit of a color pair.
- **Use the same decision for all hits:** This traps all hits of the same color pair in the same direction.
- **Use the same decision for objects smaller than:** This uses the same trap direction for hits of a color pair belonging to small objects, and recalculates the trap direction for hits belonging to bigger objects.

Use the input field next to determine the maximum size of small objects.

• **Objects:**

To speed up the trapping, the task can safely ignore certain object types.

- **Only selected objects**
- **Respect existing traps:** If the file has already been trapped, select this option to keep the existing trap layer out of the trapping process.
- **Ignore bitmaps:** Select this to keep bitmap pixel data from being trapped. Bitmap data is contoured before trapping which may slow down trapping. Bitmaps with lots of small isolated islands typically take a longer time to trap.

Note: When you indicate an object type to ignore, it is ignored completely as if it did not exist in the file. Also, the ignored objects do not truncate trapping areas resulting from other objects below them.

• **Small Gaps:**

Some files contain very small unintentional gaps between neighboring objects. These gaps prevent trapping of these objects. Although it is better to clean up such files before trapping, PowerTrapper can ignore these gaps automatically.

To use this option, select **Close when smaller than** and enter the maximum size small gaps can have.

Note: If you set a big gap size, trapping may become slower and some small parts may be ignored.

208.5. Rules

This tab allows to add rules that define custom trapping settings for specific trapping pairs.

PowerTrapper first traps the trapping pairs that match such a rule (according to that rule) and then traps the rest of the file according to the main trapping settings.

When to use Rules?

In most cases the general trapping settings entered in '**Distance & Direction**' give you excellent results. You can refine them using rules.

Settings defined in rules overrule settings in the other tabs.

Note: This is an advanced feature. We recommend it for experienced users.

Some example cases to custom rules:

- To set a different trap distance for a specific spot ink. Sometimes you need a larger trap distance for spot inks if there is no other ink to help cover leaks on the press.
- To prevent trapping or ink pull back in specific cases. Depending on the type of the adjoining colors, trapping and/or pull back may be undesirable.
- To force a specific trap direction. When adjoining colors have a similar lightness level, PowerTrapper selects an arbitrary direction. You can use a rule to make it always use a particular direction for a color pair.
- To specify a different shape and/or truncation mode for certain color pairs. For example, you can choose to use '**On Center**' truncation when trapping under a 100% black line and '**On Edge**' truncation on all other color pairs.

Creating a rule

1. Click **Add**.
2. In the dialog, use the '**From**' and '**To**' lists to specify trapping pair that you want to apply this rule to. Choose between '**Any Color**', a particular ink (**Process**, **Spot** or **Opaque**), a particular object (**Image**, **Gradient** or **Empty Background**) or the **Registration Color**.

Note: When trapping a particular ink, you can also define its '**Minimum Density**' and if the **Color must be pure** (no other separation in the color object).

3. Choose the contents of the rule.

Most options are described in the previous pages. Here are some specific settings within these rules:

- **Direction Mode:** Select '**Into Both Colors**' to use bidirectional trapping. In that case, the trap goes half the trapping distance in each direction.
- **Horizontal/Vertical Distortion:** Set the percentage of the trapping distance to be used in V/H direction.

See an example where the trap was generated with no vertical distortion (so 100%, i.e. using the entered trap distance) and horizontal distortion set to 50% (i.e. half the trap distance).



You can use the + or - buttons to add or remove criteria to your rule.

4. Click **Add** to confirm and add the rule.
5. After defining the rules, click **OK** to confirm this list of rules.

208.6. Output

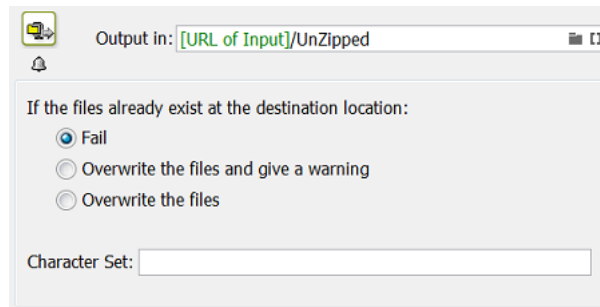
- **Trap layer only:** Select this to output a PDF containing only the trap layer.
- **Load trap color pairs if present:** Select this to make the task use a TCP file that was created during a previous trapping action. The TCP file needs to have the same name as the input file and needs to be present next to the input file.

209. Unshare Job

This task is documented in the chapter *Collaborating via Esko Cloud*. Find a direct link [here](#).

210. Unzip

You can use this task to extract files from a zipped archive.



Output in: [URL of Input]/UnZipped

If the files already exist at the destination location:

- Fail
- Overwrite the files and give a warning
- Overwrite the files

Character Set:

Note: Many applications can create zip files, also the [Zip task](#) in Automation Engine.

- Define what needs to happen **If the files already exist at the destination location:**
 - **Fail.** The task will not unzip and will end in an error status.
 - **Overwrite the files and give a warning.**
 - **Overwrite the files.**
- **Character Set:**

When a zip file was generated with non-standard encoding, unzipping such a file with this **Unzip** task can fail. The task's log file then mentions a 'MALFORMED' exception. You can solve this by specifying the character set that was used to create the file.

For the list of character sets and the correct naming to be used in this task ticket, we refer to [this page of the online java documentation](#). When specifying a character set in this ticket, use the name as is listed on that page, in the column "Canonical Name for java.nio API".

211. Upload Files to Shared Job

This task is documented in the chapter [Collaborating via Esko Cloud](#). Find a direct link [here](#).

212. Upload Files to Share & Approve

This task is documented in the chapter [Integrating with Share & Approve](#).

Find a direct link [here](#).

213. Upload via FTP

This task is documented in the chapter [Integrating with External Systems](#). Find a direct link [here](#).

214. Upload via SFTP

This task is documented in the chapter [Integrating with External Systems](#). Find a direct link [here](#).

215. Upload To Cloud Storage

This task is documented in the chapter [Integrating with External Systems](#). Find a direct link [here](#).

216. Verify Certification

This task is documented in the chapter [Quality Control tools](#). Find a direct link [here](#).

217. Version PDF

When working with various versions of a single PDF, such as multiple language versions or versions containing minor differences, you can use this task to save on output material by:

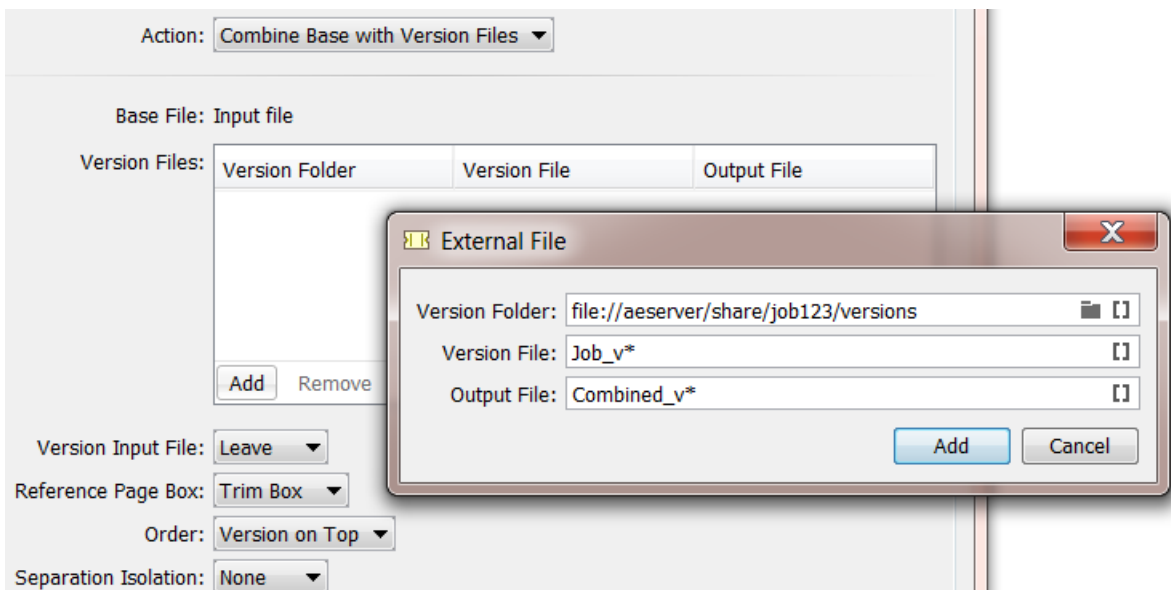
- **Combining a base file** with multiple **version files**.
- **Extracting separations or layers** from the base file and replacing them by variants.

Combine Base with Version Files

By combining a **Base File** (the input file) with a number of **Version Files**, you can create various flavours of the same file and save on output material.

Base File.pdf + Job_v1.pdf = Combined_v1.pdf
 + Job_v2.pdf = Combined_v2.pdf
 + Job_v3.pdf = Combined_v3.pdf


You can use wild cards and/or SmartNames to specify folders or files.



Here's a typical example: Your base file contains graphics and only the CMY separations. Your version files contain text in different languages in the black (K) separation. By combining the graphics from your base file with the various language versions, you only need to make the plates containing the separations for the graphics once.

Follow these steps:

1. In the **Version Files** table, click **Add**.
2. In the **External File** dialog, specify:
 - The location of the **Version Folder**, which contains the version files.

- The name(s) of the **Version File(s)**, including their file extension.
 - The name of the **Output File**, which is a combination of the base file and a version file.
3. Choose what you want to do with the **Version Input File** (base file or input file):
 - If you want it to remain in the same place, choose **Leave**.
 - If you want it to be deleted, choose **Delete**.
 - If you want it to be moved to another folder, choose **Move to** and use the  button to define the new location.
 4. Select the desired **Reference Page Box**. Selecting the correct media box here can prevent errors, such as double time stamps in the text of a page mark.
 5. Determine the **Order** of the Base File and the Version file.
 6. **Separation Isolation**: Select **'Isolated'** to use the PDF construct "Form Isolation" to combine the files, which will reduce the interaction between the content of the files. This is helpful when the files contain information for different separations, rather than artwork to be placed on top.

Note: You cannot combine Normalized PDF files with other PDF files.

Extract Separations from Input file

This **Action** allows to extract a separation from the input file and map it to another separation. This is done to limit the total number of separations for output.

Action:

Extract:

Base File: Input file

Base Separations:

Versioning Separations:

| Separation Name | Output File | Map Separation To |
|-----------------|-------------|-------------------|
| | | |

Preserve Separation Interaction:

For example: Map a 'black' Pantone color that is used for text to 'K' (typically black in CMYK).

Preserve Separation Interaction: Use this parameter to define what to do when the separations you remove contain objects that knock out other separations.

- **None:** This only deletes knock-out objects that are only defined in the removed separation(s).
Use this when removing separations that don't influence the final result (for example die cut separations).

- **Standalone:** This converts knock-out objects that are only defined in the removed separation(s) to white knock-out objects defined in one of the remaining separations. The remaining separations keep looking the same.

This method is recommended for most use cases.

- **For Versioning:** This converts knock-out objects that are only defined in the removed separations to white overprinting objects. Those are defined in a color space made from the remaining separations of the file, and overprinting on all other separations.

This ensures that when re-adding separation layers for versioning, the final result looks the same as the original file.

Note: This may create objects in 'DeviceN' color spaces, which is something that some applications cannot handle. Only use this method if you want to do versioning on your file.

Extract Layers from Input file

This **Action** allows to extract layers from the input file and split the input file into a fixed master and a variant part. The variable ink is often black.

Action:

Extract:

Base File: Input file

Base Layers:

| | |
|-----|--------|
| Add | Remove |
|-----|--------|

Versioning Layers:

| Layer Name | Output File |
|------------|-------------|
| | |
| Add | Remove |

You can also work with layers to extract the language layer from the input file and replace it with the corresponding translation(s).

Note: Work with wild cards to optimize your workflow: For example to only extract the language layer, use 'lang_*' if you know that all language versions follow this name rule. This will allow for the lang_EN, lang_FR and lang_ES layers to be automatically extracted from the base file.

218. Wait

This task is documented in the chapter [Workflows](#), in the section [Inserting Wait Points](#).

219. Wait for Action (Checkpoint)

This task is documented in the chapter [Workflows](#), in the section [Building Workflows # Inserting Wait Points](#).

Find a direct link [here](#).

220. Wait for Approval on Share & Approve

This task is documented in the chapter [Integrating with Share & Approve](#).

Find a direct link [here](#).

221. Wait for Files

This task is documented in the chapter [Workflows](#), in the section [Inserting Wait Points](#).

222. Wait for Files (via JDF)

Use this task when you are working with a JDF RunList, and when the files referenced in the RunList are not ready yet.

Send the JDF RunList to this task, and it will check at a regular interval if the files are already present. When it finds all the files, it ends in OK and passes them on to the next workflow task.

Example Workflow

1. The MIS system creates jobs via JDF, and sends the JDF RunList to your Automation Engine workflow.
2. The **Wait for Files (via JDF)** task checks if all the files referenced in the RunList are where they are supposed to be.
3. When the files are ready, the task finds them and passes them on to the next workflow task.
4. The rest of the workflow starts on the files.

Parameters

- **Look in Folder**

By default, the task looks for the files at the location defined in the RunList. However, you can here define a custom location where the task should look for them.

Tip: For example, use the SmartName [URL of Folder of Input] if you know the files will be end up in the same folder as the RunList.

- **Stop waiting when time exceeds ...**

Select this if you want the task to finish if the files referenced in the RunList haven't been found after a specified time.

If you don't select this parameter, the task will wait indefinitely (or until it finds the files).

- **Task ends in error when not all files were found**

Select this if you want the task to finish with an **Error** state:

- When the time you set in the '**Stop waiting when time exceeds**' parameter has passed,
- **and** when the task hasn't found the files referenced in the RunList at that specified time.

223. Wait for Product Status

This task allows to hold a workflow until one or more **Products** have reached a certain status.

This task is documented in the chapter on [Products](#). Find a direct link [here](#).

224. Zip

This task creates a zip file from the selected input file(s) or folder.

Choose the task's behavior in case the zip file already exists:

- **Generate an error**
- **Replace the zip file.**

Learn more in [the Unzip Task](#).

225. Outdated and Soon Outdated Tasks in this Version

225.1. Concept of (Soon) Outdated Tasks

Concept

Some task technology in Automation Engine can become outdated after many years. There are two possible reasons for this:

- the functionality is now available via a new and improved technology. For example a task based on a new trapping engine replaces the old ones.
- the functionality is no longer used in today's prepress environment. For example a task to normalize EPF files, an Esko file format that is not created any more.

Such tasks are first declared "**Soon Outdated**" and later become "**Outdated**".

Note: Before version 14.1, the term `Deprecated` was used for **Soon Outdated** tasks and the term `Obsolete` was used for **Outdated** tasks.

Soon Outdated

A task is named **Soon Outdated** as a warning that it will no longer be available in the next major version of the Automation Engine.

This gives you at least one year

- to replace this task by an alternative. This could be a newer task equivalent or a slightly different workflow. The alternative is mentioned in this documentation.
- to contact Esko support in case the proposed alternative is not valid for you.

Outdated

A **Soon Outdated** task becomes **Outdated** in the next major version: it is then no longer available in that software version.

- Customers who never used that task type will not see any tickets.
- Customers who had already created custom tickets of that task type will still see those tickets but notice that they no longer work.

A Gradual Process with Many Visual Reminders

This two step process gives you the time to switch from using the old technology to the new version or method.

The Pilot shows you in many places which task types are (to be **Soon**) **Outdated**.

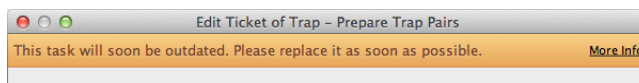
- In the **Tickets** list:

| Task Type | Ticket Name |
|--|-------------|
| Add Marks to Imposition | Default |
| Add Parameters for Nesting (Soon outdated) | Default |
| Add SmartMarks | Default |

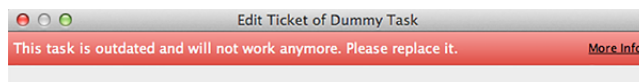
Also workflow tickets that contain outdated tasks will show a warning:

| | |
|---------------------------------------|------------------------|
| Workflow | Import Export Test |
| Workflow ⚠ (contains 1 outdated step) | Jan |
| Workflow | Load Balanced Workflow |

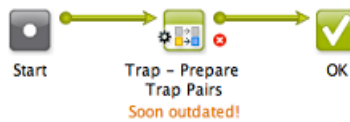
- In the task ticket itself, a colored top bar is added. A Soon Outdated task shows an orange bar and the link for **More Info** brings you to the online help page that describes the proposed alternative:



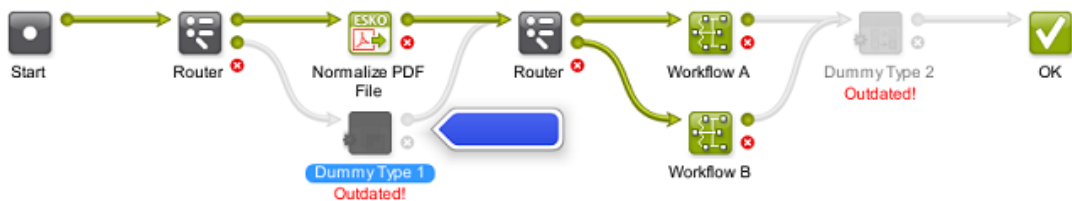
An Outdated task shows a red color bar and also a link with **More Info**:



- In the **Workflow Editor**. Colored text indicates (soon) outdated workflow steps:



Transitions that depend on an outdated step are shown in grey. That part of the workflow also does not work any more:



These (soon) outdated steps are also mentioned in the **Validate Workflow** dialog. When you there select such a warning, the corresponding step will also be highlighted in the workflow editor with an arrow.

| Validate Workflow | | | |
|--------------------|---------------------------|----------------|--|
| Warning | Node | Workflow | Description |
| Outdated Task | Trap - Create Trap Layer | /outdated test | "Trap - Create Trap Layer" is outdated and will not work... |
| Soon Outdated Task | Trap - Prepare Trap Pa... | / | "Trap - Prepare Trap Pairs" will soon be outdated. Please... |

225.2. Add Parameters for Nesting (Soon Outdated)

Due to the changes in **Gang Run Printing** module, the **Add Parameters for Nesting** task will soon be outdated. Learn more about outdated and soon outdated tasks in [Concept of \(Soon\) Outdated Tasks](#) on page 454.

This old technology is still supported but no longer commercially available (since v16).

Find a link below to its old documentation.

Alternative

Use the **Submit to Gang Run** task as a replacement.

Note: The **Submit to Gang Run** task does not create an XML file (formerly typically dropped into a hotfolder). This information is now written directly into the gang run database.

Modify your workflows with the new task. Also convert nesting mechanisms via a hotfolder into a **Substrate** queue in the **Gang Run Printing** view. Learn more in the chapter [Gang Run Printing](#).

225.2.1. Add Parameters for Nesting (Soon Outdated) - old documentation page

Note: Learn about the alternative for this task in the above page [Add Parameters for Nesting \(Soon Outdated\)](#) on page 456.

The old documentation can still be found in older manuals of Automation Engine. Follow these steps to find it:

- Go to <http://www.esko.com/en/Support/Product?id=Automation%20Engine>.
- In **Select product version**, select 14.
- Open the AE Complete Manual.
- Go to the **Reference Guide**.
- Go to **The Tasks and Workflow Controls > Deprecated and Obsolete Tasks > Add Parameters for Nesting (Soon Outdated)**.

225.3. Create Nested Layouts (Soon Outdated)

Due to changes in the **Gang Run Printing** module, the **Create Nested Layouts** task will soon be outdated. Learn more about outdated and soon outdated tasks in [Concept of \(Soon\) Outdated Tasks](#) on page 454.

The **Create Nested Layouts** task was used to create nested layouts before Automation Engine offered the **Gang Run Printing** workflow mode.

This old technology is still supported but no longer commercially available (since v16).

Find a link below to its old documentation.

Alternative

The functions and settings of this task are now divided over the **Substrate** settings in the **Gang Run Printing** View and the [Export Nested Layouts](#) on page 133 task. In the substrate settings you will find all the sheet specific settings and the nesting parameters. The [Export Nested Layouts](#) on page 133 task holds all the output settings.

Note: The nesting no longer happens in the task, but as part of a background process triggered by the nesting server.

Modify the workflows and convert your hotfolder-based nesting into a **Substrate** queue in the **Gang Run Printing** view. Learn more in the chapter [Gang Run Printing](#).

225.3.1. Create Nested Layouts (Soon Outdated) - old documentation page

Note: Learn about the alternative for this task in the above page [Create Nested Layouts \(Soon Outdated\)](#) on page 456.

The old documentation can still be found in older manuals of Automation Engine. To find it, go to

- <http://help.esko.com/products/Automation%20Engine>
- then, in "**Version**", select a version older than version 14
- click on the link to the **Reference Guide**
- go to **The Tasks: an Overview > Deprecated and Obsolete Tasks > Create Nested Layouts (Deprecated)**.

225.4. Expand Variable Data to PPML File (Soon Outdated)

The **Expand Variable Data to PPML File** task will soon be outdated. Learn more about outdated and soon outdated tasks in [Concept of \(Soon\) Outdated Tasks](#) on page 454.

This task was used in VDP workflows and used an older technology (the PPML file format).

Find a link below to its old documentation.

Alternative

Digital printing is a fast-evolving field, and the industry as whole is moving towards the PDF/VT file standard as a replacement for the older PPML standard. Esko is supporting this trend.

Esko recommends you to migrate to the **Dynamic VDP** workflow.

The **Dynamic VDP** workflow is based on PDF/VT and includes a DeskPack plug-in for authoring as well as an Automation Engine ticket for expansion.

225.4.1. Expand Variable Data to PPML File (Soon Outdated) - old documentation page

Note: Learn about the alternative for this task in the above page [Expand Variable Data to PPML File \(Soon Outdated\)](#) on page 457.

The old documentation can still be found in older manuals of Automation Engine. To find it, go to

- <http://help.esko.com/products/Automation%20Engine>
- then, in "**Version**", select a version older than version 14
- click on the link to the **Reference Guide**
- go to **The Tasks: an Overview > Deprecated and Obsolete Tasks > Expand Variable Data to PPML File (Deprecated)**.

225.5. Expand Variable Data to PPML File (DeskPack Only) (Soon Outdated)

The **Expand Variable Data to PPML File (DeskPack Only)** task will soon be outdated. Learn more about outdated and soon outdated tasks in [Concept of \(Soon\) Outdated Tasks](#) on page 454.

This task was used in VDP workflows started from Adobe Illustrator and used an older technology (the PPML file format).

This task was documented in the page describing the non-DeskPack version: Find a link in [Expand Variable Data to PPML File \(Soon Outdated\) - old documentation page](#) on page 458.

Alternative

As mentioned in [Expand Variable Data to PPML File \(Soon Outdated\)](#), the alternative here is also to use the **Dynamic** workflow tools. This **Dynamic** workflow is based on PDF/VT and includes a DeskPack plug-in for authoring as well as an Automation Engine ticket for expansion.

225.5.1. Expand Variable Data to PPML File (DeskPack only) (Soon Outdated) - old documentation page

This task is the version of [Expand variable Data to PPML file](#) that can be started from DeskPack.

225.6. Print on Digital Press (PPML) (Soon Outdated)

This task will soon be outdated. Learn more about outdated and soon outdated tasks in [Concept of \(Soon\) Outdated Tasks](#) on page 454.

The **Print on Digital Press (PPML)** task was used to create variable print jobs on the DFE server using the format PPML.

Find a link below to its old documentation.

Alternative

Digital printing is a fast-evolving field, and the industry as whole is moving towards the PDF/VT file standard as a replacement for the older PPML standard. Esko is supporting this trend.

Esko recommends you to migrate to the **Dynamic VDP** workflow.

The **Dynamic VDP** workflow is based on PDF/VT and includes a DeskPack plug-in for authoring as well as an Automation Engine ticket for expansion.

225.6.1. Print on Digital Press (PPML) (Soon Outdated) - old documentation page

Note: Learn about the alternative for this task in the above page [Print on Digital Press \(PPML\) \(Soon Outdated\)](#) on page 458.

The old documentation can still be found in older manuals of Automation Engine. To find it, go to

- <http://help.esko.com/products/Automation%20Engine>
- then, in "**Version**", select a version older than version 14
- click on the link to the **Reference Guide**
- go to **The Tasks: an Overview > Print on Digital Press (PPML)**.

225.7. Rip to WS4000 Series (Soon Outdated)

The **Rip to WS4000 Series** task will soon be outdated. Learn more about outdated and soon outdated tasks in [Concept of \(Soon\) Outdated Tasks](#) on page 454.

This task was used to generate JLYT output for a HP Indigo WS4000 press.

Find a link below to its old documentation.

Alternative

Your alternative is to use the more recent [Print on Digital Press](#) task. This task links to the DFE that you configured in [Digital Press](#).

225.7.1. Rip to WS4000 Series (Soon Outdated) - old documentation page

Note: Learn about the alternative for this task in the above page [Rip to WS4000 Series \(Soon Outdated\)](#) on page 459.

The old documentation can still be found in older manuals of Automation Engine. To find it, go to

- <http://help.esko.com/products/Automation%20Engine>
- then, in "**Version**", select a version older than version 14
- click on the link to the **Reference Guide**
- In the **search** field, type WS4000. The result will show a link to the task's old documentation.

225.8. Tasks that became Outdated in this Version 21

In this version of Automation Engine, these tasks were removed because they became **Outdated** (they were earlier announced as "**Soon Outdated**"):

- < none >

Note: Learn more about how and when tasks become outdated in [Concept of \(Soon\) Outdated Tasks](#) on page 454.