

Automation Engine 23

Quality Control tools

10 - 2023

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1. Concept and Overview

Quality Control tools serve any of these reasons:

- **to prevent** unnecessary work. For example preflighting incoming designs and refusing to start prepress work on those that did not match a specific basic profile.
- **to check** the work you have done. Once you have started preparing, editing or outputting files, there are many reasons to check if what you have done is as intended. Detailed inspection and comparing helps preventing many errors.

These tools can be interactive tools or Automation Engine tasks that report a status.

Learn more in

- [Automation Engine Viewer](#) on page 6
- [PitStop Preflight](#) on page 76
- [GlobalVision Inspection Tasks](#) on page 85
- [Other QC Tasks](#) on page 106.



Note: This is not an overview of all Esko QC tools. This only describes the tools available through Automation Engine.

2. Automation Engine Viewer

2.1. Intro, Technologies and Formats

What is the Automation Engine Viewer?

The Automation Engine Viewer is a QC tool that enables you to view, check and compare graphic production data. And it also works with 3D, CAD and RIP'ed data.

The Viewer is started from within any Automation Engine client and can so be used by anyone on a Mac or Windows computer in your network. It is not uncommon that staff from outside the prepress department like CSRs also use this tool.

The Viewer can be started from a Pilot or a browser client. There are 2 main variants:

- a classic one based on Java technology (older).
- an HTML5 viewer, typically in sync with technologies used in the latest version of ArtPro+.

The several technological variants of this AE Viewer serve to tailor to your preferred graphics engine. Learn more about these Viewer technologies below.

Supporting many File Formats, Comparing and more

The Viewer supports many different file types: PDF, AI, legacy file formats like ArtPro native and older Esko formats, images and even bitmap RIP'ed data. Learn more below.

You can compare files and analyse their differences, even when they have different file types and even when they have a different size. Learn more in [Comparing Files](#) on page 46.



Note: The **Esko Bitmap Viewer** is similar but separate Viewer that only supports RIP'ed data. It is separate application (macOS and Windows), found on the installation DVD/set of Imaging Engine.

Started from the Pilot or browser client

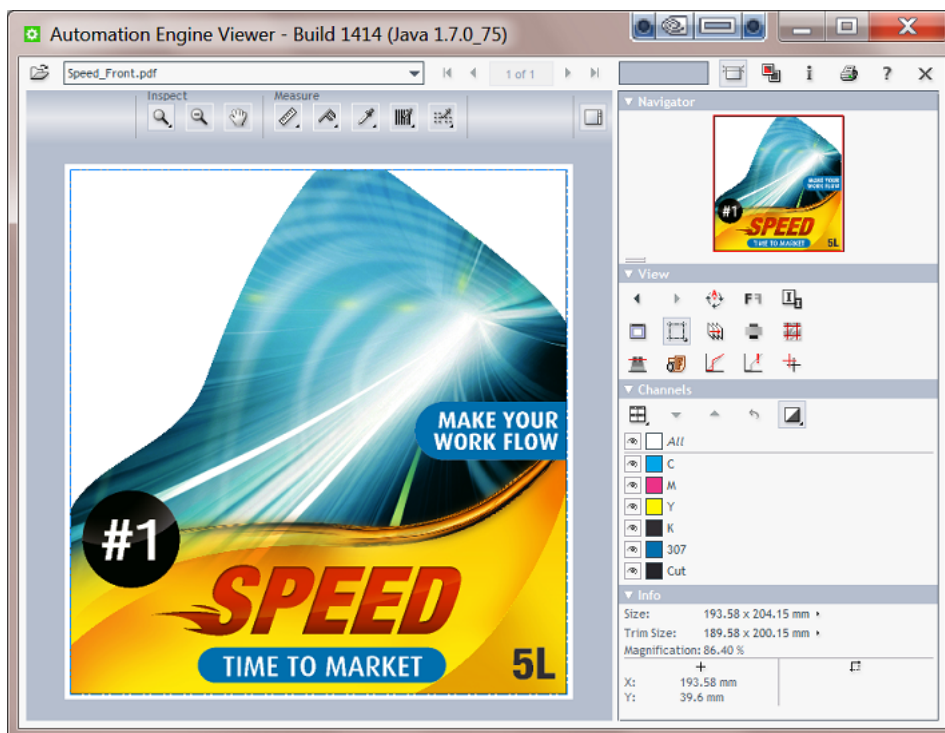
To open a file in the **Viewer**, choose any of these methods:

- click the word **View** next to the file you want to view,

Name	View	Type	Size	Date ▲
Start_Front_Speed_5L.ai	View	PDF File	45MB	6/22/12 3:21 PM
Speed_Front_Trapped02.pdf	View	Normalized PDF File	21MB	8/20/15 2:51 PM
Speed_Front_Trapped02_C.tif	View	Tiff File	8.2MB	8/20/15 3:15 PM
Speed_Front_Trapped02_M.tif	View	Tiff File	9.7MB	8/20/15 3:15 PM
Speed_Front_Trapped02_Y.tif	View	Tiff File	3.7MB	8/20/15 3:15 PM
Speed_Front_Trapped02_K.tif	View	Tiff File	1.5MB	8/20/15 3:15 PM
Speed_Front_Trapped02_307.tif	View	Tiff File	249KB	8/20/15 3:15 PM

- or right-click the file and select **View...**,

- or, in the Pilot, select the file and go to **File > View**,
 - or you can also browse to open another file or to select one for comparing.
- Here 's an example of a file open for inspection in the Viewer (Pilot, Java based):



The Concept of Prepared View Data

Foremost, a viewer tool must be reliable ; it must show data in a correct way. The Viewer does this by using the same technology as the Esko editors and RIPs.

The next main challenge for any viewer is to combine these features:

- opening files fast, even when they are big.
- being able to zoom in very deep, to show high detail, preferably also fast.

This is why you have a choice: to open files in the Viewer with or without first creating **Prepared View Data**. Learn more in [Working with Prepared View Data](#) on page 58.



Attention: The latest viewing technology (starting 23.03) only offers this concept for RIP'ed data.

Limiting who can use deep zoom

When a user does not have the **User Access Right** for *deep zoom*, then

- he can only view files that have prepared view data.
- his zoom is restricted.

This can help an administrator to avoid that a group of users that does not need a too detailed view would cause load problems on the server by accidental deep zooms.

2.1.1. Several Viewing Technologies

Same display technology as in your Editor

Most users of the Automation Engine Viewer also use an editor from Esko.

To make sure the same viewing (display) technology is used in the Viewer as in your favorite editor, you can choose which technology the AE Viewer should use, and even specify that per file format.

This configuration is done in the Pilot's [Configure panel](#).

On a new installation of AE, the default setting for the AE Viewer is to use the latest technology available: the one also used in ArtPro+. Since AE 23.03, this is also the one used in the application Esko Share & Approve (on Esko Cloud).

Overview technologies

Automation Engine offers these viewing technologies:

- **As in ArtPro+ (latest viewer technology):** Using the ArtPro+ graphics engine (NDL), offering color management and extra functionality like 3D, CAD, text recognition, etc. (details below).
 - **As in ArtPro+ (old viewer technology):** Also using the ArtPro+ graphics engine (NDL), but without the functions like color management, 3D, CAD, text, etc. (details below).
- **As in ArtPro (old viewer technology):** This is the same technology as used in ArtPro, the classic editor that uses the graphics engine for ArtPro native files.
- **As in PackEdge (old viewer technology):** This is the same (BRIX) technology as used in PackEdge, the classic editor that uses the graphics engine BRIX. This mode enables for example to see the inks / separations of a normalized file in the same way as they are shown in PackEdge.

Learn more about Esko's various graphics engines in the chapter [PDF Formats and Metadata](#).

Differences between these technologies

See the below table including some notes explained below.

		As in ArtPro+ (LATEST vwr tech)	As in ArtPro+ (OLD vwr tech)	As in PackEdge (old vwr tech)	As in ArtPro (old vwr tech)
Client type		browser	browser	browser / Pilot	browser / Pilot
File support	PDF(+) files ⁽¹⁾	yes ⁽²⁾	yes ⁽²⁾	yes	no
	Normalized PDF files as in PackEdge	no	no	yes	no
	ArtPro native files as in ArtPro	no	no	no	yes
	Esko legacy file types ⁽³⁾ and (E)PS files -	no	no	yes	no

		As in ArtPro+ (LATEST vwr tech)	As in ArtPro+ (OLD vwr tech)	As in PackEdge (old vwr tech)	As in ArtPro (old vwr tech)
	via hidden conversion				
	Images ⁽⁴⁾	yes	yes	yes	?
	Viewing prepared data	no	no	yes	yes
	Viewing prepared RIP'ed data ⁽⁵⁾	yes	no	yes	no
	CAD files (ARD, MFG)	yes + CAD layers	no	no	no
	3D (ZAE, PDF and ARD in 3D)	yes	no	no	no
Functions	Compare	yes	yes	yes	yes
	Color managed	yes	no	no	no
	Layers	yes	yes	Pilot only	Pilot only
	Text as text	yes	no	no	no
	TAC view	yes	yes	Pilot only	Pilot only
	Registration error view	yes ⁽⁶⁾	yes	Pilot only	Pilot only
	Seamless view	no (not yet)	no (not yet)	Pilot only	Pilot only
	Invert separation	no (not yet)	yes	yes	yes
	PDF+ object screening	yes	yes	no	no
	PDF+ processing steps	no (not yet)	Pilot only	no	no
	GlobalVision annotations	no (not yet)	no (not yet)	yes	yes

- (1) And AI files that were saved as 'PDF compatible'.
- (2) When a PDF file is opened in the Viewer, and when the Viewer is *configured* to view PDF Files "As in ArtPro+", then this PDF file will be locked ; it can then not be renamed or deleted until it is closed in the Viewer.
- (3) Esko legacy file formats PDFPLA, STA, PLA, GRS.
- (4) Images lower than 600 ppi (higher resolutions are seen as RIP'ed data)
 - Supported: Image EPS, DCS/EPS, PSD, TIFF (< 600 ppi), JPEG, Esko CT
 - NOT supported:
 - Images with Progressive Scan compression
 - Images including linework

- Multicolored 1-bit images
- To view this type of files, first import them with the **Image Import (Classic)** task.
- (5) RIP'ed data (digital film sets) are:
 - Esko LEN/LENX
 - TIFF (> 600 ppi)
 - DCS 2.0 (> 600 ppi)
 - VIEW (Imaging Engine print simulation files)



Note: To be able to open **TIFF, LEN(X)** or **print simulation files** from Imaging Engine with the Automation Engine Viewer, you must first prepare view data using either:

- the **Make all output files ready for viewing** option in your *Imaging Engine task*
 - the *Prepare for Viewer* task.
- (6) Not for RIP'ed data (digital film sets)

Differences in how they manage Viewing Sessions

A viewing session is a single session of pixel calculation and streaming by the AE software to a Viewer client.

The above listed viewing technologies also differ in how they handle view sessions:

- When comparing 2 files,
 - the latest technology uses only 1 viewer session
 - the older technologies use 2 sessions.
- When a view session is idle (not used) for a while,
 - the latest technology closes the non-used session automatically
 - the older technologies close the non-used session when a new one is opened.
- When viewing RIP'ed data,
 - the latest technology consumes a view session
 - the older technologies do not consume a view session.

You can configure a limit to the amount of view sessions in the page *Processing Capabilities*.

2.1.2. About Working with Prepared View Data

The data shown in the Viewer are always pixels, referred to as 'view data'. Usually, you need to zoom in quite deep to see these pixels appear. This is also because these pixels are (re-)created on the fly: when you zoom in further, you are automatically shown a new set of view data that again guarantees an optimal view.

When such view data is prepared beforehand, the Viewer can open the file instantly.

When the view data was not prepared, it will be created automatically when you open the file in the Viewer. The time this takes depends on the available power on the server and on the size of the file (horizontal x vertical x the amount of separations).

Always needed for RIP data

The Automation Engine Viewer will only open RIP'ed data that were prepared to be viewed.

This is done by the [Prepare for Viewer task](#) or as an option inside Imaging Engine tasks ('Make all output files ready for viewing').



Important: View data that were created with another viewing technology than the [current one selected for RIP'ed data](#) will need to be created again.

Possible for Graphic files when using Older Viewing Technologies

Learn about viewing technologies in [Several Viewing Technologies](#) on page 8.

- Older viewing technologies also worked with prepared view data of graphic files.
- The latest viewing technology no longer offers this concept for graphic files, it still does for RIP'ed data. The [Prepare for Viewer task](#) will fail when it is asked to prepare graphic files in a configuration where it is set to use the latest viewing technology.

Learn more about this topic in [Working with Prepared View Data](#) on page 58.

2.1.3. Opening the Viewer

Opening from a Pilot or browser client

In a Pilot, depending on the file format and the defined [viewing technology](#), the file will open in the Pilot as a new window or it will open the Viewer in a browser, as a new tab.

You can use as many Viewers as your Automation Engine server has (licenses for) client connections. Opening the Viewer does not allocate an extra client connection.



Note: When working with the Pilot, you can open multiple Viewers on the same workstation by opening a second Pilot (**File > New window**) and opening a file in the Viewer from there. Mind that this is not required when comparing files. Learn more in [Comparing Files](#) on page 46.



Note: When you open a PDF "as in ArtPro+" (old viewer technology) and there are missing external references, missing fonts or outdated placed art/images, the viewer will show an error message.

"View" Statuses in the Pilot

In a Files view, the **View** column can display any of these statuses:

- (-). A dash indicates that the file is not viewable. For example TXT, XML, PAF, TCP, non-PDF office documents, etc.
- **View**. The word 'View' in black indicates that the file is viewable when its file type as indicated by the file type extension corresponds with its real file type.
- [View \(Prepared\)](#). The word 'View' as a hyperlink in blue indicates that the file can be viewed and the extra '(Prepared)' means that prepared view data are available. The file will open quickly. Learn more in [Working with Prepared View Data](#) on page 58.
- [View](#). When only the blue hyperlink is shown, the file can be viewed but no view data were prepared. View data will be created on the fly while opening the file in the Viewer.
- - (~~Prepared~~). This indicates that the file can not be viewed because it has prepared data that are outdated. Solve this by deleting the view data or by preparing new view data. Learn how in [Working with Prepared View Data](#) on page 58.

Viewing RIP'ed data (Digital Film Set)

To view RIP'ed files in the Viewer, the situation is slightly different:

- For **LEN** files, you always need prepared view data. The 'view' statuses in a Pilot then mean this:
 - **View (Prepared)**. This indicates that the file has up-to-date view data and can be viewed.
 - **- (Need View Data)**. This indicates that the file has no view data. It can therefore not be viewed in the Viewer.
 - **- (Prepared)** indicates that the .LEN files have view data, but that the view data is not in sync with the original file and can therefore not be viewed.
- For **TIFF** files, the behavior depends on the resolution of the file:
 - A TIFF file with a resolution lower than 600 ppi can be viewed without having prepared view data.
 - A TIFF file with a resolution higher than 600 ppi must have up-to-date prepared view data to be able to view it.



Note: The resolution is only checked after you clicked on **View** (icon). A warning will be shown when no required view data are found.

Learn more in [Working with RIP data](#) on page 62.

Checking and Controlling the load of Viewing sessions on your server

The amount of active viewing sessions can put a significant load on your Automation Engine server. The file's size, separations, type, amount, whether users are comparing, non-prepared zoom-requests and the server's CPU all are factors in this load.

The [View Sessions](#) page in the browser client's Admin section shows the **currently active** view sessions.

The [Load History](#) page in the browser client's Admin section shows the **historical load** of your server's viewing sessions.

To avoid overloads, an administrator can control this in the page [processing capabilities](#) in the [Server Admin](#) web pages.

2.2. User Interface (Pilot - Java version)

The Viewer window that opens from a Pilot is technically also known as the Java (based) Viewer (referring to the base software code that it is built in). The Viewer inside a browser is in that regard built in HTML5 code.

The UI of the Java based Viewer is similar but different than the UI of the Viewer opened in a browser.

Since v23.03, the AE manual only describes the UI and use of the latest viewer technology (in a browser).

The older java based version of this Viewer in AE is still documented in the AE user manuals of v22.11 and older. Select a version in the list on [AE's documentation page](#) and see its chapter 'Quality Control Tools'.

2.3. User Interface (Browser client - Latest technology)

2.3.1. AE Viewer Window Layout

The *latest viewing technology* always opens the Viewer in a browser client. The color mode (dark or regular) is decided by the setting in your browser.
















These are the main parts of its layout:











1. The browser client's top bar from the selected workspace. It appears in above example because this is a window where a file was opened from within the browser client's "My Workspace":

This bar will not be there when a file was opened from outside a browser client (the URL will then show that it is a dedicated viewer page `servername:9000/viewer/...`).


2. The Viewer's Information bar. Left to right:
 - **Document** name. Click to open a **Select File** pane and select another document.
 - **Show Annotations**: General slider to show the file's annotations or not.
 - **User** name: the user who opened this file in the Viewer.

-  **Reset Layout.** Click here to reset the layout to its default settings (for example to put tools back in their default place).
 -  **Print.** In case you want to share information that is visible in the Viewer to people who do not have access to the Viewer, you can use this tool. Learn more in [Print](#) on page 27.
 -  **Close** the Viewer (when opened from a browser client). When opened from a Pilot, closing this Viewer is done by closing the browser tab.
3. The Viewer's top tools bar (items depend on the opened file type - graphics, CAD, RIP'ed). Left to right:
- : Click to enable or disable the 2D and or 3D view. Learn more in [Working with 3D](#) on page 64.
 - **Navigation** (Learn more in [Zoom, Pan, Navigate](#) on page 16).
 -  **Zoom**
 -  **Zoom in**
 -  **Zoom out**
 -  **Fit document in view**
 -  **Zoom to 1:1 Pixel**
 -  **Pan**
 - **Orientation** (Learn more in [Rotate and Mirror](#) on page 18).
 -  **Rotate**
 -  **Mirror**
 - **Measure** (Learn more in
 -  **Ruler:** Learn more in [Measure Distances and Angles](#) on page 18.
 -  **Measure Color Percentages:** Learn more in [Measure Color](#) on page 20.
 -  **Calculate screen ruling and angle:** Only functional for RIP'ed data: Learn more in [Calculate Screen Ruling and Angle](#) on page 21.

-  **Check Barcodes (powered by GlobalVision):** Learn more in [Check Barcodes](#) on page 21.
-  **Check Braille (powered by GlobalVision):** Learn more in [Check Braille](#) on page 23.
-  **Caliper:** Learn more in [Measure Heights and Widths with a Caliper](#) on page 24.
- **Text:** Learn more in [Measure Text](#) on page 25.
-  **Select Text:** Find occurrences of specific text.
-  **Detect Font:** Read which Font a text uses.
-  **Check Font Sizes:** Find text with a font size smaller than.
-  **Compare:** Learn more in [Comparing Files](#) on page 46.
-  **Info:** Opens the file's standard 'Info' dialog as used in AE browser client.








Learn about keyboard shortcuts [here](#).




4. The Viewer's **Right** tool bar (depending on file type graphics, CAD, RIP'ed)

Click a tool's icon to open it separately in a widget or click the arrow  below to open all tools in a right side pane.

You can drag the tool's icons up or down to re-arrange them in this bar.

You can also click and drag a tool's icon to the left side bar.

-  **Navigator:** Learn more in [Navigator tool](#) on page 28.
-  **View:** Learn more in [View tool](#) on page 28.
-  **Channels:** Not visible when viewing CAD files. Learn more in [Channels tool](#) on page 33.
-  **Info:** Learn more in [Info tool](#) on page 36.
-  **Layers:** Not visible when viewing CAD file types. Learn more in [Layers tool](#) on page 37.
-  **CAD:** Only visible when viewing CAD file types (ARD, MFG). Learn more in [CAD tool](#) on page 36.
-  **Color Management:** Learn more in [Color Management tool](#) on page 37.

-  **Quality Control:** Learn more in [Quality Control tools](#) on page 38.
- 5. The Viewer's **Left** tool bar. By default, these tools appear in the left tool bar:
 -  **Document Select:** Learn more in [Document Select widget and tools](#) on page 49.
 -  **Annotation List:** The Viewer can show you the annotations that users made in Share & Approve. Learn more in [Working with Annotations](#) on page 68.

When you moved all tools out of this tool bar, it will disappear.

There are more tools that are described in other dedicated pages:

- [Working with RIP data](#) on page 62.
- [Working with Multi-Page Files](#) on page 73.



2.4. How To (Top Tools Bar)

This describes the tools in the top tools bar and some other generic tools that you can use on all types of files.


2.4.1. Zoom, Pan, Navigate

On macOS, as a standard practice, replace below mentioned **Right-click** by **Ctrl-click** and replace **Ctrl-** by **cmd-**.

Zooming


Click the  icon or press 'Z' to activate the zoom tool. The mouse changes to .

These shortcuts are now enabled:

Click	Zoom in by a factor 2
Double-click	Zoom in by a factor 4
Right-click	Zoom out by a factor 2
Alt + click	Reverses the zoom to zoom out 
Mouse scroll	Zoom in/out with the location of the mouse as center
Click + drag a rectangle	Zoom in to that area. Hold the Space bar to move the area.


Double-clicking the  icon serves as : 'Fit Document in View'.

Fit Document in View

Right-click the  icon to specify if you want to **Fit Document Width** or **Fit Document Height**.

Zoom to 1:1 Pixel

When you have artwork with a defined resolution, you can use it to zoom to the image resolution.

Right-click the  icon to see your options:


- **Zoom to 1:1 Pixel:** Shows the image in its rasterized resolution.
- **Zoom to Actual Size:** Shows the document in the size corresponding to its printed size. You may need to set your monitor resolution to make this accurate.
- **Set Monitor Resolution:** Your set monitor resolution will be stored in the Viewer.

You can specify the resolution as a decimal number (e.g. 36.05 ppcm) or as a fraction in the `pixels / size` format. Learn more in [this Knowledge Base article](#).



Note: When the monitor resolution is not set or when the image resolution is not set, the Viewer takes 72 ppi as default.

Panning

To pan, click the  icon to activate the pan tool, then drag the image by holding down the left mouse button and moving the mouse.


- **Pan while Zooming:** While zooming, you can temporarily switch to the pan tool by holding down the **space** bar.
- **Zoom while Panning:** While panning, you can still use these zoom shortcuts (which will use the mouse point as the center): double-click (in), right-click (out), scroll (in/out).
- **Systematic Panning:**
 - **Ctrl + 'arrow'** pans the image 25% of the window size in the direction of the used arrow.

Other / Legacy Keyboard Shortcuts

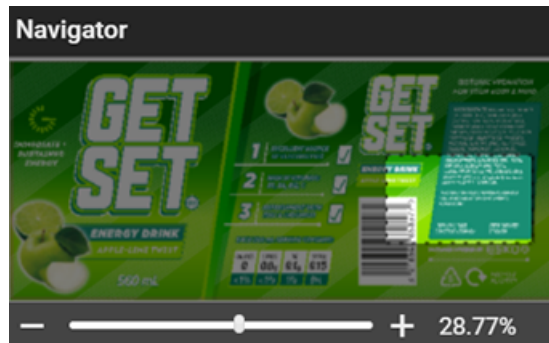
- **Photoshop style keyboard shortcuts:**
 - **Ctrl-+'** zooms in with a factor 2.
 - **Ctrl--'** zooms out with a factor 2.
 - **Ctrl-'0'** fits the file in the window.
- **PackEdge style keyboard shortcuts:**
 - **F5** zooms in with a factor 2.
 - **F6** zooms out with a factor 2.
 - **F7** temporarily switches to the pan tool to allow one drag pan.
 - **F8** temporarily switches to the zoom tool to allow one drag zoom.
 - **F9** fits the file to fit in the window.

Learn more shortcuts on [this page](#).

Navigator

In the right side bar, click  to open the **Navigator** widget. It gives an overview of the current view position. Use this widget to quickly navigate through the entire document.

The navigator highlights the zoomed in area with a dotted rectangle. When there is no zoom, the dotted rectangle will be around the entire document.





You can navigate through your document by

- holding the mouse and drag this selected rectangle to a new place. The Viewer's main view window will change accordingly.
- clicking outside the rectangle to move the rectangle to the clicked point. The Viewer's main view window will change accordingly.

The bottom of the widget mentions the current zoom percentage and a slider bar. You can use the slider or click the + or - to adjust the zoom level.

2.4.2. Rotate and Mirror

-  **Rotate:** Rotates the current view 90 degrees clockwise.
-  **Mirror:** Mirrors the current view (shortcut **Ctrl - M**).

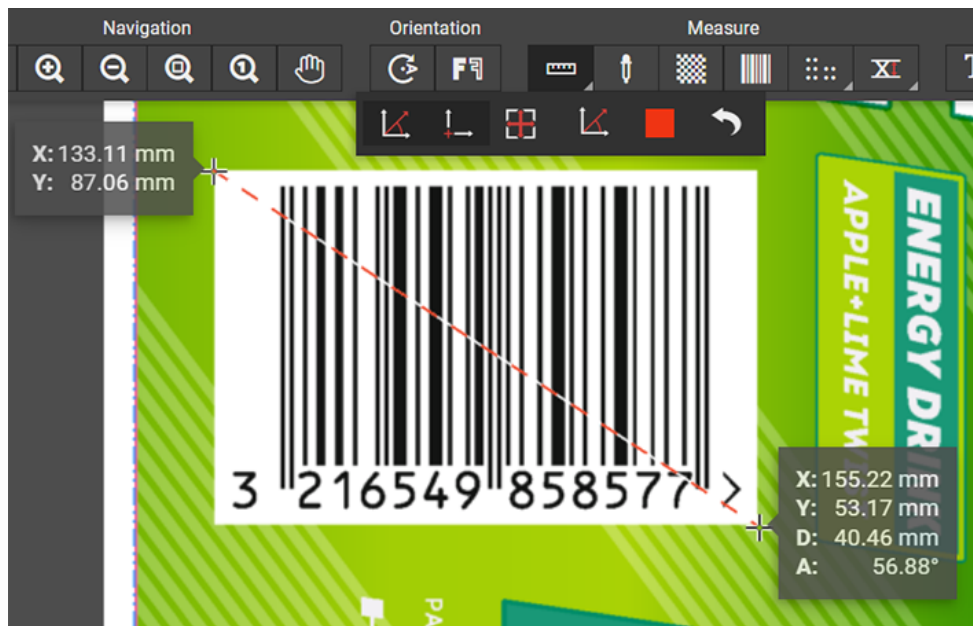
Use this to flip the document vertically from the center of the current view. If you are zoomed in, the center of this area will be used as the reference.

2.4.3. Measure Distances and Angles


The **Ruler** tool calculates the distance between any two points in the work area with a click-drag-release action.

When you measure from one point to another, a line is drawn and measurement information is shown near the second position.




The used units are those set in the Info panel. Use the shortcut **Ctrl - U** to switch between units.



Settings

In the top tools bar, click  to see and select one of the 6 options:





The first 3 define which measurements the pop-up info will show (see the example above):

- : Displays the Angle (A) and the Distance (D)
- : Displays the starting and end location (X, Y # X, Y)
- : Displays the horizontal (W - width) and vertical (H - height) distance traveled from the X- and Y axes.



Note: You can choose to display all of the measurements by selecting all 3.

The next 3 are configuration choices:

- : Displays the Angle (A) positive upwards (Counter-Clockwise) or  downwards (Clockwise).
- : Changes the color of the ruler line (dashed).
- : Resets the color of the ruler line to its default.

Various ways to use the Ruler

- Click a beginning and end point.
- Click a begin point and drag away from that point. The measurement information is shown and updated interactively.
- You can also move the start or end point by slowly approaching it, seeing the mouse pointer change and dragging it to a new position.




Note: While viewing CAD data, the **Ruler** will snap to the end points of most line segments in the CAD drawing.




Tip: The Ruler tool can be combined with Navigation tools. You can for example click a first point, then change the view by zooming out or navigating, and only then indicate the second measuring point. This allows much more precision.

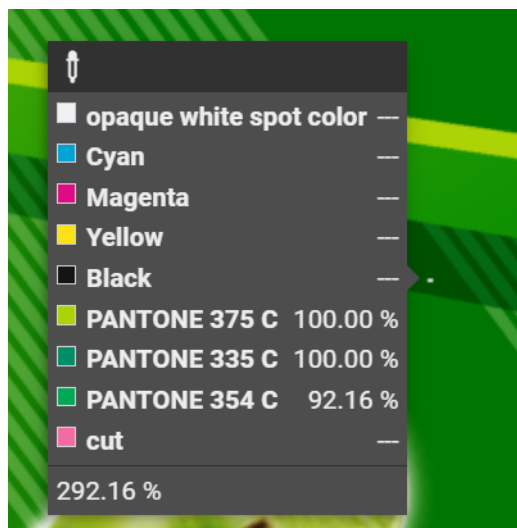
2.4.4. Measure Color

There are various ways to measure color:

- Select the  densitometer tool and either click a point in your file or click and drag a rectangle.
- Double-click the densitometer to make a measurement based on the current selection or, when no selection is active, based on the current view.

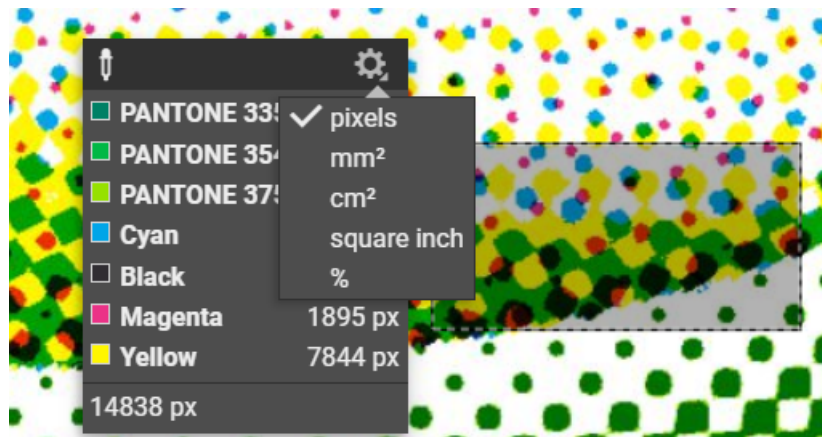
The measured dot percentage in that point or area is shown both in a pop-up in the view area and also in the **Channels** widget. The location is shown in the **Info** widget.

By default, the measured densities are also shown in a pop-up near the location you measured (click  to hide or show this pop-up).





At the bottom, the widget also mentions the TAC of the measured point or area (here 292,16 %). Note that there is a dedicated tool to check TAC. Learn more in [Total Area Coverage](#) on page 39.


When measuring RIP'ed data (digital film set), you can change the units in the widget (or use **Ctrl - U**).



2.4.5. Calculate Screen Ruling and Angle

 **Note:** Before AE 23.07, this tool only works for RIP'ed data. Learn more in [Working with RIP data](#) on page 62.

 **Note:** This tool is disabled when you are comparing files of which at least one is not RIP'ed data (a PDF for example).


 **Restriction:** In the selected area, this tool uses mathematical image estimation techniques to calculate dominant frequencies and angles. It does not rely directly on stored meta-data to produce a result which enables it to also detect if there is a discrepancy between the stated (expected) ruling and what is actually found in the bitmap file.


This results in these limitations:

- The density of the measured area must be roughly between 5 and 95%.
- Low rulings cannot be measured accurately. The higher the resolution, the higher the ruling must be for this tool to measure accurately.



Esko recommends that you manually check an unexpected ruling or angle readout with the [Ruler](#) tool.

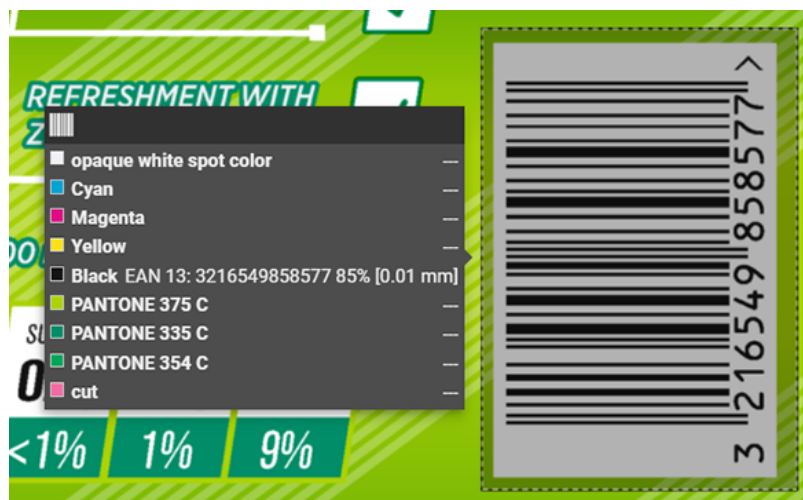
2.4.6. Check Barcodes

 **Note:** This tool uses technology from the company GlobalVision.

Click the  **Check Barcodes** tool to detect and check 1D/Linear, QR or Data Matrix codes.

The tool scans the selected area similar to how an actual barcode scanner would.

To check a barcode, click  to activate the tool and use the left mouse button to click-drag-release a rectangle around the barcode. Alternatively, you can first select an area and then click .



The result appears in a widget near the barcode and also in the [Channels tool](#) on page 33.

It shows this information (for a valid 1D/Linear barcode):

- **Type:** The barcode type.
- **Value:** The encoded value.
- **Magnification:** The barcode magnification in % (only visible when the value is not 100%).
- **Bar Width Reduction:** The line width compensation in mm (only visible when the value is not 0).



Note: When the area you selected contains more than one barcode, the check will only show the result of one barcode.



Note: When checking rotated barcodes, make sure the selected area contains the complete barcode.

Note on measuring Bar Width Reduction (BWR)

The measured BWR can be slightly different from what was entered when creating the barcode. This is due to the resolution of the pixel data that are being measured. Typically, a difference in width of 1 pixel causes a different result, both in this Viewer and when using the [Inspect Barcodes task](#).

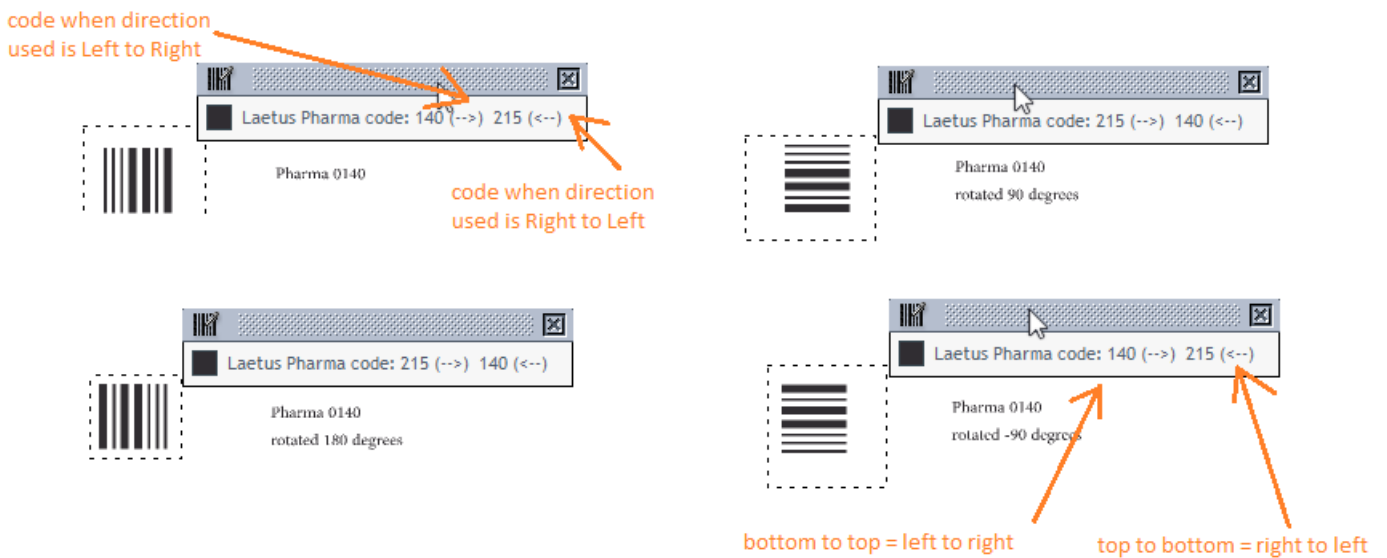
This table shows the maximum deviation that can occur when measuring BWR:

	Automation Engine Viewer		Inspect Barcodes task	
	Without prepared view data	Prepared view data at 600 ppi	600 ppi	300 ppi
Max. dev. (mm)	0.0300	0.0125	0.0100	0.0110

Note on reading Pharma codes

A Pharma barcode can be read in 2 possible directions.

When using this 'Inspect Barcodes' tool, it will show 2 values. Next to those values, an arrow indicates which direction was used to measure:



When a Pharma barcode is placed vertically,

- 'Top to bottom' equals 'right to left' when you would rotate the barcode 90 degrees CW.
- 'Bottom to top' equals 'left to right' when you would rotate the barcode 90 degrees CCW.

2.4.7. Check Braille

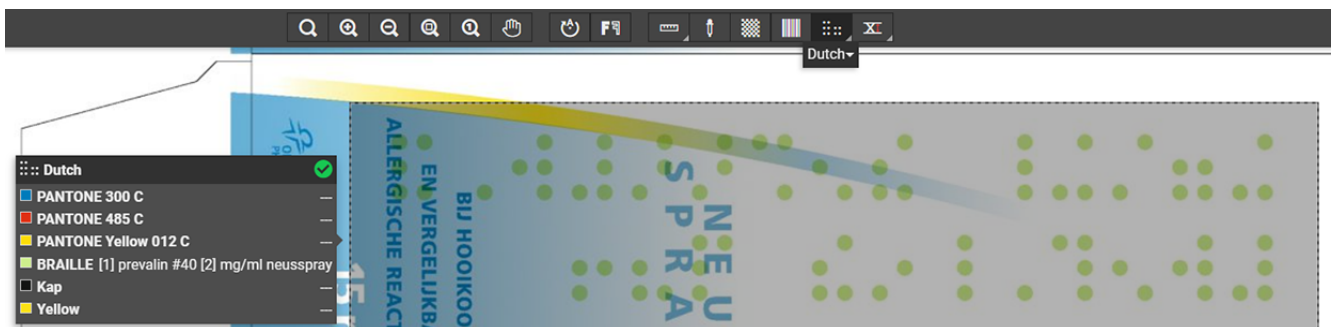


Note: This tool uses technology from the company GlobalVision.

Use the **Check Braille** tool to detect and translate braille from a selected language.

To check braille, click to activate the tool and use the left mouse button to click-drag-release a rectangle around the braille. Alternatively, you can first select an area and then click .

The result appears in a widget near the braille and also in the [Channels panel](#).




When the braille contains multiple lines of text, the result in the widget will show a line number in square brackets before the text of each line. See the 2 lines in above example.

When the selected area contains more than one block of braille, the results from all blocks will be shown. An extra number will indicate the number of the block.

Language selection

Braille is written in a specific language. The translation therefore depends on which language the braille was originally coded in.

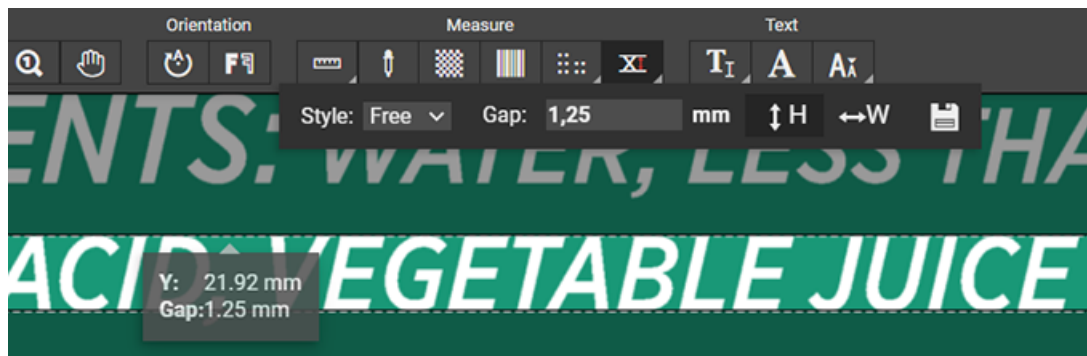
Click  to select that language from the list that appears below. You can choose to do this before or after you measured the braille.

2.4.8. Measure Heights and Widths with a Caliper

Concept

Use the caliper tool to measure the height or width of multiple, typically aligned, (text) objects. You can measure freely or you can use fixed preset sizes.

Click  to activate it and start measuring using the last chosen style.



From the caliper tool's sub tool bar, you can:

- Select the **Style** of the caliper's **Gap** (the distance between the start and end line):
 - **Free**: Changing the gap size will alter the end line (default). Learn more below.
 - **Fixed**: A fixed distance between the start and end line. Learn more below.
 - **Preset**: Select a gap size you saved earlier. Learn more below.
- The caliper's orientation can be vertical (the gap is the **Width**) or horizontal (the gap is the **Height**).
- Click the **Save** icon to add this caliper to the list of **Style** presets. Once you have saved presets, an extra icon appears to delete the selected one.

How to measure

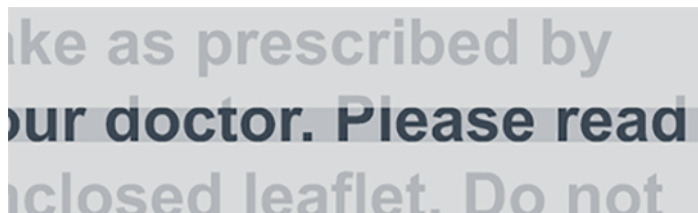
- **Free Style measuring** (default)
 - After activating the tool, click a first point of measurement in the view.
 - Move or drag the mouse to a second point.



Tip: You can use all zoom, scroll and pan tools while you are navigating to the first or second point.

- Click the second point. While moving the mouse, a pop-up displays the current gap size and the X or Y coordinate.

When releasing the mouse, the area outside the selection will be dimmed to highlight the selected area:

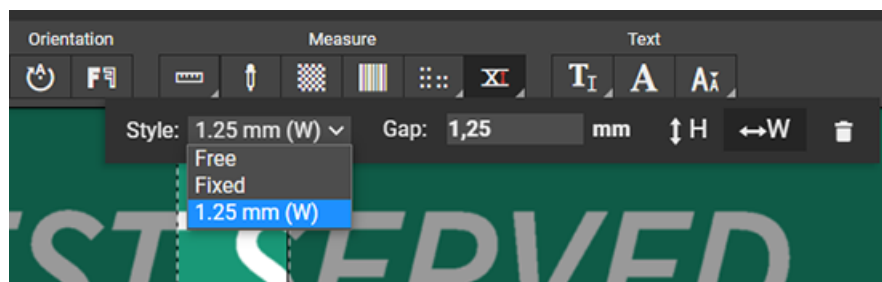


To adjust the width or height, simply drag the lines that appeared. Click between the lines to move the caliper selection (both lines).

- **Fixed Style measuring**

Use a fixed gap size when you want to check (text) objects versus a pre-determined size. For example, when a specific text height is required in that document, specify that as the gap size and check the artwork text (alternatively, use the dedicated text tool **A_i** to measure font size for example).

- Activate the caliper tool, select style **Fixed**, now specify the **Gap** size and select an orientation.
- Click anywhere in the view to see the caliper appear. In this fixed style, your mouse movement will not alter the caliper orientation.
- When you think you will measure this gap again, consider saving the preset.




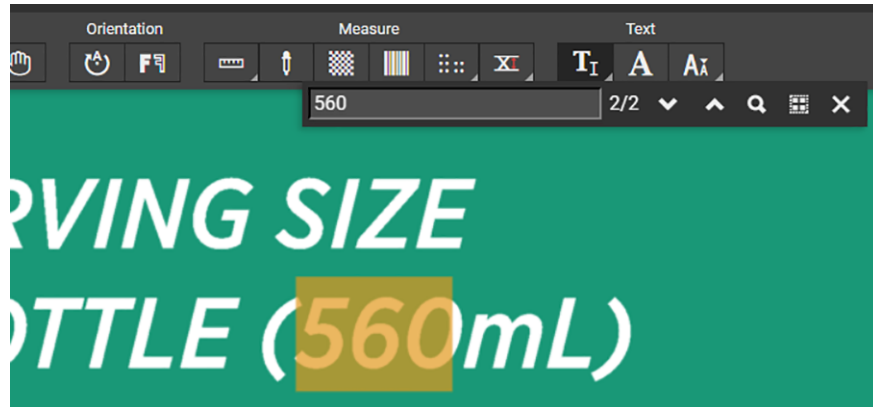
Note: Press **Esc** to revert to the tool's initial state (no caliper lines drawn).





2.4.9. Measure Text

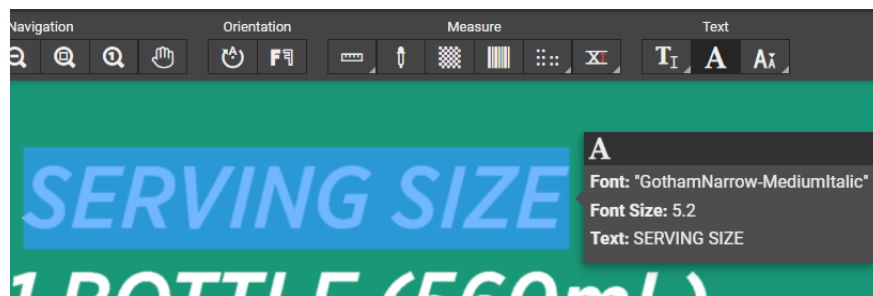
The top tools bar offers 3 tools to help check the text in the open document(s).

These tools are available for PDF and AI files.


- The **Select Text** tool
 - Click  to activate this tool. It will open a sub tool bar.

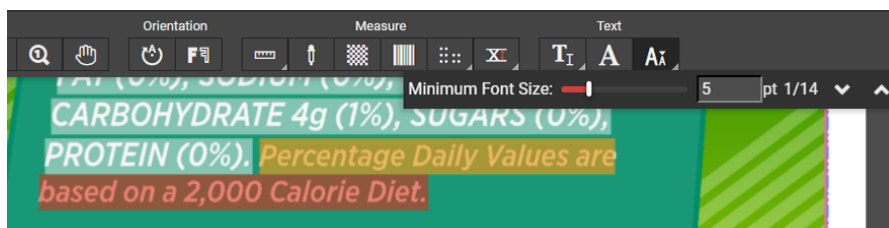




- To **Search in text**, type in the text field and press **Enter**. The number shows how many times this value was found. Click the next / previous   buttons to navigate and zoom in to these results. The current find is highlighted in orange, any others in blue.
- To **Select all text** in the document, click  (or use **Ctrl+A**).
- The **Detect Font** tool
 - Click  to activate the tool.
 - Then click on or hover over a piece of text. A pop-up shows the results: the Font, Font Size and the selected text.



When selecting or hovering over an object that is not a text object, the pop-up will mention "No font information is found. Your text may be outlined".


- The **Check Font Sizes** tool
 - Click  to activate this tool. It will open a sub tool bar.
 - Type a **Minimum Font Size** (or use the slider). The tool will select all text that is smaller than the selected font size.

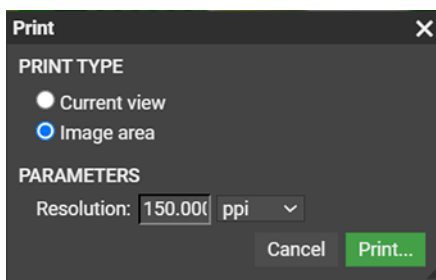


- Click the next / previous   buttons to navigate and zoom in to these results. The current find is highlighted in orange, any others in blue.

2.4.10. Print

The print tool enables sharing visual information to people that do not have access to this Viewer.

Click  and first select which **type** of output you want:



- **Current view** (default)

Select this mode when you want the entire view area to be printed. Your print preview will contain:

- all panels in the split view mode with borders
- visible ruler end point and read-outs.

The resulting print preview changes the background color and the titles of the windows to white.

If only some of the channels are selected, you will see the extra option to **Print only selected channels**.

- **Image area**

Choose this mode to get a clean print of the current document page without visible ruler end points or ruler read-outs. When multiple windows are active, either the composite of all the channels or the selected channels will be printed.

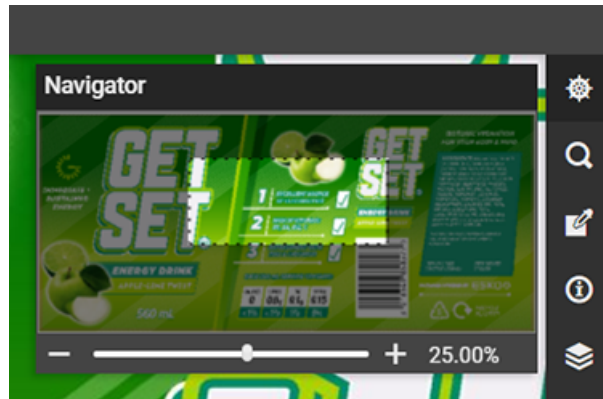
This mode offers these options:

- **Resolution:** Specify the resolution and its units (ppmm = pixels per millimeter, ppcm = pixels per centimeter or ppi = pixels per inch). The default value is 150 ppi converted to ppmm.
- **Print Current View :** Enable this to print only the current view area. Do not select this when you want to print the entire document.
- Also here, if only some of the channels are selected, you will see the extra option to **Print only selected channels**.

2.5. Navigator tool

In the right sidebar, click  to open (or close) the **Navigator**.

This widget shows a thumbnail of the open document and highlights the current view area.




Use this widget to quickly navigate through the document:

- To pan through the document, hold the mouse and drag the highlighted rectangle around. The main view area will follow accordingly.
- Use **CTRL - 'arrow'** to pan in that direction, including an overlap.
- Click outside the highlighted rectangle to move it to that point (as its new center).
- Below the thumbnail, notice the slider indicating the current zoom level. Use the slider or click the **+** or **-** to change the zoom level.



Note: By default, this widget is available on the right sidebar. You can drag this widget to another sidebar.

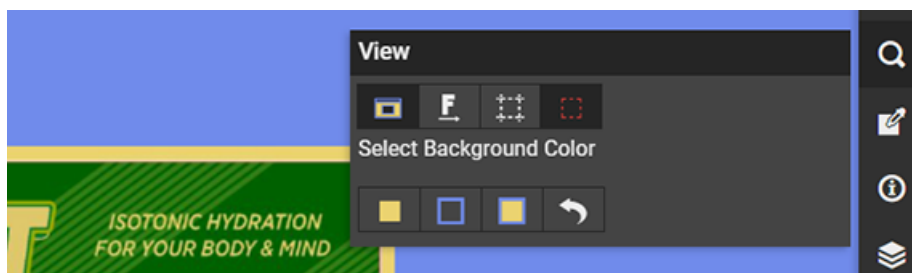
2.6. View tool

In the side tool bar, click  to open (or close) the **View** widget.


It offers 4 extra tools which, when you select or hover over them, open a sub tools bar or show tooltips.

Change Background Color of Image or Window

You can use this tool to manipulate the view with a different background color other than white. This is especially useful when you are evaluating a document that will be printed on a colored background that will have its effect on that final print.



This tool offers several buttons to change a background color that you can pick from a color picker. From left to right:

- **Change Image Background Color.** In above example, the white background in our document ('image') was changed to some kind of beige.
- **Change Window Background Color.** In above example, the black was changed to a clear blue, so re-introducing a better contrast with the beige in the document's borders.
- **Change Both Image and Window Background Color.** They then have the same color.
- **Reset Background Colors** to their default color. Closing this  tool has the same effect.



Tip: To close a color picker, just click somewhere outside of it.

View From Back



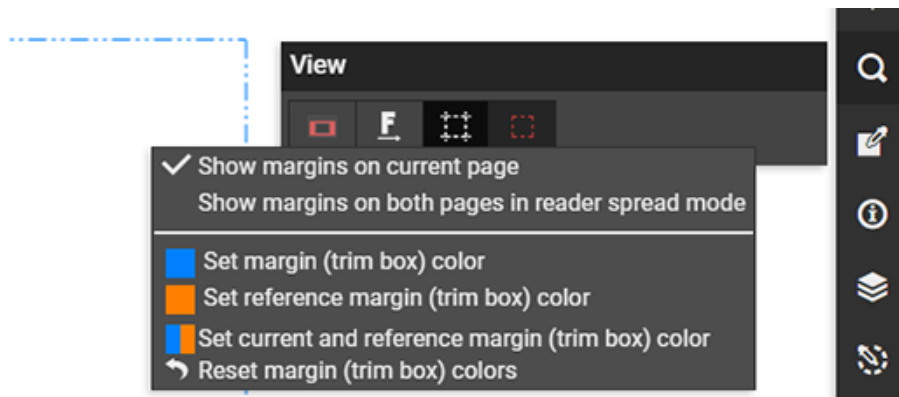
Use this tool to mirror the view / see the document from the back. Also the channel sequence will be reversed.

This is a useful when inspecting a document that will be printed on a transparent substrate.

Show/Hide Margins (Trim Box)

The trim box is often used as the basis for step & repeat of a one-up. It is good practice that the trim box corresponds to the bounding box of the die line.

Click to hide or show the margins (trim box). These are by default shown in a thin blue dashed line (in the screenshot below, we've hidden all channels to make sure you can see them).



Right-click  for these options:

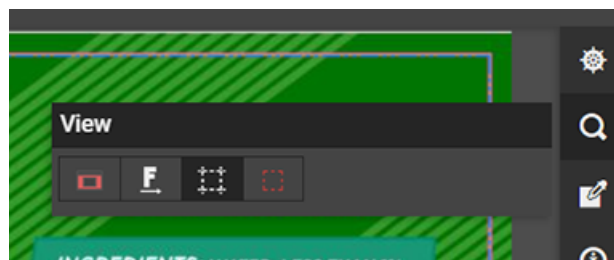
- **Show margins on current page**
- **Show margins on both pages in reader spread mode.** Useful when working with multi-page files.
- **Set margin (trim box) color:** To set the color of the margins to a different color than the standard blue. When in comparison mode, this is the 'current' document.
- **Set reference margin (trim box) color:** When in *comparison mode*, use this to set the color of the margins of the 'reference' document.
- **Set current and reference margin color:** When in *comparison mode*, use this to set the color of the margins of both documents.
- **Reset margin colors:** Sets the Viewer's default color for margins.



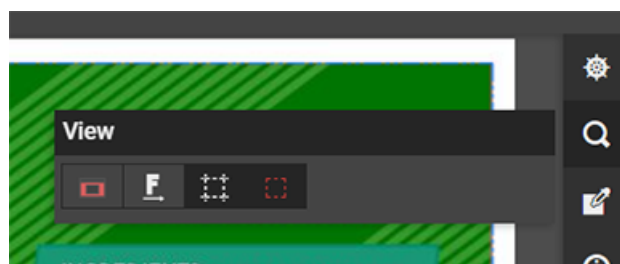
Note: When the document has no trim box, the margin lines will follow the document outline (media box).


Clip Document to Margin (Trim Box)

Do you want the Viewer to show you what is outside the trim box? (not active)



Or do you want the Viewer to clip that away from the view? (active)



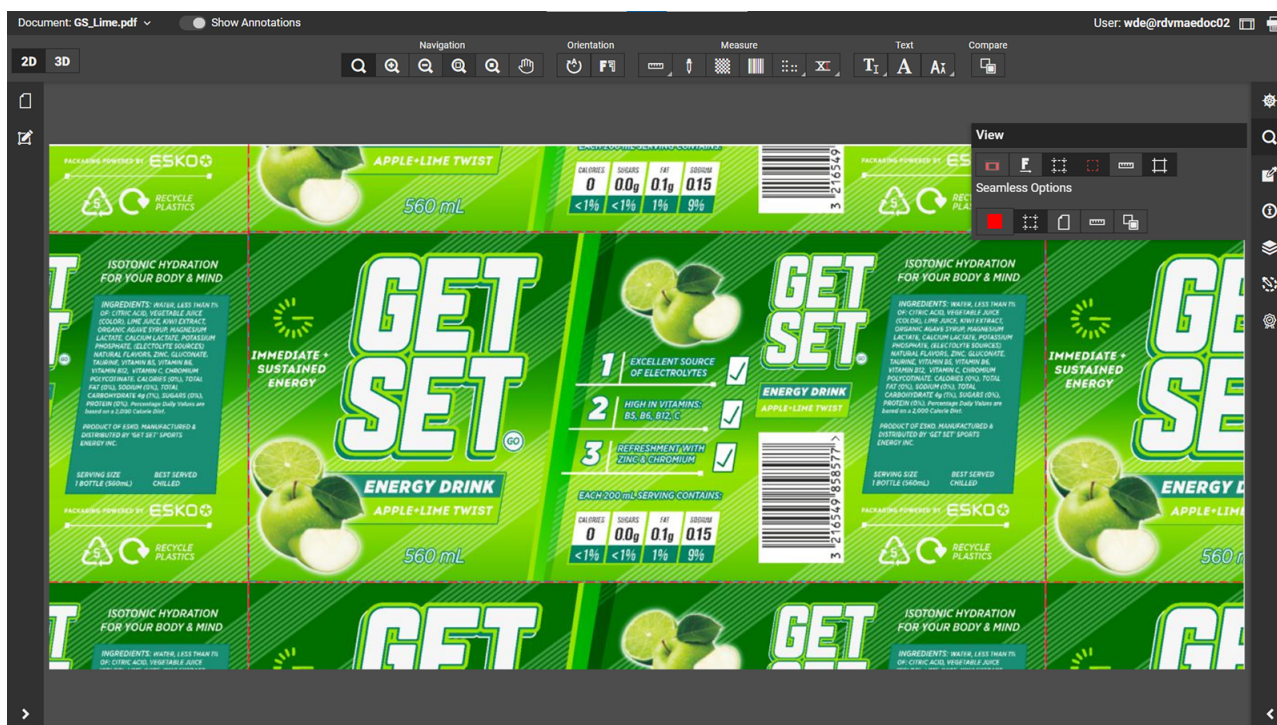
Right-click  to see the extra option to **Clip Document to Margin (Trim Box) in reader spread mode only**. Learn more in [Working with Multi-Page Files](#) on page 73.

Ruler

Click this tool to show or hide a ruler at the top and left side of your view.

Seamless View

Click this tool to activate an automatic simulation of a seamless layout of the open PDF or RIP'ed data.



The main use case for this tool is to check 'seamless design', i.e.: will that pattern, when printed, nicely continue on the other side. For example: wallpaper.

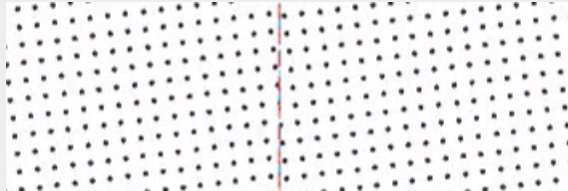


Restriction: This tool can only simulate a seamless layout automatically or manually (see below). You can **not** define seamless layouts **numerically**, for example by defining plate or cylinder measurements or to simulate/check staggered layouts. This can be done however in the editor ArtPro+.

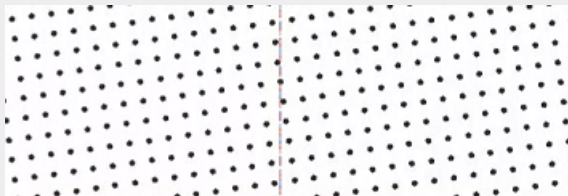


Note: This tool can also be used to check the result when data was RIP'ed to screened separations with the option '*seamless screening*'. When viewing such data here and asking the seamless view you should then see that the dots really do align. An example:

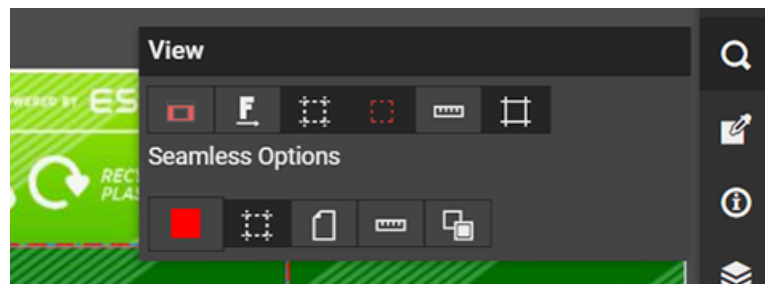
- Zoom in to a seamless view of a file RIP'ed without seamless screening:



- Zoom in to a seamless view of a file RIP'ed with seamless screening:




Seamless Options:



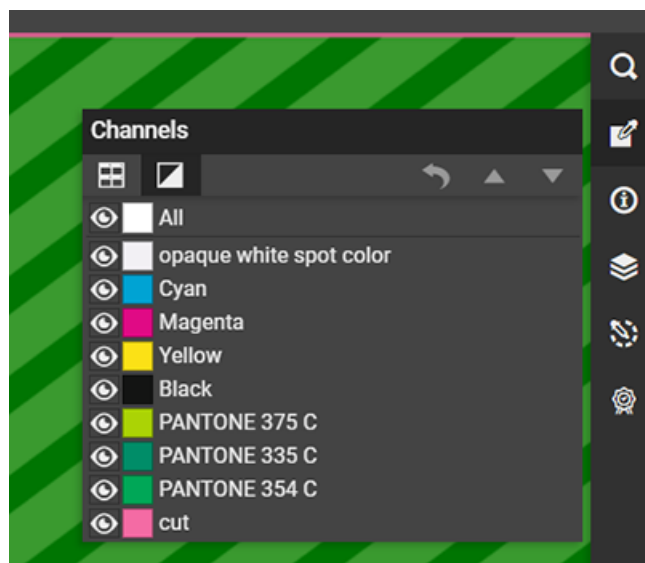
- : To pick a different color for the lines visualizing the seam.
- : To show or hide these lines.
- : To define which page box needs to be used as base for this view. By default this is the trim box.
- : To make a custom seamless box by making use of the ruler guides. Follow these steps:
 1. Make sure the general ruler tool is activated (button to the left of the one for seamless view)
 2. Also activate the ruler button in the Seamless Options.
 3.
 - In the left side ruler, click a first and second new top and bottom of the seamless box you want.
 - And/or, in the top side ruler, click a first and second new left and right side of the seamless box you want.
 4. The view automatically adapts once you clicked a second guide in either orientation.
- : Activate this to allow some overlap (2 mm), instead of clipping on the seamless box. This can make some gaps disappear.

2.7. Channels tool

Intro

Click  to open (or close) the **Channels** widget. It shows the document's channels (separations, inks) and offers extensive separation viewing possibilities.

You can switch channels off and on. You can change their display color and transparency. You can map channels so they here appear as one.





Especially when comparing files based on their channels, it is important to know the exact definition of the channels.


A channel is defined by


- its name
- its RGB display values
- its ruling, angle and dot shape (when defined as a screen set).

Composite or ...

- Click  to switch between a single **Composite view** and a tiled view of all (selected) individual channels (and 1 composite).
- Right-click  to choose the kind of tiling to use: **Automatic**, **Horizontal** or **Vertical**.

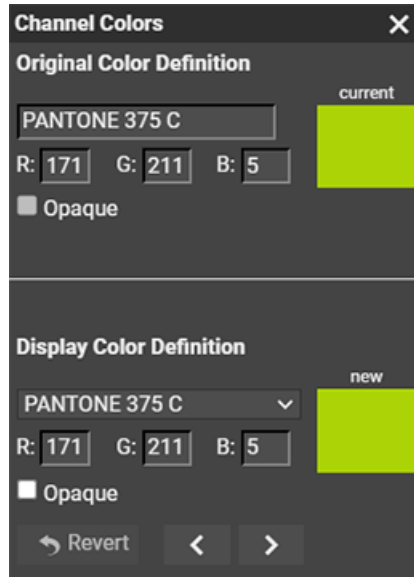
Show/ Hide Channels

Click  to show or hide one, multiple or all channels.

Right-click the  of a single channel to view only this channel (any others will be switched off).

Changing the Appearance of a Channel

Click a channel's color patch to open its **Channel Colors** widget.






The top part shows the **Original Color Definition** and is read-only.

The bottom part allows you to change the way the channel is displayed. This is for example useful when the file contains a white separation because it will be printed on clear plastic. To see that separation better in the Viewer, you might want to display it as pink for example.

- To set another **Display Color**, you can either
 - set new RGB values
 - click the color patch to pick a color
 - in the name, use the drop-down list to choose a same color of another channel in this document.
- Select **Opaque** to make the Viewer display this channel as opaque.



Note: These display changes are not remembered the next time you open this file in the Viewer.

- Use the   arrows at the bottom to browse to the definition of another channel, which allows you to modify several channels without reopening this dialog.
- Click  to revert to reset the display to the channel's original color definition.
- The name of a channel of which you changed the display is in the Channels widget marked with an asterisk (*)




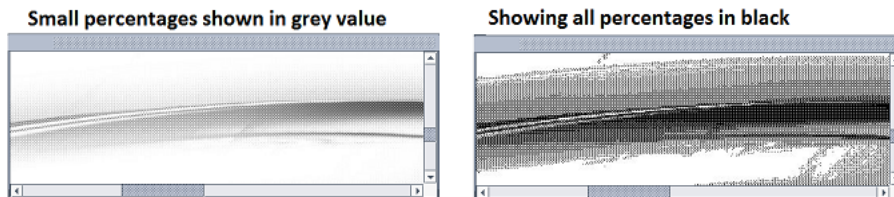
Changing how Single Channels are Displayed

Click  to display a single channel in black instead of its own color.



Note: This setting is remembered the next time you open the Viewer.

A right-click on  also offers to **show single channel as black with 'show all' effect**. This view uses black rather than a grey value for a display pixel that represents a partially covered area. This makes it easier to detect areas with small dots in RIP'ed files. An example:



Changing the Sequence of the Channels



When printing, opaque inks cover previously printed inks. This is why the sequence in which you view channels is also important.

You can change their display sequence by using the   buttons or by click-and-dragging one's name or color patch to a different position.

Moving a channel **down** means putting it **later in the printing** sequence, so being printed on top of the channels above.



Important: This display sequence does not have any influence on the actual printing sequence, it only affects the display in the Viewer.

When you have changed the channel sequence, click on  to **Revert** to the original channel sequence. Right-click  to choose what you are resetting: only the **channel order**, only the **color definitions** or **both**.

When Comparing Files that have Different Channels

Learn about comparing in [Comparing Files](#) on page 46. We here only mention the extra symbols that can occur next to a channel name.


The **Channels** panel shows you when the compared files have different channels:





- **(+)** means that the channel is only present in the current (first) file.
- **(-)** means that the channel is only present in the reference (second) file.

Alternatively, you can also use the [Compare HSV mode](#) to compare files with non-matching channels.

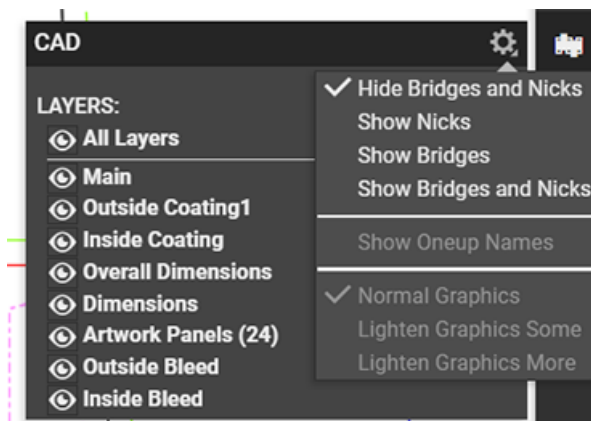
2.8. CAD tool

Click  to open the CAD widget. It will only appear in the tool bar when you opened an ARD or MFG structural design file.

The tool shows the CAD layers in the document. Use the regular  tools to show or hide layers.

Open its  settings allows to

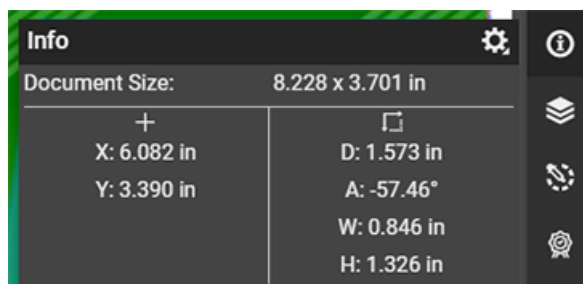
- show or hide specific types of lines (nicks and bridges)
- show the names of the one-ups (if any present).
- to lighten the visualisation of any graphics data (if any present).




2.9. Info tool


This widget displays following information about the (active) document:

- the size of the document
- the size of the trim box of the current page
- the current mouse position
- the current selected area when using measuring tools.



Click  to select your preferred units. These will be used for all measurements during the current viewing session.

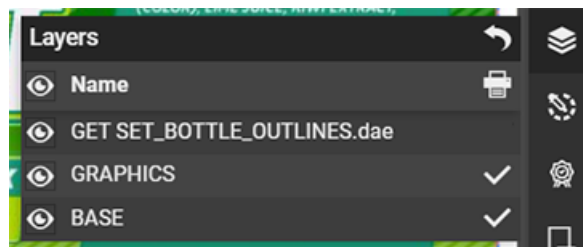


Note: More information about the open file is available when you open the file's Info dialog ( in the top tool bar).





2.10. Layers tool




Note: The **Layers** widget is only shown when the document has layers.



Show / Hide Layers

- Click  to show or hide a layer.
- Click  next to the title 'Name' to switch all layers on or off. There will always be one shown, by default the top one.
- Right-click the  of a single layer to view only this layer ; all others will be switched off.
- When only one layer is shown, and you choose to hide it, the next layer (below) will be shown.
- Click  to reset all changes ; i.e. show all layers.


Printing State

The column under  indicates the **Printing state** of that layer.

See in above example how the printing state of the layer containing the 3D object was set to non-printing in ArtPro+.

2.11. Color Management tool

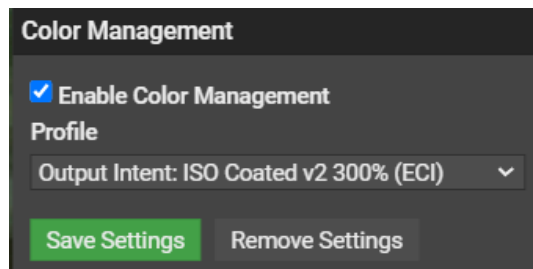
This tool enables the display of a PDF to be color managed to make it resemble more like the printed result.

Click  to open the widget.

1. Select **Enable Color Management** to make the widget load the available profiles and list them below.

The profiles shown in that list are the same that an ArtPro+ editor will offer when connected to this server: all standard and any custom ICC profiles stored centrally in their default folder `bg_data_cms_v010/w/icc`.

The default profile is the one defined in the PDF as **Output Intent**.



2. Now select the wanted color **Profile**. The Viewer will immediately visualize the described colors accordingly.

This selection stays active during the current viewing session (in that tab of the browser).


Click **Save Settings** to save the activation of the selected profile with that file. It will be re-used the next time any one views this file in this Viewer.

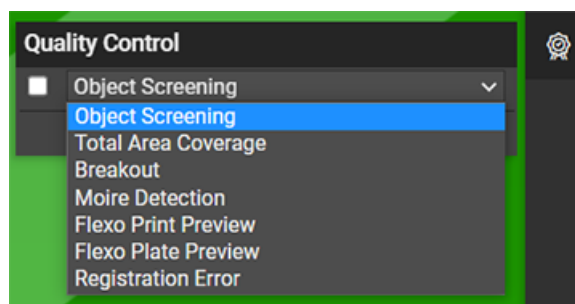
This setting is stored as metadata next to the file, until someone clicks **Remove Settings**.



Note: In a color managed view every zoom and pan operation will be 0.5 sec slower.

2.12. Quality Control tools

Click  to open the Quality Control widget.



Selecting a tool from the list shows its options and also automatically activates it.

While a tool is activated , you can de-activate it: .

2.12.1. Object Screening

When the Viewer is using the latest technology, activating this tool shows a list of all Screen Sets used in your file, each with a different color.

Objects using a specific screen set will show in the corresponding color. Click the color patch to customise it.

Areas where multiple screen sets overlap are highlighted in red.



Note: Only screening conflicts involving **overprint** are highlighted. Blend modes are not taken into account.



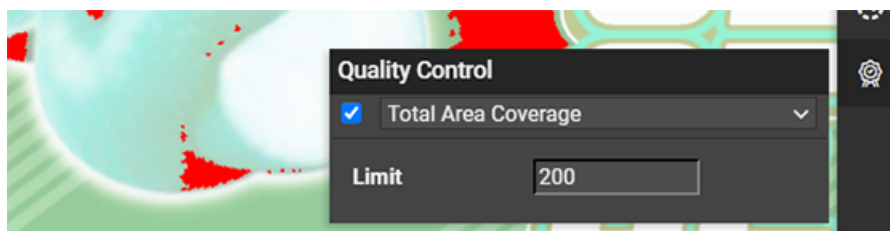
- **Screening Model**

- **Esko** (default): Separation based screening (i.e. per ink); the method as used in the classic Esko FlexRip.
- **Adobe**: Object based screening; the Adobe PDF RIP method as used in Esko Imaging Engine.

Learn more about these screening models in the [chapter on Imaging Engine](#) or the [ArtPro+ user guide](#).

2.12.2. Total Area Coverage

The Total Area Coverage (TAC) tool helps to identify areas where the total amount of ink in the selected channels is higher than a given percentage.



Once the Total Area Coverage tool is activated, the image in the Viewer is dimmed and areas where the sum of the densities is higher than the specified TAC **Limit** are highlighted in red.

You can set the limit to a percentage between 0 and 500%. You can as well use your arrow keys to increase/decrease this value (by steps of 10%).



Note: Invisible layers, invisible separations and 'technical inks' are not taken into account.

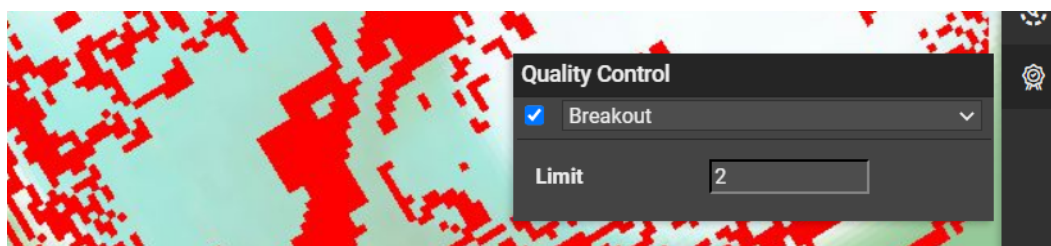


Important: The TAC values shown here can differ from those shown in ArtPro+. This is because the Viewer does not include processing step separations when calculating the TAC.

2.12.3. Breakout

In flexo printing, the **Breakout** tool helps to locate areas where the percentage of a single separation is lower than the first visible dot, indicating the risk that it will not be possible to print. Press **Enter** to trigger the calculation.

The image is dimmed and the areas below the set **Limit** are shown in red.



Note: Values are rounded off to the closest system value (n/255 in %): 0%, 0.4%, 0.8%, etc.

If you enter 0.8% as first visible dot, you will only see breakouts for values that are rounded off to 0.4%.

If you enter 0.4% as first visible dot, no breakouts can be shown. We advise to only enter 0.4% if you are sure that your device can print values as low as 0.4%. It is only for such devices that the Breakout Quality Control with first printable dot set to 0.4% will correctly confirm that everything is printable.



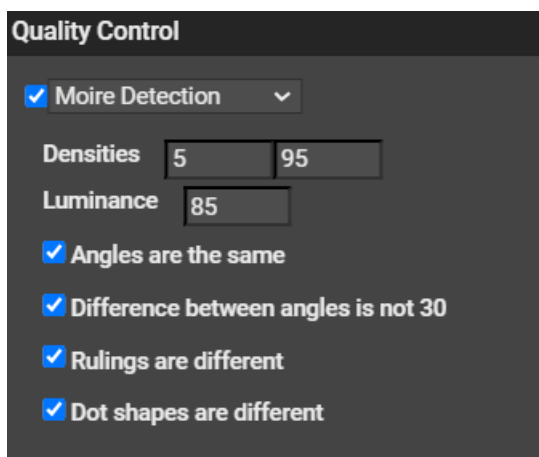
Tip: While this tool is active, you can still use the densitometer to measure the actual percentages.



Note: Invisible layers, invisible separations and 'technical inks' are not taken into account.

2.12.4. Moiré Detection

Use the **Moiré Detection** tool to detect possible screening problems in your document.



When you activate Moiré Detection, the document is shown dimmed and areas with possible screening problems are highlighted in red.

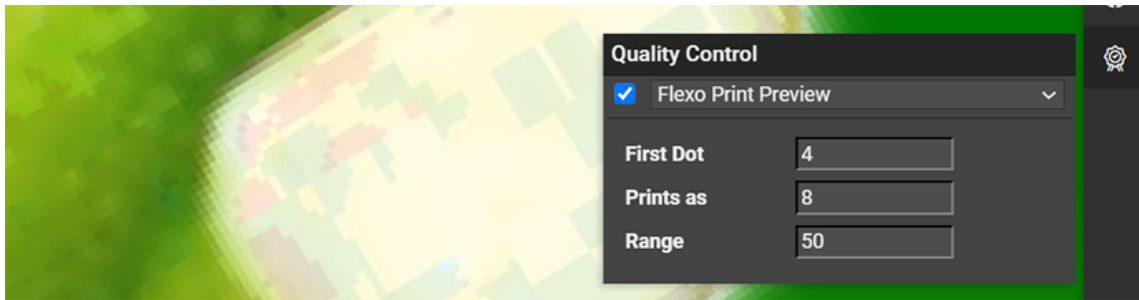


Note: All visible channels are taken into account.

- First define which printing areas this tool should take into account to do its checks.
 - **Densities:** Areas with a density lower and areas with a higher than these values will be highlighted. Default values are default 5,1% and 94,9%.
 - **Luminance:** Areas with a luminance value higher than this value will be highlighted.
- Then select which types of screening problem this tool should detect in those printing areas:
 - The angles for the separations used in that area are the same. Also if they differ a multiple of 90°. For example an angle of 7,5° and an angle of 97,5°.
 - Or these angles do not differ 30 degrees.
 - The rulings for the separations used in that area are different.
 - The dot shapes for the separations used in that area are different.

2.12.5. Flexo Print Preview

This tool helps to predict the effect of the flexo printing process in the highlight areas by applying a non-linear curve to the selected channels. The effect is shown immediately.



The curve has three adjustable parameters:

- **First Dot:** Below this value the output is zero (aka the "breakout" value) ; this is the first visible dot percentage. This means that you expect it will technically not be possible to print smaller values than this one.
- **Print as:** This is the real output value at the first visible dot percentage. This value is typically somewhat higher than the percentage of the first visible dot, so creating what is typically called a bump-up effect.
- **Range:** This is the highest affected input value. Between the First visible Dot and the Range percentage, the effect of the bump-up is linearly decreasing. Percentages above this value are displayed unchanged.



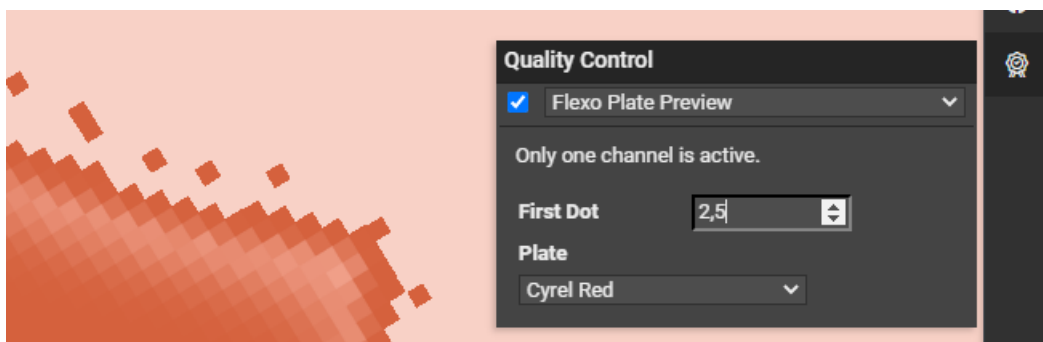
Note: Invisible layers, invisible separations and 'technical inks' are not taken into account.


2.12.6. Flexo Plate Preview

This tool simulates how the selected channel would look when it was imaged on a flexo plate.

This simulation is characterized by a **First Dot** percentage and by a **Plate** color selection.

An example using Cyrel Red to simulate the flexo plate:



Note: This mode is possible when viewing single channels but also when using  "View channels in separate windows".

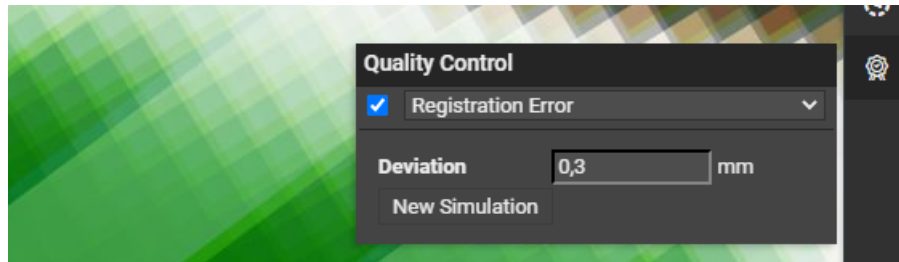
To change the **First Dot** percentage, click the value and enter a new percentage or use the slider that pops up.

To change the **Plate** color, pick one from the dropdown list.

2.12.7. Registration Error

This tool simulates the effect of print registration errors by randomly offsetting the visible channels by a specified distance (the **Deviation**). The effect is shown immediately.

This simulation for example helps to check if the trapping is sufficient.



Here is an example when viewing a digital film set:



- **Deviation:** Change this value and press Enter to have the effect calculated and shown immediately.



Tip: This tool allows using zoom and pan tools to visually inspect the effects of a given registration error on different parts of the design.

- **New Simulation:** The tool randomly shifts all channels with the given distance, but all under a random angle.

If you want to see another random simulation, click **New Simulation**.

2.12.8. Show as Print

When RIP'ed data was created with options **invert** (negative) and/or **mirror** (wrong-reading), the AE Viewer will by default show them as they were RIP'ed, i.e. as the files really are. An example:



When you select **Show as print**, the AE Viewer shows the digital film set as it will look when printed.

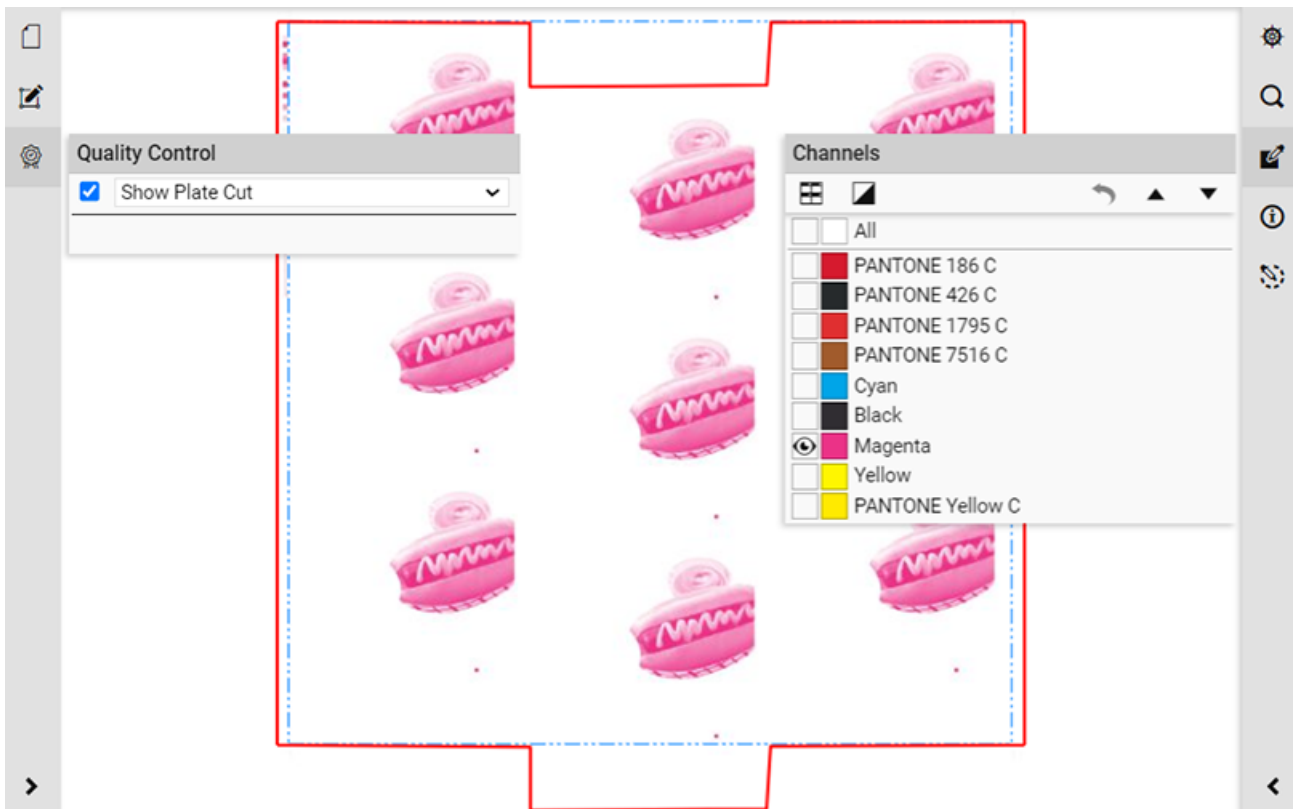


Note: This is the same behavior as the *(old technology) Java-based Viewer* had.

2.12.9. Show Plate Cut

When the Viewer is using the latest technology, this tool is available when you open a LEN(x) file originating from a PDF+ layout with plate cut paths or from a PDFPLA layout with a staggered cut path.

When viewing a single channel, activating this tool shows the plate cut path as a red line, on top of the information in that selected channel.

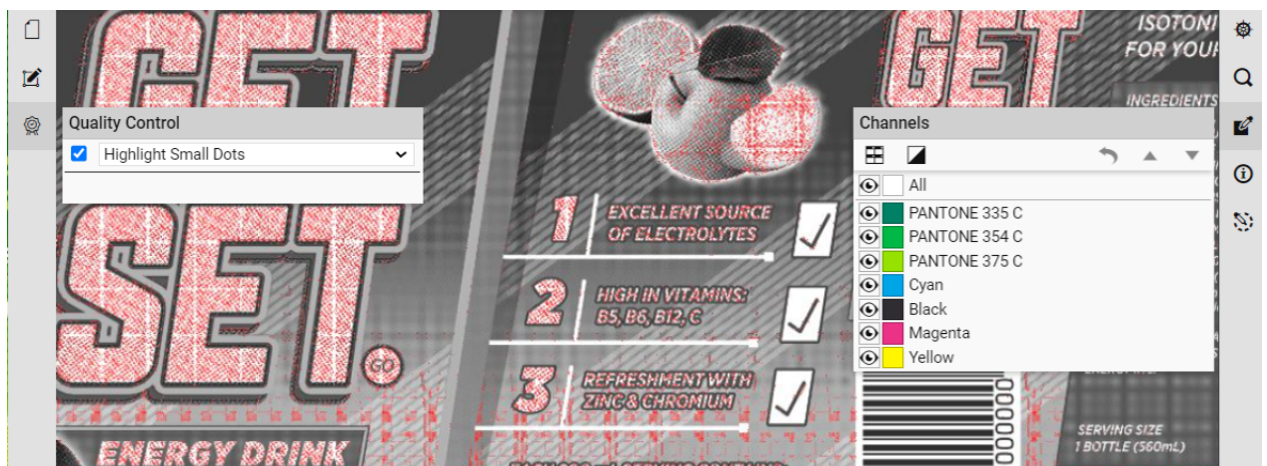


A plate cut path can be different per channel.

2.12.10. Highlight Small Dots

When the Viewer is using the latest technology, this tool is available when opening LEN(X) files.

Activate the tool to highlight dots with less than 2% density in red. Other selected channels will be shown in black.



2.13. Comparing Files

2.13.1. Intro

Extensive and Powerful Tools

The Viewer allows to compare two files and inspect their differences.





Restriction: When the two file types use a different viewer technology, you will not be able to compare them. Learn about viewer technologies in [here](#).

- The Viewer also allows to compare **files of a different type**. For example comparing a (PDF compatible) AI design with its final production PDF. Or comparing a one-up PDF with its Step & Repeat version, or even with its RIP'ed version.
- The Viewer also allows to compare **files of a different size**. They can have a different trim box, or even a one-up compared with its layout.
- And while in compare mode, all **other tools also still work** (navigate, measure, channel selection, color management, quality control tools, etc.)
- And apart from comparing channels (separations), the Viewer can **also compare files based on HSV**, i.e. compare colors, much like the human eye or a camera does.

How to Start Comparing

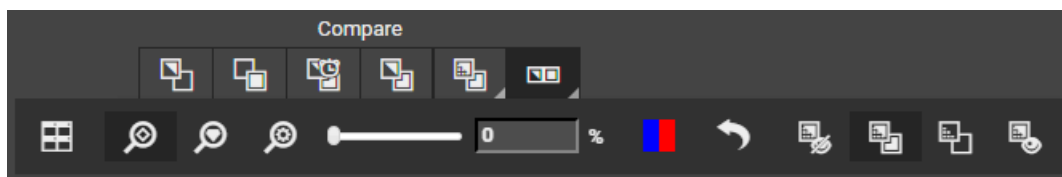
There are several ways to start comparing:

- First selecting (file(s) in the client:
 - Make your file selection in the client (Pilot or browser), and there choose 'Compare' or 'Compare to'. When these files are not in the same folder, you will need to use 'Use selection for Compare' and then browse. Learn more in [The Files View](#).
- Selecting the files from within the Viewer:
 - In older technology, the Java based Pilot Viewer : To compare files, open a first file ("Current"), then click the  compare button and choose a second file ("Reference") from the dialog.
 - In the latest technology, click the  [compare tool](#) to open the **Select File** pane and there select the second ("Reference") file.

You can stop comparing and close the reference file by selecting **Turn off Comparison** in the [Document Select widget](#).



2.13.2. Compare tools (Top Tools bar)

When comparing files, the top tools bar shows the extensive set of compare tools.






- The top row icons are the comparison view modes: your choices of windows layout when checking differences. Learn more in [View Modes when Comparing](#) on page 47.
- The ones below are sub tools (options) that appear when choosing of one the last two view modes. Learn more in [Difference View Mode Options](#) on page 47.

View Modes when Comparing


-  **View Current Version:** To view only the current version (the file you opened first).
-  **View Reference Version:** To view only the reference version (the file you opened later, to compare).



Tip: Use **Ctrl-S** to toggle between the view of the current and the reference file.

-  **View Both - Blinking:** To view a blinking mode that switches the view of each file approximately every second.
-  **View Both - Show On Top:** To view both files on top of each other. This is typically used when the two files together form a complete layout, for example a left and right page of a reader spread. Or when two (similar) variants of a design were created and you want to check how they align.
-  **View Both - Show Difference:** To find or focus on the highlighted differences. Identical data are dimmed and differences are highlighted in the specified highlight colors (see below). This mode is especially useful to spot small differences when zoomed out viewing the entire file or when using the Navigator tool.

Selecting this mode also shows its sub tools to select a different tiling orientation or to decide whether you want to see a third window with the differences. Learn about these options [below](#).

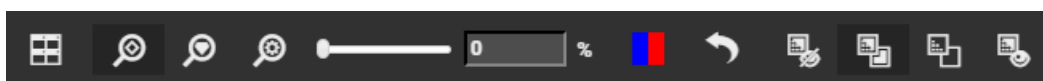
-  **View Both - Side by Side:** To view both files side by side, with an extra 3rd window showing the difference.


Selecting this mode also shows its sub tools as mentioned above and even some extra. Learn about these options [below](#).







Tip: The views in each split window also remain synchronized when you work with channel selection or during navigating, zooming, etc.

Difference View Mode Options




-  **Tiling mode:** Click to select Automatic, Horizontal or Vertical tiling of the view windows.

-  **Compare: Channels:** This (default) mode shows differences that it finds in channels with identical definitions. It compares Channels one by one. The added and subtracted content is displayed in highlight colors. Learn more in [Matching Channels](#) about how to define if similar channels should be compared or not.
-  **Compare: HSV:** This mode compares colors. It looks at the two files the way your eyes do or as a camera does. For example a green object will not be seen as different even when in the one file it is colored as a PMS color and in the other as an exact same color mix of cyan and yellow.
-  **Compare: Automatic:** With this setting, the 'Channels' mode is used when the definition of all visible channels is equal in the two compared files. When this is not the case, the 'HSV' mode is used.
-  **Difference Threshold:** You can change the level of precision with which differences are detected. Use the slider or enter a percentage value [0-100%]. When the threshold is higher than 0, you will sometimes see a warning about the now possibly hidden differences.



Note: The set threshold will be saved for your next compare session.

- : Change the **Highlight Colors**. Depending on the colors in your documents, you may want to change the default blue and red highlight colors.


By default,





- the **added** channels and objects on common channels are displayed in **blue** to highlight the differences (this is the left part of the color block button).
- the **subtracted** channels and deleted objects on common channels are displayed in **red** ((this is the right part of the color block button).

You can:

- **Change 'Added' Highlight Color...**
- **Change 'Subtracted' Highlight Color...**
- **Change Both Highlight Colors.** This will make them use a same color.

Click on the color patch and select the new color.

- : To revert back to the default highlight colors.
- Choose the **Compare Mode:**

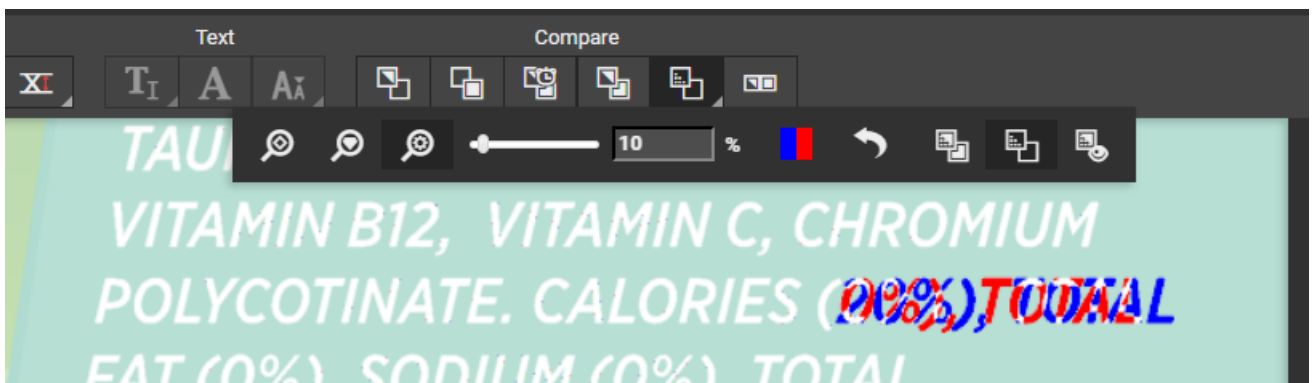
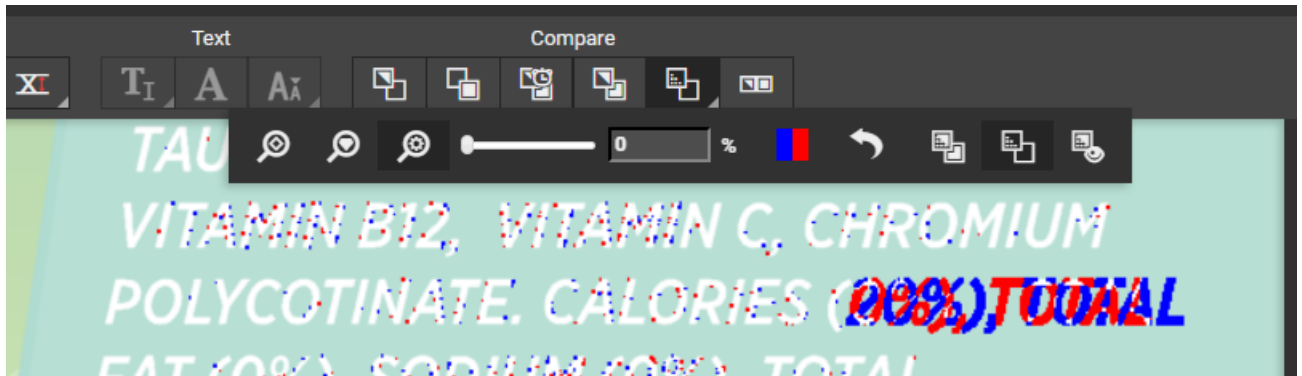
- : Hide Difference
- : Show Difference
- : Show Difference - View Both - Highlight Difference
- : Show Difference - View Both - Show Difference

Changing the Difference Threshold

When comparing files that are not perfectly aligned or that have minor tonal differences, you may want to adjust the threshold on when a difference should be highlighted. This allows you to make a distinction between minor and major differences.


Use the slider or type a percentage in **Difference Threshold**.

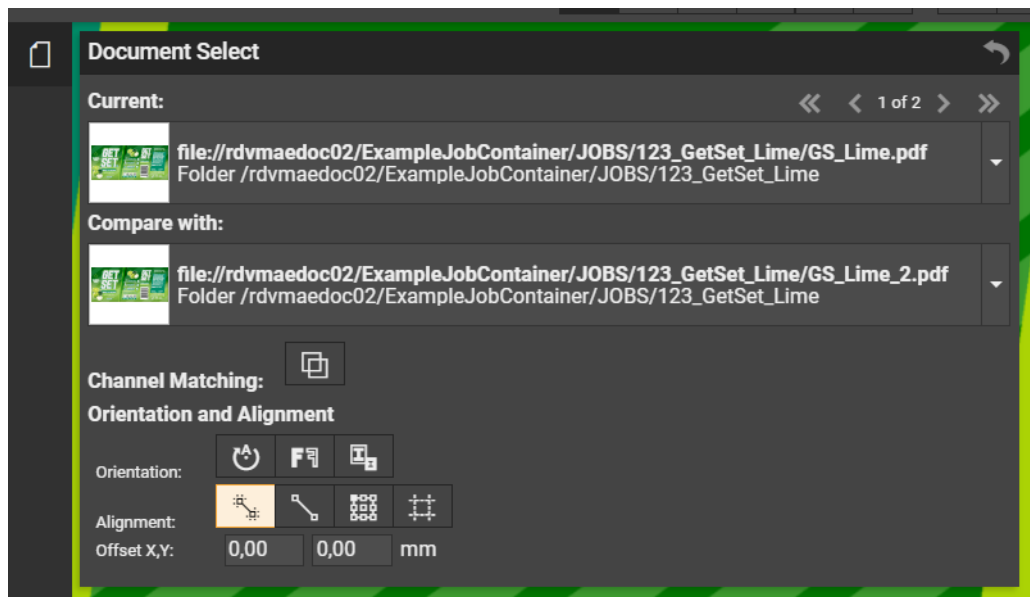
Here is an example where the extra scattered pixels disappear when changing the threshold to 10:



2.13.3. Document Select widget and tools



When comparing files, also the **Document Select** tool appears (by default in the left side bar ; as mentioned [earlier](#), you can move it).

Click  to open or close the Document Select widget.



The Documents you Selected to Compare

The widget shows the URL of both documents. You can stretch the widget horizontally to make it fully show a longer URL.

- In **Current**, click  to the right to switch this document to another one in the list of loaded documents. This feature is not available in this Viewer but it can be used to select a different page in that same document.
- In **Compare with**, click  to the right to **Turn off comparison** mode. This will close this reference document but the Viewer will remain in comparison mode. When you turned this off, you will see a **Click to select a Document (page)** and the only one in the list will be the one you just closed.

These tools are more useful when you are comparing multi-page documents. Learn more in [Working with Multi-Page Files](#) on page 73.

Matching Channels

Concept


Sometimes you may want to compare channels that do not have a same channel definition. For example:

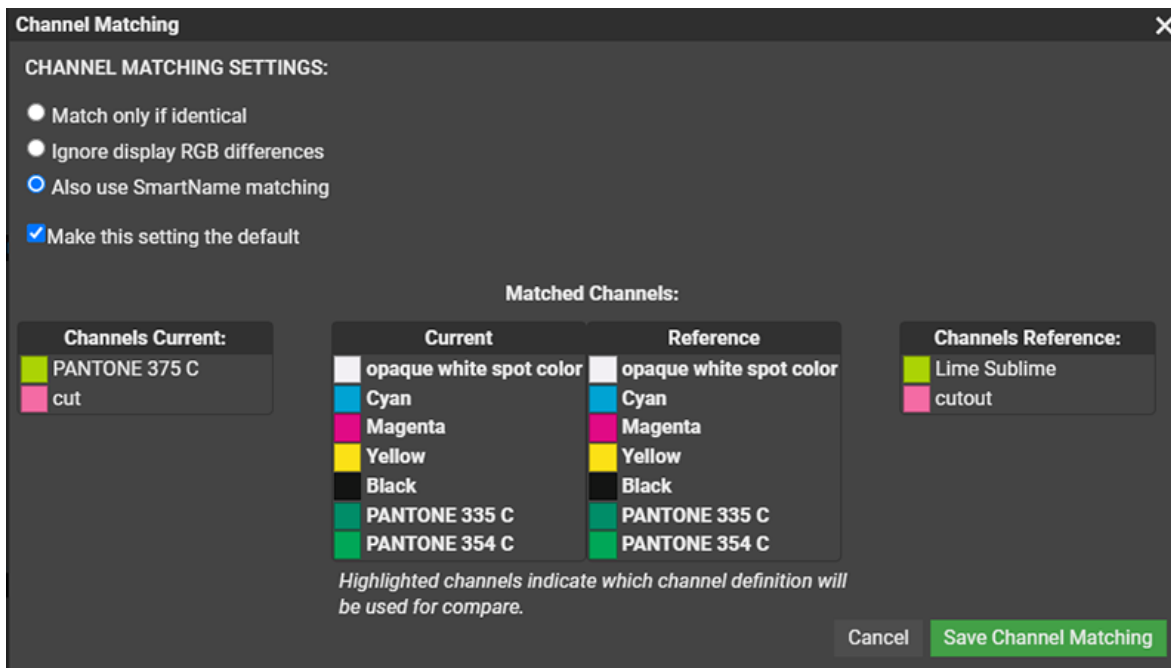
- A channel that is actually the same but has a different display color in the 2 compared files. For example an ink 'Cut' that was defined to look green in one file and pink in the other.
- Channels that are related but have different ink names in the 2 files. For example '123' and 'Pantone 123 C'.

The **Channel Matching** tool allows you to make manual matches or define automatic matching rules.

The Channel Matching tool

The dialog of this tool opens automatically when you selected 2 documents to compare that do not have a same set of channels.

Alternatively, at any time during comparing, you can also open this tool from the extra  icon that will appear in the Channels widget or in the Document Select widget.



An overview of this dialog:

- **Top left, in Channel Matching Settings**, the different ways to have this matching done automatically. Learn more below.
- In the **middle**, the **Matched Channels** table shows which channels have been matched for the comparison. The way this matching was done is defined by the above selected setting. Learn more below.
- **To the left and right of that** the tool shows which channels of the **Current** and of the **Reference** are not matched yet. An automatic or a manual matching may change that. Learn more below.
- You can always **Cancel** this proposal, or click **Save Channel Matching** to agree with it and close this dialog.

Automatic Channel Matching Rules

Choose which rule this automatic matching should follow:

- **Match only if identical:** Only channels that have an identical name and display color are matched automatically.
- **Ignore display RGB differences:** Channels are automatically matched when their name matches. Differences in display colors are ignored.
- **Also use smart name matching:** In addition to ignoring display color differences, this setting also matches channels that have a different ruling, angle or dot shape or have related names. Some examples:
 - Inks with names that only differ in use of upper and lower case. For example: 'Kiwi Green' will mach to 'Kiwi green'.
 - Inks with names that only differ in color book specification. For example: '660' will match to 'Pantone 660 C' and 'Cyan' will match to 'Process Cyan'.

- Inks with names that are known abbreviations of each other. For example 'C' and 'Cyan'.

The effect of the chosen rule is immediately shown below in the columns and table.

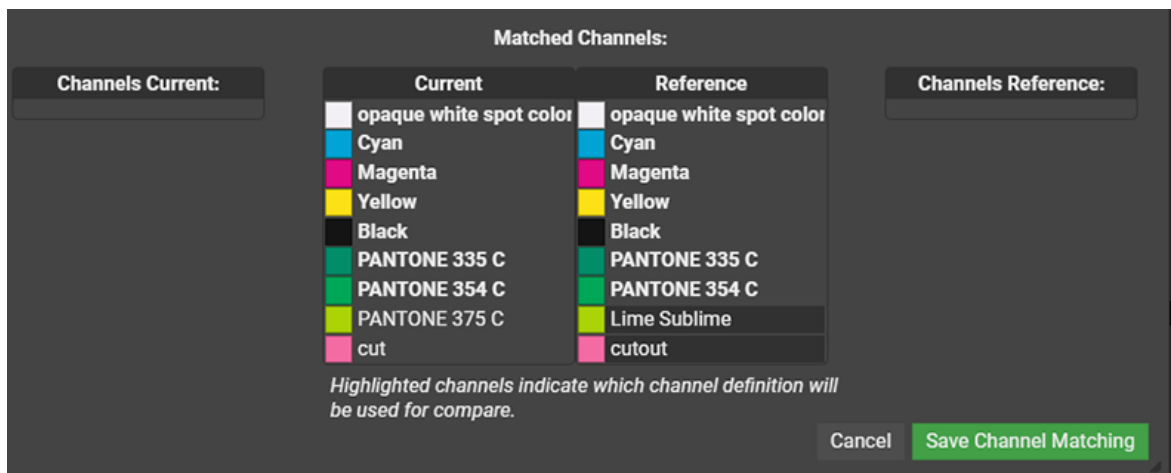
Select **Make this setting the default** when you not only want to apply this rule to the current set of documents being compared, but during every comparison (without need to open this dialog).

Manually Matching Channels

When the automatic matching does not yet match all the channels that you want to compare directly, you can also manually match channels.

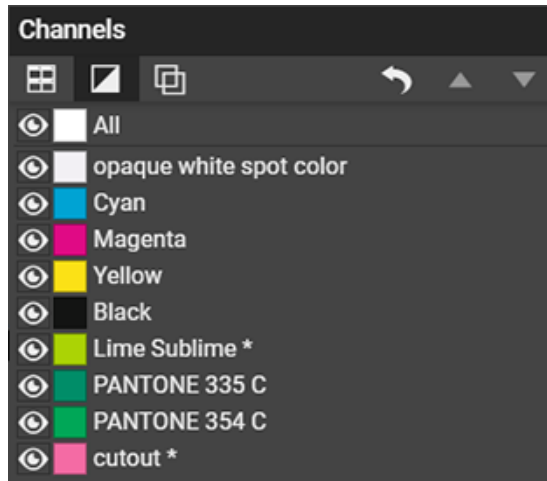
To do this,

1. Select the channel from the left side list of **Channels Current** and drag it to the 'current' column in the middle table of **Matched Channels** (It will automatically be placed at the bottom of the list).
2. Then select the wanted channel from the right side list of **Channels Reference** and drag it to the 'reference' column in the middle, on the same row, across from the one you want to match it with.
3. Click on the Channel from which the definition has to be copied. The clicked channel will be highlighted in the dialog (dark black). This indicates that that definition will be used in the comparison ; that the corresponding channel copies the definition of the highlighted one.



Note: Channel names are shown in bold when you can not un-match them.




4. Click **Save Channel Matching**. After saving, in the Channels widget, the modified channel is marked with an asterisk * next to its name.



Note: Instead of using **Cancel**, note that it is possible to drag a channel **back** from the middle to its left or right column (drop it high enough, right below the name of the column).

Orientation while Comparing

Use the **Orientation** tools to rotate, mirror or invert the reference document relatively to the current document.

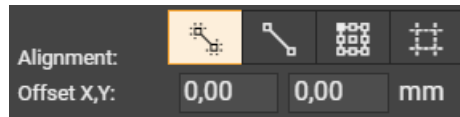
- : To **Rotate** the reference document.
- : To **Mirror** the reference document.
- : To **Invert** the reference document. This can be useful when comparing a positive and negative version of the same document.

Alignment Tools


Alignment tools help you compare files with different sizes, or files with the same size where the content is offset differently from the trim box.




Apart from the ones already mentioned in [Orientation while Comparing](#) on page 53, you can align such files by using these tools:





Auto Align

 **Auto Align** uses the currently visible view of the two compared documents to attempt an automatic alignment.

When the data surrounding the alignment points match, the tool will be able to increase the alignment precision (and have a good alignment with fewer iterations).

 **Note:** The resulting **offset** values are filled in automatically.


Using this tool repeatedly with one or more zoom-ins can be a very easy and fast way to align two files. Its accuracy increases when the documents have a high resolution.

 **Note:** You can disable an automatic alignment by manually changing the offset values. Alternatively, go to the **Compare with**, click  to the right and click **Turn off comparison**.


 **Note:** You can also use this to align the CAD overlay on the graphics correctly.

Manual Alignment using Anchor Points

In case you would need it, there is also a manual way to align documents, although you can still combine this method with a final touch of automatic alignment as well.

1. In the top tools bar, select your preferred compare view mode. In the example we use on this page, we chose  **View both - Side by Side**. See how the difference view on the right shows up very red, as expected because the documents are not aligned at all:




2. In the Document Select widget, click  the **Anchor Point Alignment** tool. The Viewer now replaces the default top tools bar by a new 'Anchor Point Alignment' tool bar.



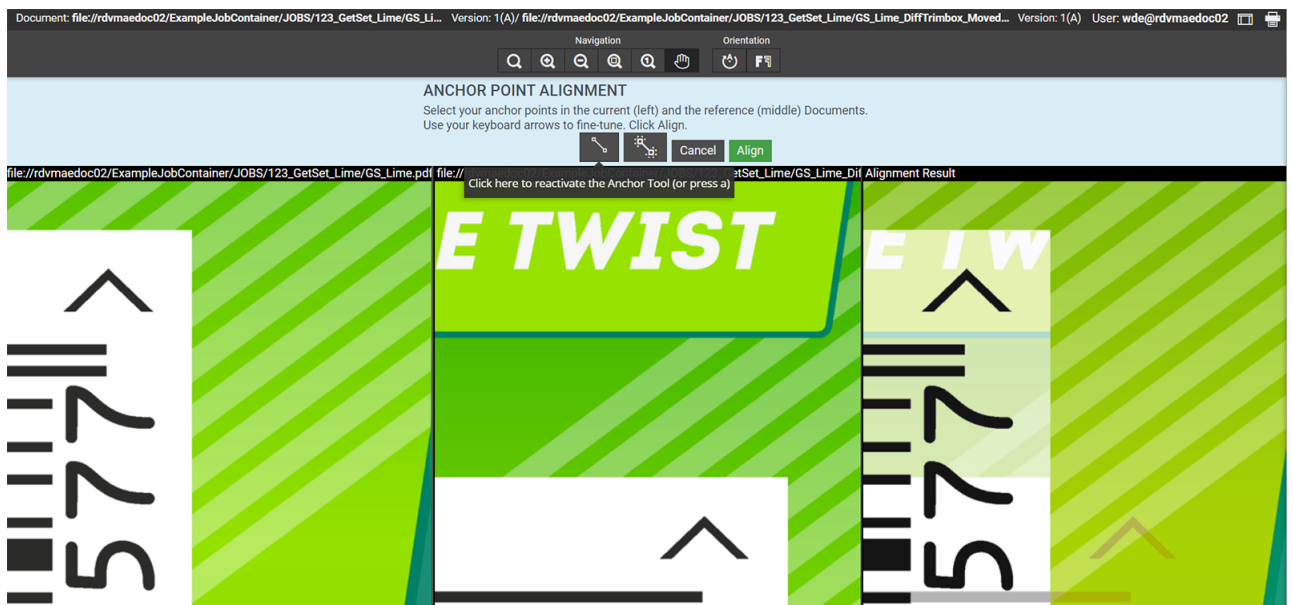
- On top, this tool bar still offers the **Navigation** and **Orientation** tools. These will help you to work very precise.
- Below that, it offers both the manual and automatic align tools.

The 3rd view on the right is the **Alignment Result**, an overlay of both documents.

3. Now click  to activate the **Anchor Tool**, so you can start setting your anchor points manually.

Below screenshot was taken we after we already used the zoom-in and pan tools (learn the shortcuts!) to zoom in to an area that allows to define anchor points in detail (the top right corner of the barcode rectangle).

The **Alignment Result** (right side window) clearly shows that these documents are not aligned.



4. Now click a **first anchor point** in the left window (current).

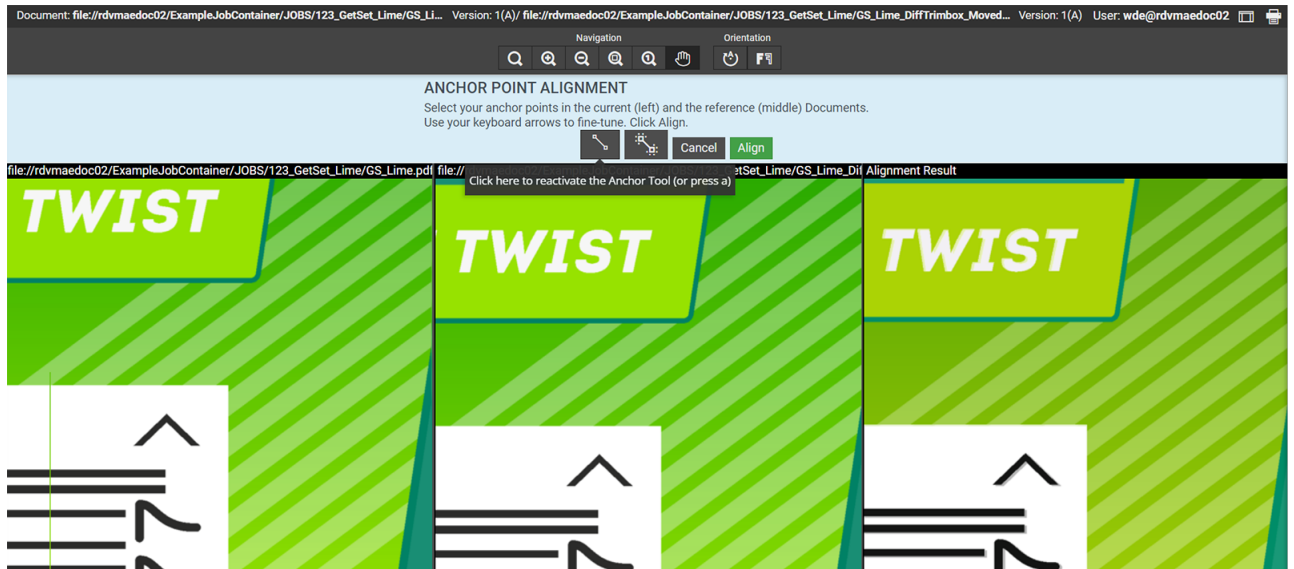
An anchor point looks like this:




Extra tools that can help precision:

- Use your arrow keys to fine-tune the position of an active anchor point.

- You can also drag an anchor point to another location.
 - You can still zoom in to position the anchor even more precise.
5. Now click the **second anchor point** in the middle window (reference).
The reference document will instantly be re-aligned.
 6. Check the result in the right **Alignment Result** window. Click **Align** to confirm this result.

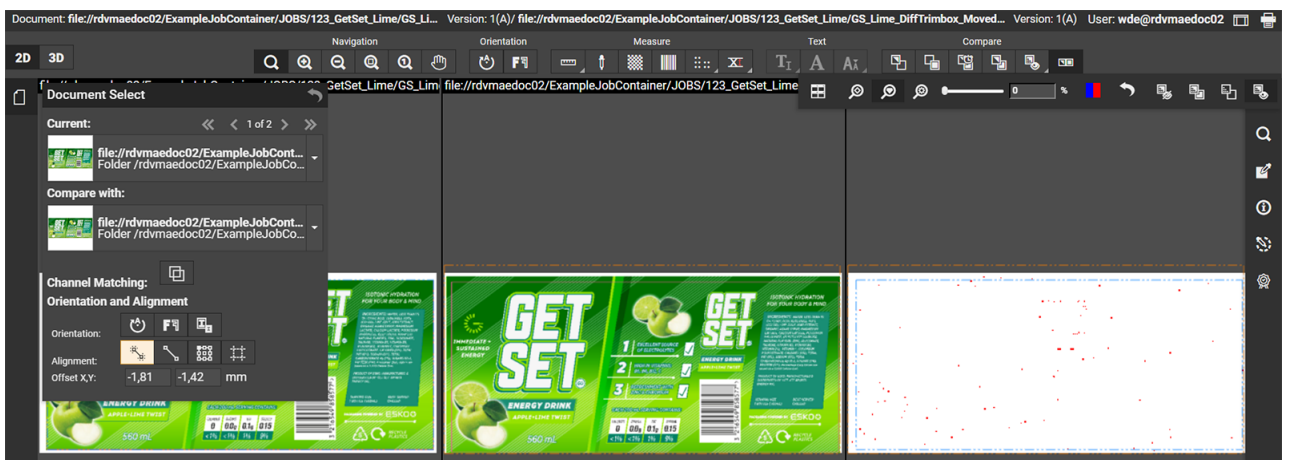


Tip: Even after defining the two anchor points and the alignment that was based on that, you can still click  **Auto Align**.


The Viewer will return to its original state when you click **Align** or **Cancel**.

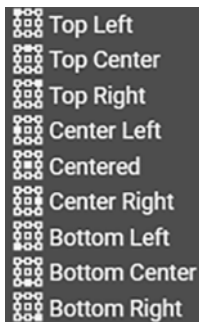
7. Back in the initial compare view mode, the actual alignment that was done is visible in the offset fields in the Document Select widget.

The right window shows the differences based on this new alignment. In our example, there are none (the red dust particles you see in this screenshot will disappear when zooming in).



Using Corner, Trim Box or Offset

- Click  to define a corner that should be used to align the reference file.



- Click  to **Use margins (trim boxes) for alignment.**

When you change the corner alignment while this is selected, the trim box alignment will be remembered.

When this is not selected or when a trim box is not described in the document's XMP, the alignment will be relative to the document's boundaries.

- You can also manually specify an **Offset.**

This offset takes the selected corner and trim box settings into account.

These fields will also show the results of any automatic or anchor point alignment.

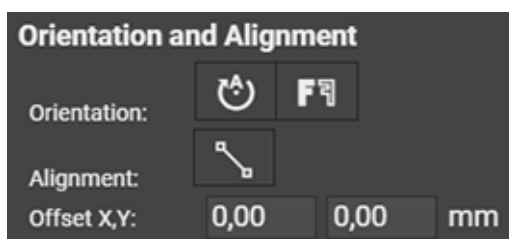


Note:

- When aligning **two graphic files**, the offset will be the distance between the **current** and the **reference** according to the graphics coordinate system: the positive horizontal is set to the right and positive vertical is pointing downwards.
- When aligning **a CAD and a graphic** file, the offset is taken as the distance between the CAD overlay and the graphics page using the CAD coordinate system: positive vertical pointing downwards.
- When aligning **two CAD files**, the offset is the distance between the **reference** and the **current** document page (in that order) according to the CAD coordinate system.

Aligning two CAD files

Also when comparing two CAD files, you can use these alignment tools:



- **Rotate** the reference document.
- **Mirror** will flip your reference document (from the centre of the view).
- **Anchor Point Alignment**. Learn how to use this tool in [here](#).
- **Offset** to manually define the offset of the reference document.



Note: When aligning two CAD files, the offset is the distance between the **reference** and the **current** document page (in that order) according to the CAD coordinate system: positive vertical pointing downwards.

2.14. Working with Prepared View Data

2.14.1. Workflow

This topic was introduced in [About Working with Prepared View Data](#) on page 10.

We there described how this preparation is always needed for RIP'ed data and how for graphic files this concept is only available in older viewing technologies.

In those older technologies, when you regularly experience significant delays when opening files, then consider preparing view data first. Files with prepared view data always open fast. Zooming and panning will be faster on files with prepared view data. The load on the server is also smaller when using prepared view data. However, the server did have to spend a certain amount of load earlier, to prepare.



Note: When a (deep) zoom needs a resolution that is higher than the prepared one, the data for that zoom area will automatically be streamed from the server. You may notice this delay (visible in the progress bar).

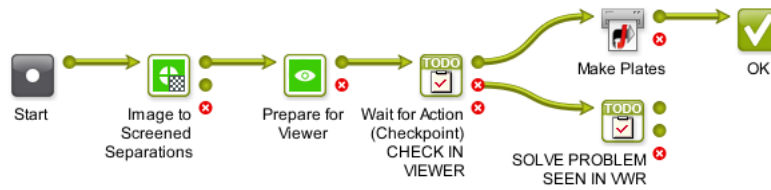


Tip: In the Pilot Java based Viewer, **Ctrl-Shift-V** displays the current view resolution.

Workflow

The [Prepare For Viewer task](#) creates prepared view data. Depending on your workflow, the size of the files and how consistent viewing delays are, you can choose to launch this task in one or more of these ways:

- **Ad hoc (manually)**, by selecting a file and launching the [Prepare For Viewer task](#) (or, in a browser client, a launching a workflow containing that task). When you often use this, consider making it a favorite ticket.
- **Automatic, as part of workflow tickets**. For example, when you often check RIP'ed data in the Viewer, then consider adding the [Prepare For Viewer task](#) as a workflow step after the RIP'ing step. Some users also add a [Wait for Action \(Checkpoint\) task](#) to create a QC step in the users' To-Do list. An example:



- **Automatic, for all files in a specific folder.** For example, when you check all files arriving in a specific folder, you can have that folder automatically launch the *Prepare For Viewer task* on all incoming files. This way, you win time when opening those files in the viewer. Learn more in [Speed Up For Viewing](#) on page 61.

Make sure your Prepared View Data is Up-To-Date

As mentioned in [Starting the Viewer from the Pilot](#), you will not be able to view a file when it has prepared view data that is outdated (older than the source file). In a Pilot, this is indicated by a specific status in the **View** column: - (Prepared).

View data typically becomes outdated because the source file has a more recent modification date. So make sure you only create the prepared view data as a last step before checking it in the viewer.



Important: View data that were created with another viewing technology than the *current one configured for that type of files* will need to be created again.



Attention: Prepared view data becomes useless when the source file was manually moved or renamed (manually = without Automation Engine knowing about this).



Note: When you move a source file with the *Copy or Move File task* or using the features in the browser client, then the view data will follow automatically.

Learn more in [Managing View Data](#) on page 61.

2.14.2. Prepare for Viewer Task

Concept

This task creates view data that will be used when you open its input file(s) in the Automation Engine Viewer. The supported files types for this task are those that the Viewer supports, combined with which viewing technology is used. Learn all about both in [Several Viewing Technologies](#) on page 8.

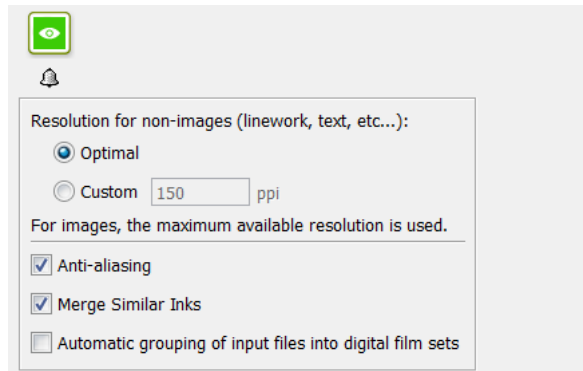


Restriction: When, in the *Configure tool*, you choose to open PDF files using the latest technology as also used in ArtPro+, creating prepared view data is no longer possible ; this task will fail then. Note that with that configuration, this task remains possible for RIP'ed data.



Attention: In many cases, you do not have to use this task before opening a file in the Viewer. Learn more about this choice and workflows using prepared view data [here](#). Find an introduction to the Automation Engine Viewer [here](#).

Task Settings



• **Resolution for non-images:**

- **Optimal:** The task uses a smart algorithm to decide the optimal resolution for the view data (the one that offers the best balance insuring both speed and detail). The calculated resolution is mentioned in the tasks 'Details' pane and in the log file.
- **Custom:** Specify the resolution yourself.



Attention: We advise to only set a custom resolution in cases where you found that the optimal setting created a too small or too large set of view data.

- **Anti-aliasing:** This smooth-ens the staircase effect when images are generated from line-art objects.
- **Merge Similar Inks:** This merges inks that have a same name but have a different ruling or angle.



Attention: We strongly advise to enable this option when viewing ArtPro files or Normalized PDF files generated by ArtPro.

- **Automatic grouping of input files into digital film sets:** When digital film separations (RIP'ed files) are grouped into sets, they will open together in the Viewer and can so be inspected as a composite image. See some examples in [Working with RIP data](#) on page 62.
- When this option is **not selected**, the list of task input files that the user manually selected or that a workflow created for this ticket will be **grouped regardless of their file names**. This is how you can for example get a composite view of these files (where not all have the same name before the suffix with the ink name):

Name ▲	View	Type	Size	Date
GreenMan_K.len	View (Prepared)	CDI File	6.6MB	9/2/15 4:10 PM
Shrek_C.len	View (Prepared)	CDI File	13MB	9/2/15 4:10 PM
Shrek_M.len	View (Prepared)	CDI File	12MB	9/2/15 4:10 PM
Shrek_Y.len	View (Prepared)	CDI File	5.7MB	9/2/15 4:10 PM

- When this option is **selected**, the grouping is done automatically **based on the file names** of the task input files. Using above example, you would then get 2 groups for composite viewing: one

with only 3 separations from the `Shrek` files and one with one separation from the `GreenMan` file.

2.14.3. Speed Up For Viewing

As mentioned [above](#), you can have prepared view data created automatically for all **new** files in a subfolder of a *Job Folder*.




Attention: Using this option will generate view data as soon as a file is written in this folder. And when a file in this folder is updated, its view data will be regenerated. This can lead to overhead on the server when view data are generated that will not be used. Therefore, as a more optimal alternative, consider inserting a **Prepare for Viewer** task at the right place in your workflows.



Restriction: This functionality was more important when *older viewing technologies* would be able to also *prepare graphics data for viewing*. This tool is not advised to be used for RIP'ed data.

The following setup is **only possible in the Pilot**, not in a browser client:

- To add this functionality to a folder, right-click any folder in a Job folder and select **Speed Up for Viewing**. The folder will get a specific icon . From that moment on, Automation Engine will automatically launch the **Prepare for Viewer** task on all new or modified files (that the **Speed Up for Viewing** task supports as input files).

The ticket of the **Prepare for Viewer** task that is used for these automatically launched tasks is defined in [the Configure tool](#).



Tip: When you are *creating Jobs* based on a template Job that has a subfolder with the attribute "**Speed Up for Viewing**", then this attribute will be inherited in the folder in the new Job.



Note: When, in such a folder, a file is opened and being edited in classic editors PackEdge or Plato, the system will not re-created this view data every time you click **Save**. The **Prepare for Viewer** task will only start and update the view data once the file is closed in the editor.

- To stop this functionality, right-click the folder and select **Speed Up for Viewing** to switch it off again. This attribute is also removed automatically when the Job is removed, exported or archived.

2.14.4. Managing View Data

The *Prepare for Viewer Task* creates the prepared view data in a hidden `.view` folder next to the input file.



Warning: Accessing that hidden folder and deleting, moving or renaming this view data manually will create Viewer errors.

The size of the view data depends on the chosen resolution and on the size and amount of channels of the source file.

Because this data is not small and temporary by nature, these mechanisms help to clean up the prepared view data:

- When you *demote a Job* (by removing, exporting or archiving it), all view data in that job folder is **automatically** deleted.
- In the Pilot, you can **manually** delete the (hidden) prepared view data, by:
 - right-clicking a file and choosing **Delete View Data**. This removes the prepared view data for that selected file only.
 - right-clicking a folder and choosing **Delete View Data**. This removes the prepared view data for all files in that folder and its subfolders.

2.15. Working with RIP data

A Composite View of RIP'ed Separations





Note: As mentioned in *the introduction*, RIP'ed files (aka 'digital film sets') require prepared view data before you can open them in any Automation Engine Viewer.

When you want to see a composite view of all RIP'ed separations of a file, you do not need to multi-select these files and click 'View' (icon). You only need to select one of them and click 'View'. The viewer will automatically load the other separations.

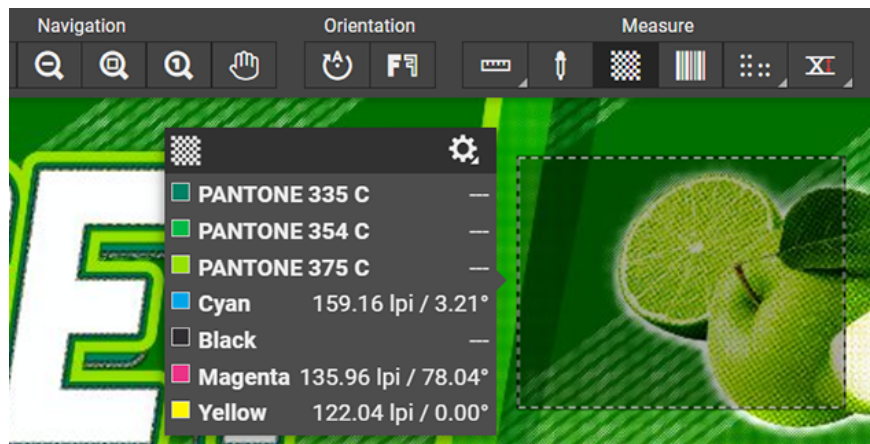
This mechanism does require that the *Prepare for Viewer task* was launched on all files together and that the option '**Automatic grouping of input files into digital film sets**' was enabled.

Measuring Screen Ruling and Angle

When viewing RIP data, you can use : the **Calculate Screening and Angle** tool.


Similar to the  *densitometer*, you can click a point or click-drag an area to be measured, or you can double-click  to make a measurement based on the current selection or, when no selection is active, the current view.

The results show up in a pop-up and in the *Channels panel*. Click  or use **Ctrl-Shift-U** to choose the measurement units.



Important: When no screen ruling or angle can be measured, no values are shown for that channel. This can be because there's no such data in that area or because there's only 100% of such data in that area.

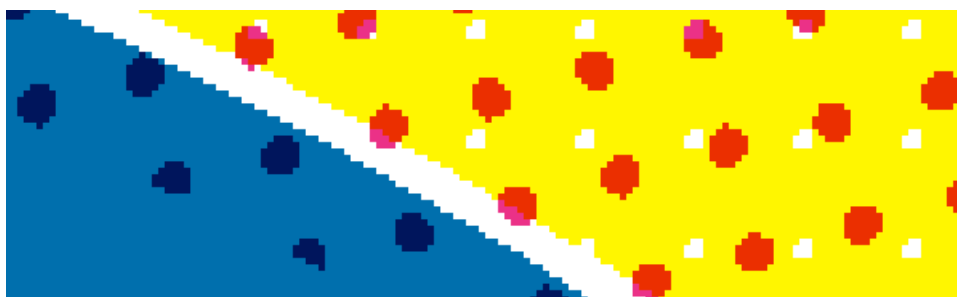
Changing the Orientation of the Screen Angle

In the pop-up, click  and, at the bottom, select the way measured screen angles should be shown: **Screen Orientation CW** (clockwise, downwards counting) or **Screen Orientation CCW** (counter-clockwise, upwards counting).

Checking Registration Errors while Viewing Dots

The [registration error](#) tool is also available when viewing RIP'ed data.

Here is an example where a white gap appears on a file that was trapped with 0.2 mm, while simulating a max error of 0.3 mm:



Extra Set of View Data for Print Simulation

When using advanced screening effects, it is possible that the dot on screen does not look like the dot when printed.

Esko RIPs allow creating an extra set of view data that simulate the printed dots. This is an extra option in the tab 'Output' of an Imaging Engine task ticket.

An example: On the left we see a Concentric screen at 27% (with its typical ring-shaped holes). On the right we see its print simulation, where the holes were filled with ink:



Learn more about creating print simulation view data in the chapter on [Imaging Engine](#), in [Inspecting Screens with Advanced Screening Effects](#).

2.16. Working with 3D

The left side of the top tools bar shows the **2D** **3D** buttons (except when viewing RIP'ed data). You can activate one of them or both. The 3D view can also show transparency, reflection, etc.

- Click and drag the mouse to rotate and swirl. Scroll to zoom in or zoom out.
- Use **Shift + drag** to change the object's position.
- Use **CTRL + drag** to change the lighting angle.

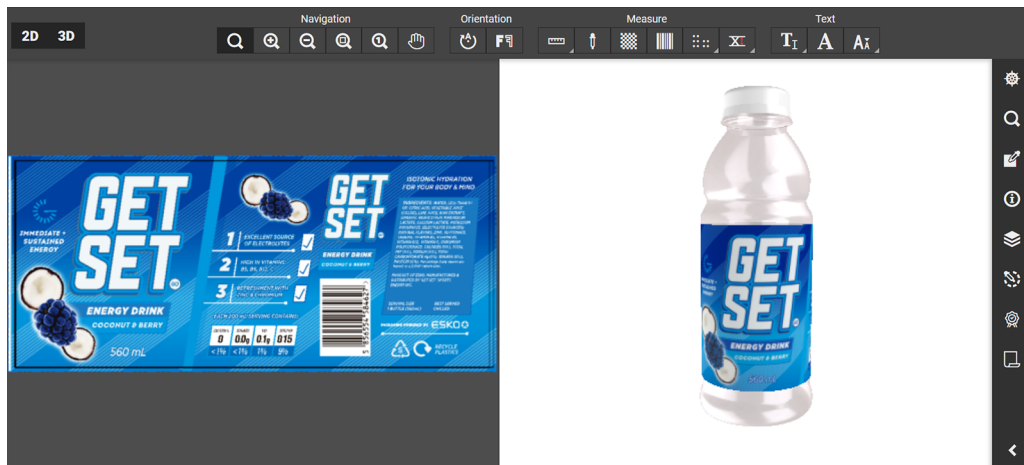
The 3D view supports various modes:

- You can view graphic files together with their 3D version.
- You can simulate a visualisation of the printed finishing of a graphic file.
- You can view 3D files themselves.

Some examples:

- **Viewing a PDF that links to a ZAE or DAE file.**

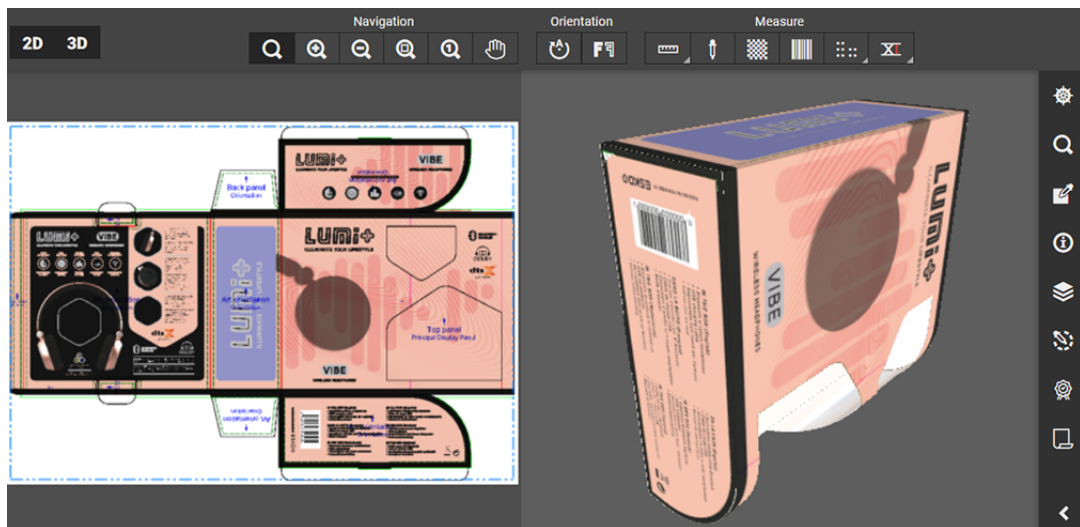
See an example of a PDF that has a valid link to a ZAE or DAE (Collada) file.



Important: The link to the structural file must be the name of the structural file only. Absolute or relative file paths are not supported.

- **Viewing a PDF that links to an ARD file.**

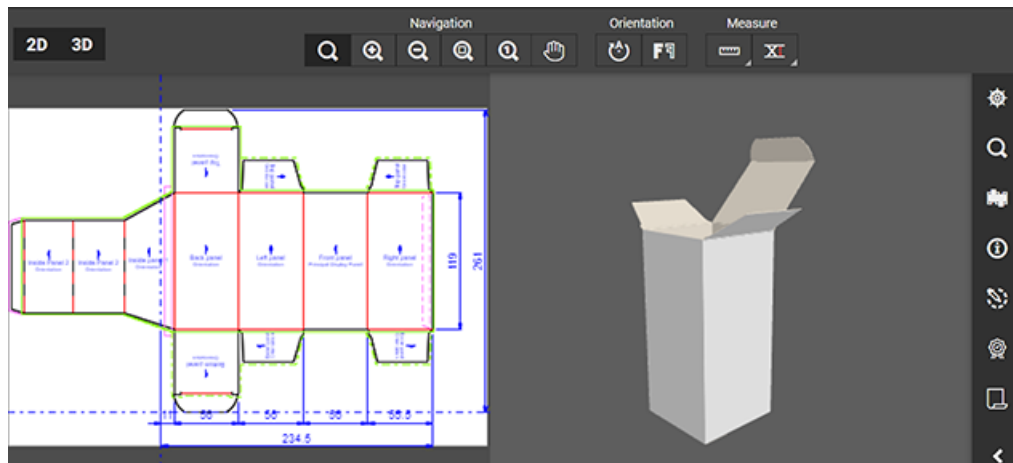
See an example of a PDF that has a valid link to an ARD (ArtiosCAD) structural design file.



Important: The link to the structural file must be the name of the structural file only. Absolute or relative file paths are not supported.

- **Viewing an ARD file.**

Opening an ARD file itself in this Viewer will, when the required structural is available, also show its 3D version:



- **Viewing a ZAE or DAE file.**

Opening a Collada file itself in this Viewer will also shows its 3D view.

See first a collada file with the graphics info embedded and then one without any graphics info:

Document: file://rdvmaedoc02/ExampleJobContainer/JOBS/123_GetSet_Lime/3D/GET SET_BOTTLE_GREEN.zae Version: 1(A) User: wde@rdvmaedoc02



Document: file:///rdvmaedoc02/ExampleJobContainer/JOB5/123_GetSet_Lime/3D/blue/GET SET_BOTTLE_OUTlines.zae Version: 1(A) User: wde@rdvmaedoc02

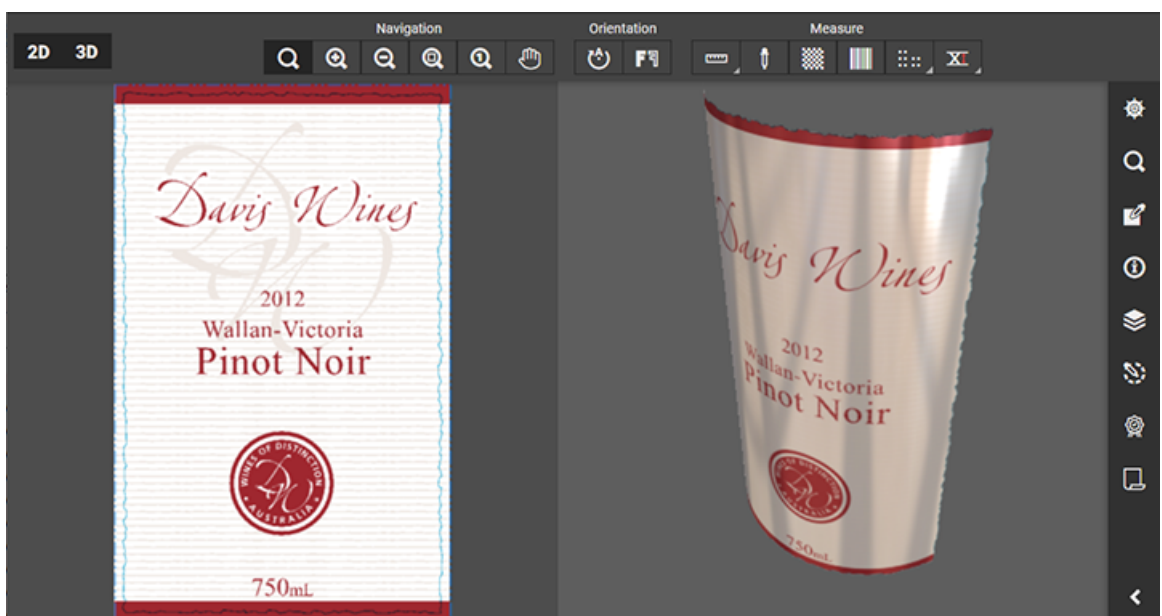


- **Viewing a print finishing simulation of a PDF.**

When you open a graphic file that does not have a link to valid 3D data, you can still request a 3D view but it will show a flat representation. An example:




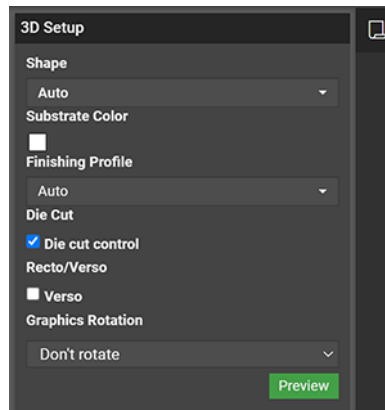
However, you can still define several 3D options to display a print finishing visualisation. An example:



Learn more in [3D Setup](#) on page 68.

2.16.1. 3D Setup

With the 3D view mode activated, click  in the right side tool bar to open the **3D Setup** widget. It offers a few parameters to create a finishing visualisation of the printed PDF.



This widget will be empty when the opened PDF already links to a 3D file (ZAE, ARD) which already includes most of these parameters.

- **Shape:** Select **Auto**, **Flat sheet** or **Curved Sheet** (which will ask to specify the **Angle** of the curvature in degrees).
- **Substrate Color:** Pick the color that the substrate should be simulated with.
- **Finishing Profile:** This Viewer can visualize 3D simulations of specific finishing effects, such as varnish or embossing. A finishing profile defines how the separations of a given PDF are mapped to these effects. You can here choose from nine profiles that each map to a set of characteristics of that print substrate and finishing steps.
- **Die Cut Control:** Choose to show the die cut lines in this 3D view.
- **Recto/Verso:** Choose this option to view the text written or printed on the front side and on the back side.
- **Graphics Rotation:** Choose a rotation angle that you wish to see in the 3D view.


Click **Preview** to apply and view the settings instantly in the 3D view.





2.17. Working with Annotations

All annotations in this Viewer are read-only.

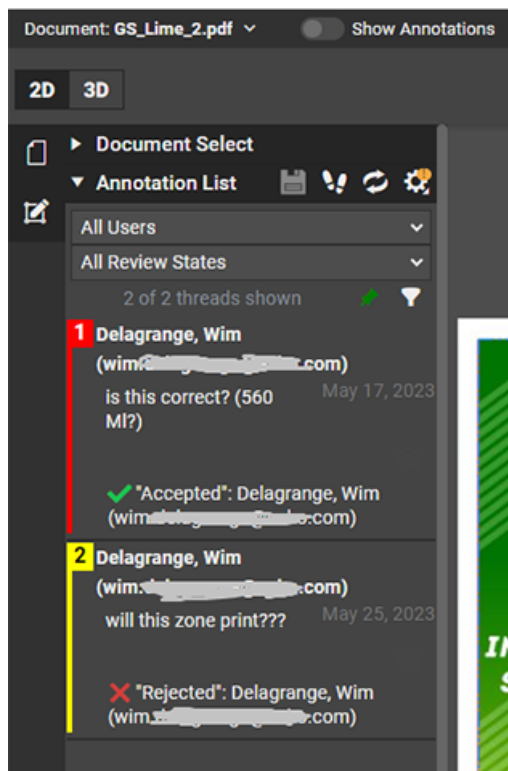
The Viewer can show 2 types of annotations:

- Approval workflow annotations. These are only available when using the Viewer's [latest technology](#).
- Inspection workflow annotations.

Click  to open the annotations widget. It offers these tools:

- : This icon is not used - annotations remain read-only.
- : Step through the annotations, including zoom-in.
- : Refresh, to pick up new or changes in annotations.
- : Settings regarding display, filtering, order.

Share & Approve Approval Annotations



The Viewer (and ArtPro+) will only be able to show the S&A annotations when the file includes a metadata link describing its place on Esko Cloud. Learn about this required link in [Task 'Upload Files to Share & Approve'](#).

Learn all about Share & Approve annotations

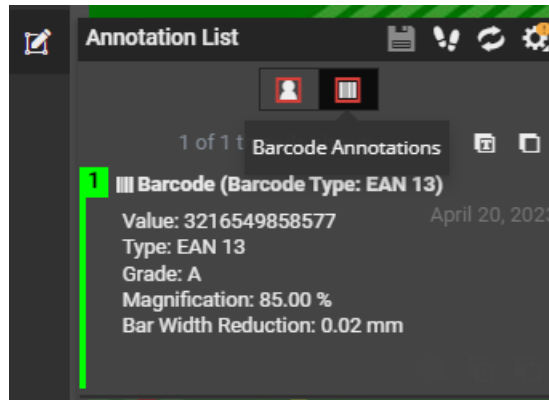
- in the [user guide of the S&A Viewer](#).
- by watching the eLearning video on the Esko Blended Learning platform <https://learning.esko.com/course/view.php?id=61>.

GlobalVision Inspection task annotations



Note: Learn more about the GlobalVision Inspection tasks and the XFDF files they create in [GlobalVision Inspection Tasks](#) on page 85.

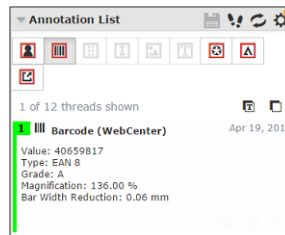
When viewing an inspected file in the Automation Engine Viewer, the annotations that these tasks may have created will be automatically visualized in the Viewer.




Learn more below in [Viewing Inspection task Annotations](#) on page 70.






2.17.1. Viewing Inspection task Annotations

When a document has XFDF type annotations, a group of buttons is shown in the Viewer's **Annotation List**. Select any of them to see their details.



Click the **User Annotations**  button to view or hide those of specific users.

The GlobalVision Inspection tasks can create these five different types of annotations:

-  **Barcode Annotations**
-  **Braille Annotations**
-  **Spell Check Annotations**
-  **Artwork Compare Annotations**
-  **Text Compare Annotations.**



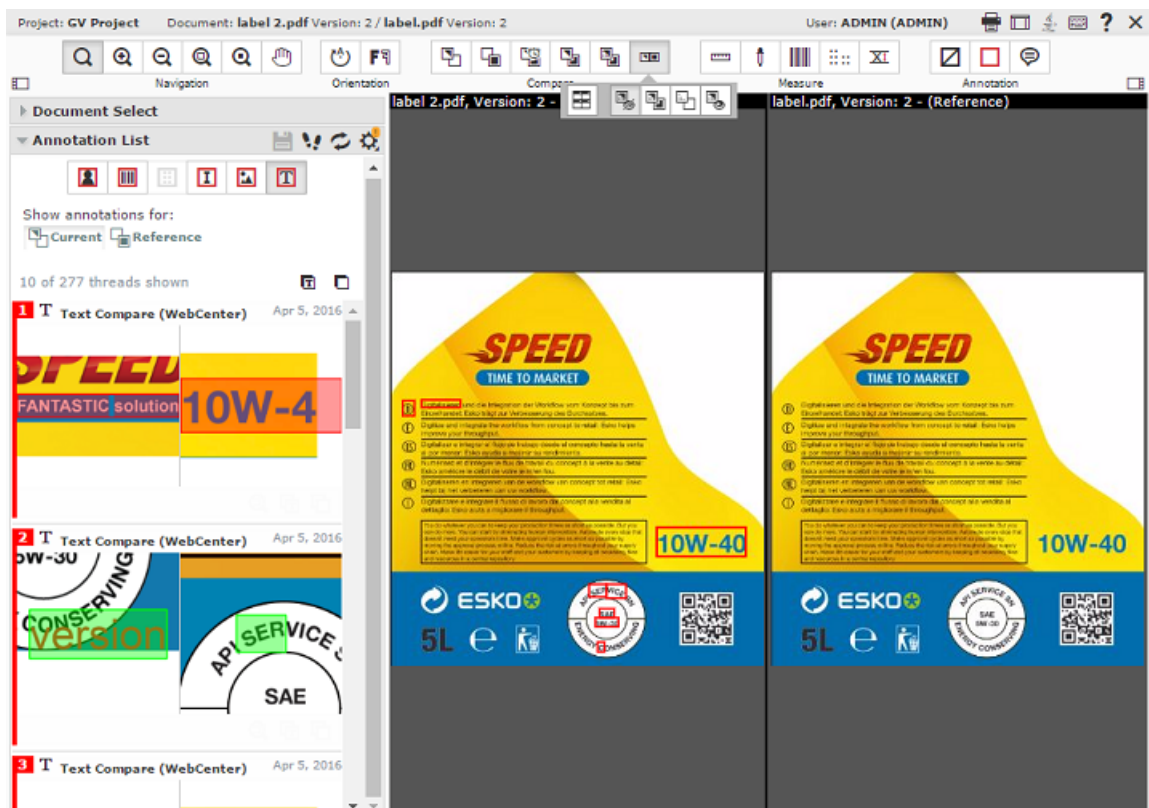
Note: Also these types of annotations are read-only. You cannot reply to them.

Some examples:

- You can view the **Braille**, **Barcode** and **Spelling** annotations on a single document.



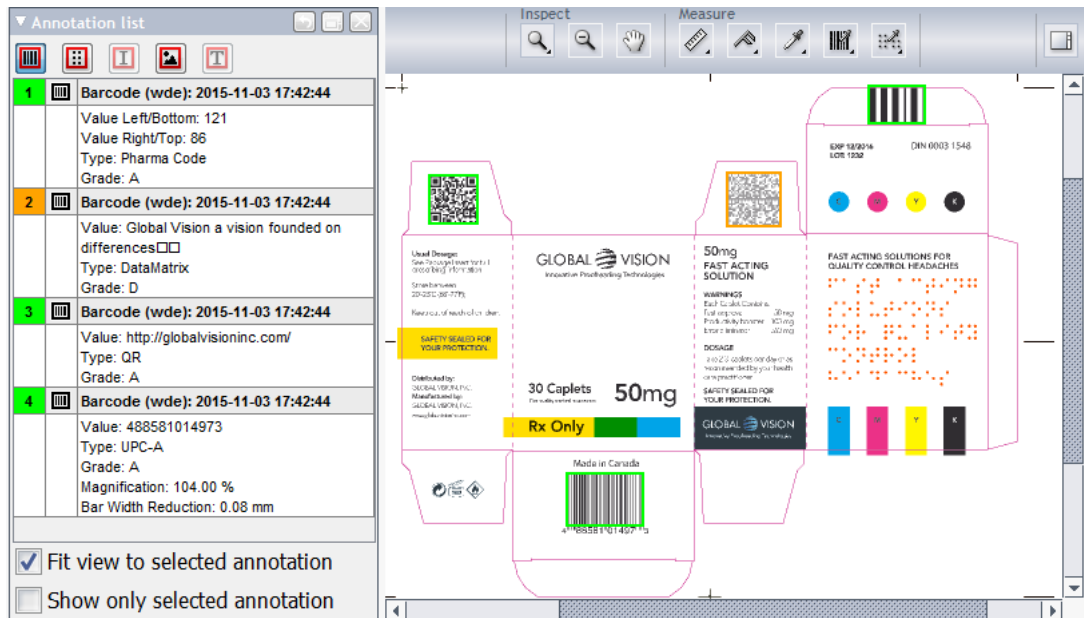
- **Artwork Compare** and **Text Compare** annotations are available when you used the functionality in the *Inspect Artwork* task.



Based on XFDF

The five "*Inspection*" tasks generate XFDF files that contain inspection annotations. These XFDF files are written in a hidden subfolder.

When viewing a file in the Automation Engine Viewer that has such XFDF data, they will appear in the **Annotation list**.



The Inspection Annotations List Panel

- Click its toolbar icons to choose the type of annotations that you want to see detailed. Tool-tips mention their type. They are greyed out when no such annotations are available.
- Each annotation is assigned a specific number and color.
- Select an annotation in the panel to see it's colored rectangle highlighted in the main window. When **Fit view to selected annotation** is selected, the window will also zoom in to that object or found difference.
- For multi-page files, the panel shows the annotations of all pages.
- Annotations can show as outdated when the modification date of the viewed file is newer than the date when the inspection task was run on that file (modification dates of any referenced files from the input file are not taken into account).

Learn more about the content of the annotations in the pages on their respective task: [Inspect Barcodes](#), [Inspect Braille](#), [Inspect Spelling](#), [Inspect Artwork](#), [Inspect Text](#).


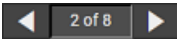



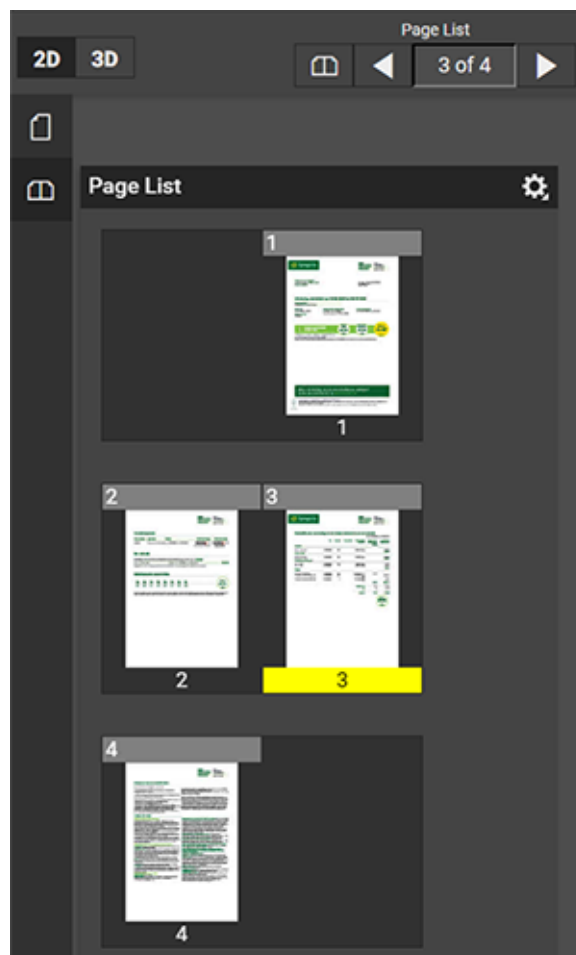
Attention: When you move or copy the input file using the [Copy or Move File](#) task or the [Publish on WebCenter](#) task, the hidden folder with the XFDF file will be moved as well. However, when you move the input file with other tools, Automation Engine is not aware and the XFDF file will not move along and will so not be found from the new file location.

2.18. Working with Multi-Page Files

Extra tools

When opening a multi-page file, extra viewing tools become available:

- In the top tools bar:
 - Click  to switch to a reader spread view (pairs of pages).
 - Use  to navigate or select a page.
- In the left side bar, click  to open a **Page List** widget.

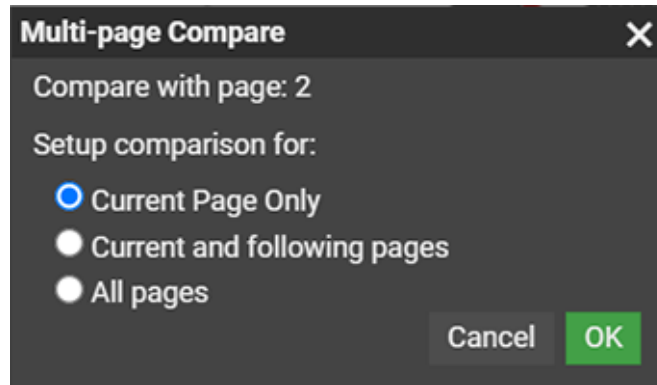


Although you can view two pages at the same time, there can only be one active page: the one with its number in a yellow highlight (its folio number). You can make a page active by clicking on its thumbnail.

In above example, the pairs of pages are displayed according to 'left edge binding': The first page and the odd numbered pages are displayed on the right. The even numbered pages will be on the

left. Your PDF may be different and show a 'right edge binding': the first page and the odd numbered pages are then displayed on the left, and even numbered pages on the right.

Comparing Multi-Page files



This dialog asks you to define how the pages of the active document should be mapped to the reference pages.


- **Current Page Only:** To map the current active page to the selected reference page. The other pages will follow page number mapping.
- **Current and following pages:** To map the current active page to the selected reference page. This mapping will be used for the next reference pages. If there are no following reference pages, the last one will be set as the 'Compare To' page.
- **All pages:** To map all pages of the two documents. The previous current pages will be mapped to the respective reference pages. If there are no previous reference pages, the first one will be set as the current page.

Select an option and click **OK**.

2.19. Keyboard Shortcuts (latest technology - browser)

On macOS, as a standard practice, replace below mentioned **Right-click** by **Ctrl-click** and replace **Ctrl-** by **cmd-**.

Ctrl-Down Arrow	Pan 1/4 window down
Ctrl-Left Arrow	Pan 1/4 window left
Ctrl-Right Arrow	Pan 1/4 window right
Ctrl-Up Arrow	Pan 1/4 window up
End	Go to last file or page
Home	Go to first file or page
Page Down	Go to next file or page
Page Up	Go to previous file or page
Right-click	Switches the zoom in tool to a zoom out tool

<u>Click or Ctrl-+'</u>	Zoom in by a factor 2
<u>Right-click or Ctrl-''</u>	Zoom out by a factor 2
<u>Keep spacebar pressed in</u>	To temporarily pan. Release to go back to previous active function.
<u>Ctrl-0</u>	Fit document in view
<u>Ctrl-A</u>	Select all
<u>Ctrl-D</u>	Clear selection
<u>Ctrl-L</u>	Auto align
<u>Ctrl-M</u>	Mirror view
<u>Ctrl-S</u>	Toggle between current and previous view (in difference view mode)
<u>Ctrl-U</u>	Toggle size units
<u>Ctrl-Shift-U</u>	Toggle resolution and screen ruling units
<u>F5</u>	Zoom in
<u>F6</u>	Zoom out
<u>F9 or Double click</u> 	Fit document in view

3. PitStop Preflight

3.1. Preflight Concept

Preflighting can be done for several reasons:

- Just to check a file (no "fixes" done).
- To check and correct ("fix").
- To do more than just fixes, to edit a file through one or many "actions".

There are also several ways to make preflighting a part of your workflow:

- You can send the design back for others to correct it.
- You can correct what was found to be wrong and continue the workflow.
- Right before sending the file to output, you can do (another) final check, now to prevent outputting wrong data.

Tools

Automation Engine's *PitStop Profile Editor* is where you can create and manage

- PitStop **Profiles**: A set of rules that a file's content should adhere to.
- PitStop **Action Lists**: A set of changes you want to execute on a file.

In Automation Engine, you can use these profiles or action lists by using the *Preflight with PitStop task*.

3.2. The PitStop Profile Editor

You can create and manage PitStop PDF **Profiles** and **Action Lists** in Automation Engine's **PitStop Profile Editor**.

You can find an extensive documentation on PitStop on <https://www.enfocus.com/en/support/manuals/pitstop-server-manuals>.

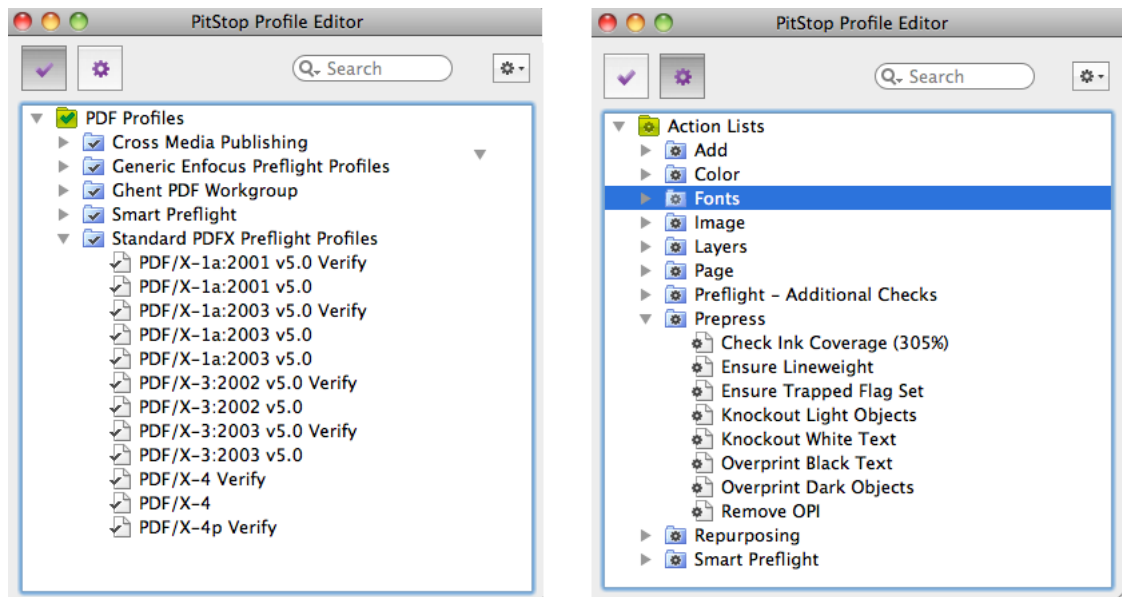
We here limit our description to topics specific to Automation Engine:

3.2.1. Setting Up the PitStop Profile Editor

This tool is one of the client tools that you can download from the [AE Server ADMIN web page](#).

1. Open this **Server Web Page** by entering `http://<name of your server>` or `http://<name of your server>:9999` in the address field of your browser. You can find this tool in the section **Client Apps**, in the page **Tools**.
2. Click **Download** to install the **PitStop Profile Editor** on your client computer.
 - On Windows:

1. Double-click the downloaded Automation Engine PitStop Profile Editor.exe.
 2. Click **Next** and click **Yes** to confirm the installation.
 3. **Browse** to the install location, by default C : \Esko.
 4. Click **Next** and click **Finish**.
- On Mac:
 1. Double-click the downloaded Automation Engine PitStop Profile Editor.dmg.
 2. Double-click the resulting .pkg file.
 3. Click **Continue** and click **Change Install Location** to specify an install location.
 4. Click **Install** and fill in your credentials to confirm.
 5. When "**The installation was successful**" appears, click **Close** to finish the installation.
3. Start the application from:
 - (Windows) **All Programs > Esko > Automation Engine PitStop Profile Editor > PitStop Profile Editor**.
 - (Mac) **Applications > Automation Engine PitStop Profile Editor > PitStop Profile Editor**.
 4. In **Edit > Preferences**, fill in the host name of your Automation Engine server. This is needed to make this tool see the profiles and action lists on that server.






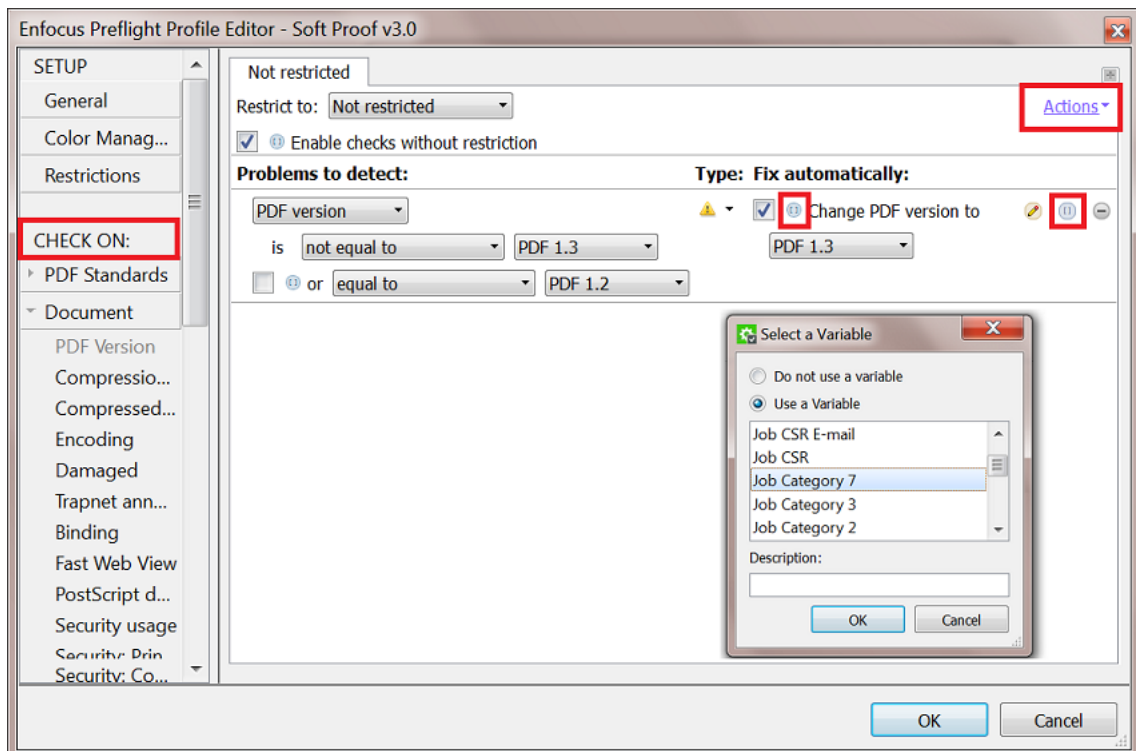
3.2.2. Smart Preflight: Using Variable Names in PitStop Profiles

Just like when using task Tickets, you can reduce the number of profiles and action lists by using SmartNames . In PitStop terminology, this concept is named "**Smart Preflight**".

Follow these steps:

1. Use the Pilot to create SmartNames. Learn more in [Creating a SmartName \(General\)](#).

2. In the **PitStop Profile Editor**, select one of the **PDF Profiles** and click on . Choose **New** and choose any of its options.
3. In the open profile, enable one of the options in the category **CHECK ON**.
 - a) Choose any of the **Available Checks**.
 - b) Click on  and choose **Enable Variable Names** ('Variable Names' is PitStop's term for SmartNames).
4. Click on  the blue SmartName icon to open a list with all global SmartNames.



5. Select a **Variable** (SmartName) and click **OK**.

You can use a SmartName in fields that require

- text
- numbers
- measurements with a size in "mm", "cm", "in", "p" (picas) or "pt" (points)



Attention: Measurements needs to include the unit! For example "210 mm". When no unit is specified, it assumes **points** as unit.

For example, to represent A4 dimensions, the SmartName should resolve to "210 mm" and "297 mm". If the SmartName resolves to "210" and "297", the dimensions will be seen as 74 mm x 105 mm .

- a toggle that sets a check-box to on or off.

- Off = a SmartName value "0", "FALSE" or empty.
- On = a SmartName value "1", "TRUE" or anything else.

3.3. Preflight with PitStop Task

Basics of the Preflight with PitStop task

The **Preflight with PitStop** task allows you to preflight a PDF file in Automation Engine using technology from Enfocus.

This task uses the latest *Enfocus PitStop Server preflight technology* (its version number is mentioned in the [report](#)). [This KB article](#) shows which version of PitStop is used internally in this task.



Important: While Automation Engine shares the same components as Enfocus PitStop, not all functionality is available (in the same way). Note these limitations:

- In the Automation Engine PitStop Profile Editor, it is not possible to use the font picker and color picker.
- The action 'Select art and create outline path' is not supported by this task.



Attention: When the input file is a normalized PDF, the task does not allow to run **profiles** with the option "**Allow Fixes**" selected. It then also does not allow to run **action lists**, regardless whether these actions change the file or not.

Preflight Result States

As a workflow step, this task by default offers four output pins where your input files can end up (hover your cursor over a pin to see its default name):



- **Finished OK:** When the preflight resulted in an OK status (no warnings or errors were found).
- **Finished with Warnings:** When the preflight resulted in warnings (but no errors).
- **Finished with Errors:** When the preflight resulted in one or more errors.
- **Error:** When the task encounters an error unrelated to the preflight status.

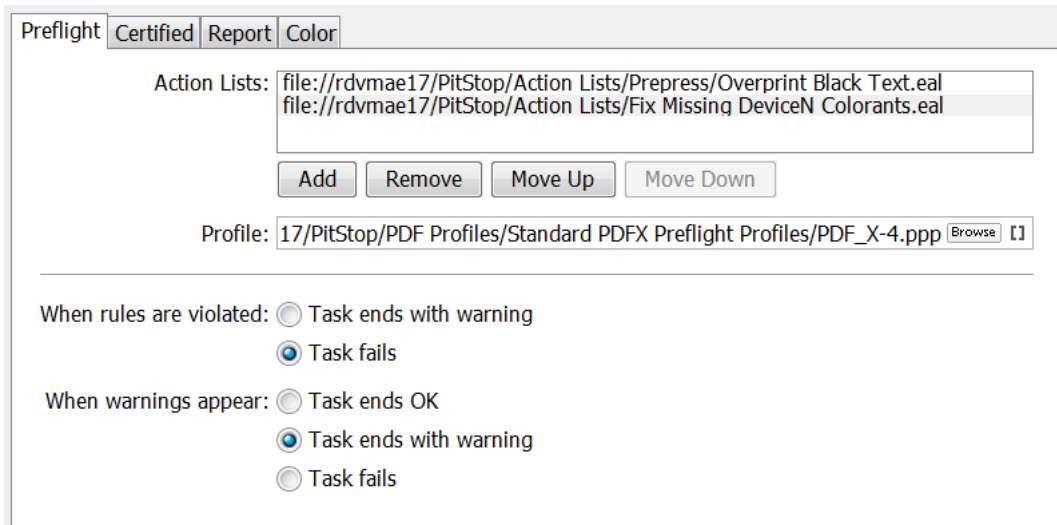
Learn more about controlling task statuses [here](#).

3.3.1. Preflight Tab

You can use this task to run one or more **Action Lists** and/or run a preflight **Profile**.



Attention: An Enfocus preflight profile can also contain action lists.



You can create action lists and profiles in the [PitStop Profile Editor](#) that comes with Automation Engine.

- **Action Lists:** Use **Add** or **Remove** to define which action lists you want to run. Use **Move Up / Down** to change the order in which they will be executed.
- **Profile:** If you want to check the PDF against a profile, select a preflight profile from the list.



Note: You can use **Variable Names** inside profiles or action lists. This makes the profile or action list 'smart'. Learn more about this concept of **Smart Preflight** in [Smart Preflight: Using Variable Names in PitStop Profiles](#) on page 77

Extra Task Status Options When Used as a Single Ticket

When you open a single ticket (when it is not a step in a workflow), extra options appear (as in above screen shot):

- In **When rules are violated**, choose what happens when preflighting results in errors: **Task ends with warning** or **Task fails**.
- In **When warnings appear**, choose what happens when preflighting results in warnings: **Task ends OK**, **Task ends with warning** or **Task fails**.



Attention: Learn more [here](#) about controlling the statuses when this task is a workflow step.

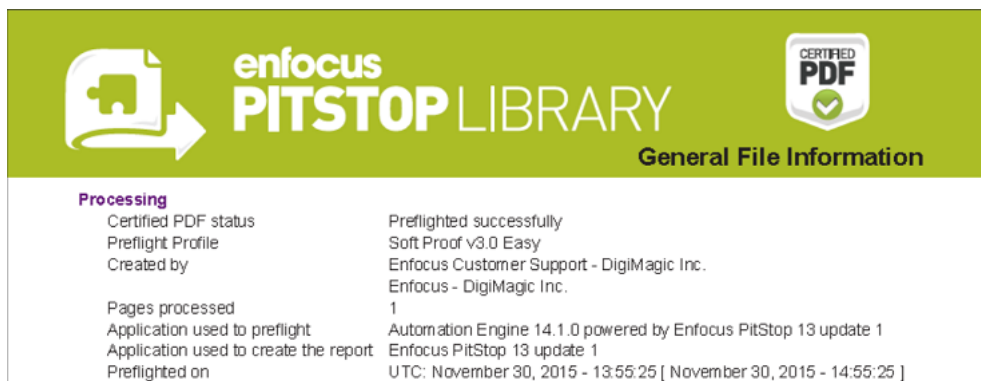
3.3.2. Certified Tab

Concept of Certification

Certifying a PDF means that you embed a 'proof of preflight' in the PDF. The generator of a PDF can so embed a proof of having done a preflight with a specific profile.

The receiver of that PDF (for example a printer) can then check whether the generator did this required QC step before sending him that file. Some industry partners may even only accept PDF files with specific PitStop Certifications.

Here is an example of how a certification is documented on board the preflight report:



Whereas a regular PDF only contains Acrobat metadata, an Enfocus Certified PDF contains a lot of additional information ("Enfocus metadata"), such as the used preflight profile and the version history.

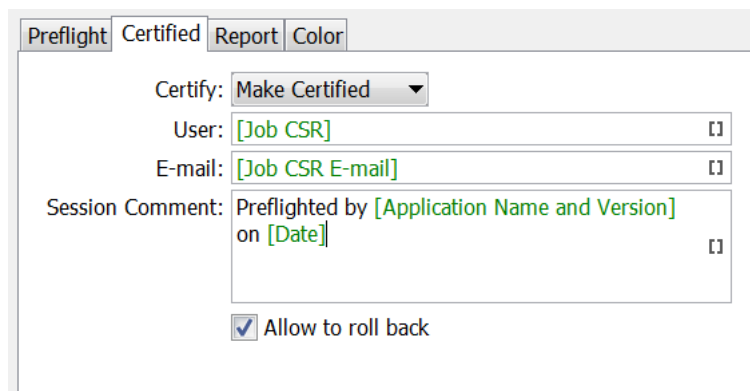
You can also use this task to remove an (earlier made) certification or to insist to keep it.

The certification itself can be checked separately by the [Verify Certification task](#), for example at the start of the workflow at the printer.



Note: To learn more about the certification concept and workflow, search for "Understanding Certified PDF" in the [PitStop \(Pro / Server\) reference guides](#).

Options



- Set **Certify** to
 - **Make Certified** to certify the file according the profile selected in the tab "Preflight".
 - **Keep Certified** to preserve the existing (un)certified status of the file.
 - **Make Uncertified** to remove all the certified information from the file.

When choosing **Make Certified** or **Keep Certified**, you can define these extra parameters:

- Add a **User** name, **E-Mail** or **Session Comment** to the certified PDF.

- **Allow to roll back:** Enable this if you want the users to be able to roll back to previous versions of the file (for example to compare). When you disable this, the certification history will still be in the file but users can not roll back to previous versions.



Attention: Because the **roll back** option stores extra data, the PDF file size can increase drastically.

3.3.3. Report Tab

- Decide if you want to **Generate a report** and where this **Report** should be written.
- **Settings for the generated report:**
 - **Units:** Choose from **Inch**, **mm**, **cm**, **Point** or **Pica**.
 - **Language:** Choose one from the list.
 - **Type:** Choose if you want a PDF or XML report, or both.

Preflight Report Contents

A preflight report contains the **Errors** and **Warnings** found during the preflight, and also lists the **Fixes** it may have done.

An example of the first page of a PDF report:



Errors were found on page 1 and in general document properties

- Document contains layers
- Document uses 0 separations, should be equal to 1
- Transparent objects have been found (1x on page 1)
- Resolution of color or grayscale image is less than 250 dpi (1x on page 1)
- RGB color is used (1x on page 1)

Warnings

- Compression ratio of image is more than 10 (1x on page 1)

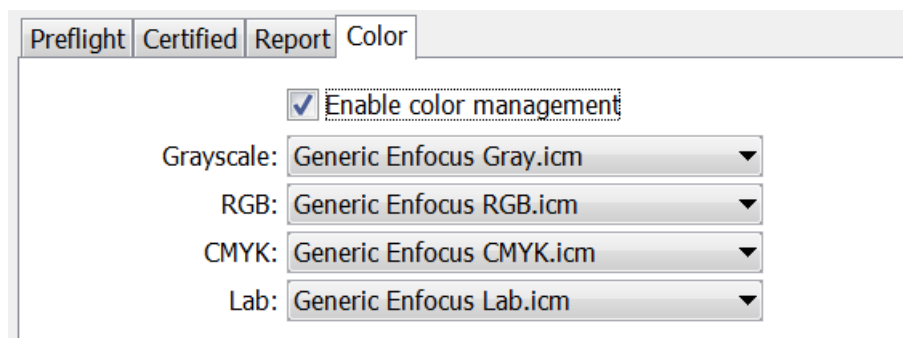
Fixes

- Removed marked content (2x on pages 1-2)
- Removed form fields (1x on page 1)



Tip: You can make reports appear on their own task status output pin. Learn more in [Configuring Output Statuses](#).

3.3.4. Color Tab



Preflighting often includes color conversions. Unlike normalized PDFs, native PDFs can contain objects in RGB or device independent color spaces.

When the action list or profile includes a color conversion, you can here specify the default ICC profile that will be used for objects that were not tagged with one yet.

To do so, select **Enable Color Management** and choose an ICC profile for the object types in **Grayscale**, **RGB**, **CMYK** or **Lab**.

3.4. Verify Certification Task



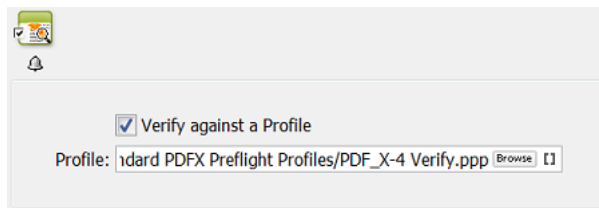
Note: The concept of certification is described [in this page about the tab 'Certify' in the 'Preflight with PitStop' task.](#)

Certifying a PDF stores the preflight information on board the PDF file. This includes the preflight profile, the preflight report and the information whether the PDF has subsequently been modified.

If you do not re-certify a PDF after it has been modified, it is no longer certified.

You can certify a PDF using **PitStop Pro**, PitStop **Server** or by using the ['Preflight with PitStop' task](#).

The **Verify Certification** task checks if the PDF file was certified to comply with the settings of the profile that you indicated in **Verify against a Profile**.



The task's status will be **'Verification OK'** when the profile that was used to certify the PDF is identical or stricter than the profile selected in this task.

4. GlobalVision Inspection Tasks

4.1. Introduction

Automation Engine offers a set of tasks that use technology from the company [GlobalVision](#):

- [Inspect Artwork](#) compares files.
- [Inspect Barcodes](#) detects and decodes barcodes in the file.
- [Inspect Braille](#) detects and decodes braille in the file.
- [Inspect Spelling](#) checks spelling (of a chosen language).
- [Inspect Text](#) checks text rules.

Profiles

Several of these tasks ask you to select an inspection **Profile**.

You can change and create such profiles using the standard profile editor from GlobalVision.

These Tasks Require a Software License from GlobalVision

To enable these **Inspection** tasks, you need to get a license from GlobalVision and then have it installed on Automation Engine. You can also purchase this license via Esko, as a subscription.

Learn more in [the Configure panel where you do this](#).



Attention: Your GlobalVision **license is checked every time you launch** an inspection task by GlobalVision. This means that your server needs internet access to run these tasks.



Note: Since AE 21.03, the GlobalVision SDK is more up to date, the licensing activation was simplified and the profile editor now needs to be the standard one from GlobalVision.

4.2. Recurring Options in GlobalVision Tasks

The following options are available in several GlobalVision tasks:

Resolution

Several tasks first rasterize the files to RGB files and then inspect that data (PNG files). This option allows you to define the resolution of these RGB images. The minimum supported resolution is 72 ppi, the maximum is 2400 ppi.



Note: The default resolution is 300 ppi. Do not set this higher when it is not necessary. Creating high resolution raster data is a significant load for the server. See this other note with [specific information about a different resolution that is used to inspect barcodes](#).



Note: Low resolutions like 72 ppi may not be good enough to detect differences. Especially braille needs a higher resolution.



Note: These RGB images are written in a central temporary folder that is automatically deleted when the task ends successfully.

Region

This option allows you to indicate the region in the master file that you want to have inspected. All artwork outside that region will be ignored during the inspection. This region can be rectangular or have the shape of a (die-)line.

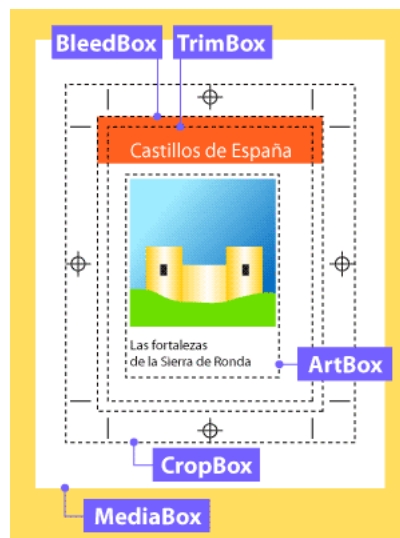


Tip: Smaller regions will also create smaller rasterized data and so speed up the inspection. This is also true when you select or ignore specific inks or layers (see below).



Note: In case of the *Inspect Artwork task*, this is the region of the master file that you want to compare with the sample file(s). Adding to below mentioned general rules, learn more specifics in *Compare Artwork Tab* on page 92.

Several regions match to the standard PDF page boxes:




- **Trim Box.** The area after cropping to an area with all content. When no trim box is defined, the crop box will be chosen. When no crop box is defined, the media box will be chosen.
- **Media Box.** This is the entire "real" page and may be larger than the actual crop box.
- **Visible Objects.** Automatically crops to the area with all content, starting from the crop box.
- **Crop Box.** Adobe Acrobat uses this size for screen display and printing. When no crop box is defined, the media box will be chosen.
- **Shape.** Locates the largest object in center of the master file and uses that shape as region. This might be a rectangle or a circle (labels, pages...) or a specific shape typically defined by a die-line (boxes). An example:



Alternatively, you can define the shape in the **Options...** dialog:

- Define shape by **Inks**. Use this when you want to specify the shape by using the bounding box of all data in the here defined ink. You here typically define the ink of the die line. All objects inside the shape (contour) that can be formed out of the data in that ink will be inspected. Process inks are not supported to define a shape.

Click on  to get a list of the inks of the input file. Use Ctrl/cmd- or Shift-select to select multiple inks.



Note: In case of the *Inspect Artwork task*, although you here selected them from the input file, the ink(s) will serve to find a region in the master file.



Note: The input field is not case sensitive.




Attention: When specifying multiple inks (for example "die, cut, knife"),

- only the first one of which a shape can be made will be used.
- when none of them can be used as a shape, the task will result in an error.

- Define shape by **Layers**. Similar to above **Inks**. All objects inside the shape (contour) that can be formed out of the data in that layer will be inspected.

Ignoring Ink or Layers

Ignoring an ink or layer means that their data will not be part of the raster image and so not part of the inspection.

- **Ignore Inks.** Click on  to have them read from the task input file (you can multi-select in this dialog). Use this for example if you have made a difference in the ink used for text. In such case, you could here choose to ignore that ink to check if there are any unwanted differences in the other inks.
- **Ignore Layers.** Same as above "Ignore Inks", but to ignore layers. You can for example ignore the layer that contains the images.



Attention: It is also common to here ignore the ink or layer that was used to define a region based on a shape. For example: inspect the region defined by the shape of the ink "die line" and also here also add the ink "die line" to ignore it from the comparison.

Report

All "Inspect" tasks write report(s).

- **Report File.** Define the report's location and name. When you use SmartNames to define a relative path, the report will be created relative to the parent folder of the input file. The task will fail when the report tries to overwrite the input file.



Tip: You can configure an extra output pin to see the report appear on its own pin. Learn more in [Configuring Output Statuses](#).

- **Report Type.** Choose whether you want a PDF and/or an XML report.
 - A PDF report contains several pages, showing and describing what it found during the inspection. The first page shows the bounding box of the region that was inspected.

The first page of the report shows a preview of the RGB data. It also shows bounding box around the region that was inspected (in pink). When any inks or layers were ignored, this data will also not be shown here.
 - An XML report contains the file URLs and details of what was found during the inspection.
- **Add annotations output pin.** This will add an extra workflow step output pin so it becomes possible to launch specific tasks on the XFDF annotation file (if the type of task writes it). learn more about working with these annotation files in [Inspection Results as Annotations in Viewers](#) on page 88.

4.3. Inspection Results as Annotations in Viewers

The five GlobalVision Inspection tasks generate XFDF files that contain inspection annotations. These XFDF files are written in a hidden subfolder.

These annotations show up in the Automation Engine Viewer (and in the WebCenter Viewer). Learn more in [Working with Annotations](#) on page 68.

4.3.1. Seeing Inspection Annotations in the WebCenter Viewer

There are 2 ways to see the annotations in the WebCenter Viewer:

- When publishing an inspected file from Automation Engine to WebCenter.
- When launching the inspection from WebCenter itself.

Publishing an Inspected File to WebCenter

When you ran an inspection task in Automation Engine and you then use the [Publish on WebCenter task](#), you can select its option **Publish Annotations** to make sure that also the XFDF file is published to the chosen WebCenter project.

When you then view the document in the WebCenter Viewer, the annotations will also be visible.

Launching the Inspection from WebCenter

In this case, WebCenter triggers the inspection(s)(and creation of the XFDF). It does this as part of a **WebCenter Task** that triggers a workflow on its own OBGE (or on an external Automation Engine).

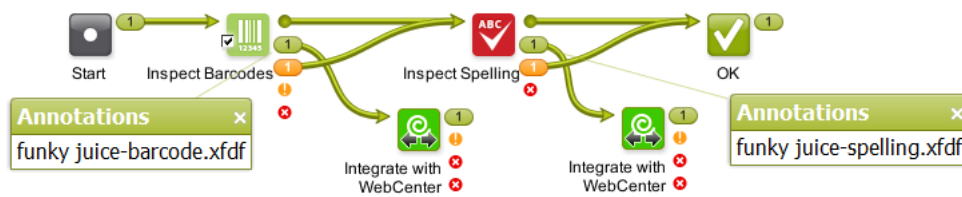
We illustrate this workflow by means of an example:



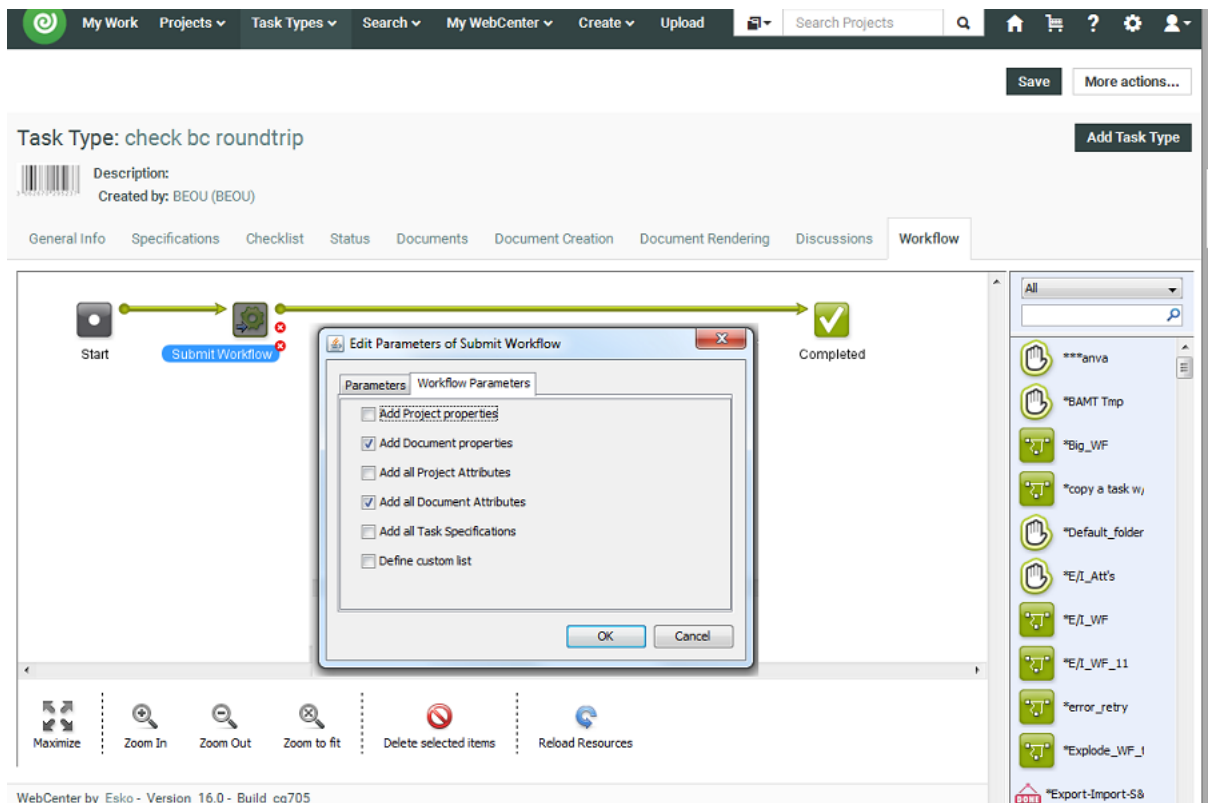
Attention: This example assumes you are familiar with creating WebCenter Tasks. Learn more in the [WebCenter documentation](#).

Here are the main steps to set up this workflow:

1. In your WebCenter project (template), define a WebCenter **Task** that contains a **Submit Workflow** that will launch the inspection task(s) on a graphics file.
2. The **Submit Workflow** step in that WebCenter **Task** links to a workflow that uses inspection tasks where you configured an extra output pin in for the annotation file. This XFDf file is so forwarded to the **Integrate with WebCenter** task (more details on this task in below steps). For example:



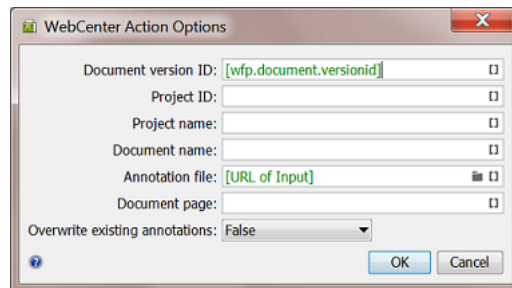
3. The **Submit Workflow** step in that WebCenter Task needs to use the **Workflow Parameters "Add Document properties"** See an example:



Optionally, also use **Add all Document Attributes**. This can for example be useful to communicate the document's language to the spelling inspection.

4. In workflow that is being submitted, in the **Integrate with WebCenter** ticket(s), the **action "Upload Document Annotations"** is used.

In the **Options** of that action, use the workflow parameter `[wfp.document.versionid]`. This is needed to associate that (set of) annotations with that document version. An example:



4.4. Inspect Artwork



Note: This is one of several inspection tasks that use technology from the company [GlobalVision](#). Learn about the general concept and setup in the [Introduction](#) on page 85.

4.4.1. Concept and Workflow

Concept

This task compares one or more 'sample' files to a 'master' file. It selects the defined region of interest, aligns the files and then compares them. It supports multi-page inspections as well as step & repeat files.

Comparing files is typically done

- to make sure files are identical when you ignore a specific ink or layer.
- to make sure only the intended differences are there.

The tasks detects these types of differences:

- Text changes (moved, missing, broken, added)
- Font changes (size, style)
- Graphics (deletion, insertion, change)
- Color
- Registration

Technique

The task prepares RGB raster data of the sample and master file at a custom resolution and then compares that raster data.

This task compares colors, meaning the way as if a human eye or a camera or a scanner looks at the files. For example if the task sees that a green object is the exact same color in both master and sample file, it will not see this as a difference, no matter what separations that green color is made up of.



Note: In the Automation Engine Viewer, the default compare mode is one that compares separations ('channels'). In that mode, the Viewer will detect a difference if the same green object is in one file made up of a Pantone ink and in the other file a mix of CMYK. The Viewer also offers the mode to compare HSV values, which is similar to the mode this task uses.



Note: This task is similar to the [Compare PDF \(Classic\)](#) task.

The found differences are mentioned in the report file but are also written as an XFDF file (a standard Acrobat comments file). When you open the inspected sample file in the Automation Engine Viewer, the viewer will read this XFDF file and show its contents in the annotations list. Learn more in [Working with \(GlobalVision\) Annotations](#).

Smart comparing

The task automatically uses these features:

- Rotation detection. The task detects if the sample file is a rotated version of the master file and takes this into account when inspecting.
- Skew correction and alignment. This is for example useful when one of the files is a scan that was slightly angled when being scanned.
- Repeat detection. The task automatically detects if a file is a repeated area inside the other file. Such detected repeats are mentioned and shown in the report file.

Supported File Types

The sample and the master files can be any of these file types:

- PDF
- Normalized PDF
- PDFPLA
- AI Adobe Illustrator (when PDF compatible)
- TIFF (1-bit and 8-bit. Multichannel images are not supported)
- LEN
- JPEG
- PNG
- BMP
- Folder

Detailed Reporting

A detailed PDF report lists and visualises the found differences. An XML report details the coordinates of where differences were found. Learn more in [Report Tab](#) on page 93.

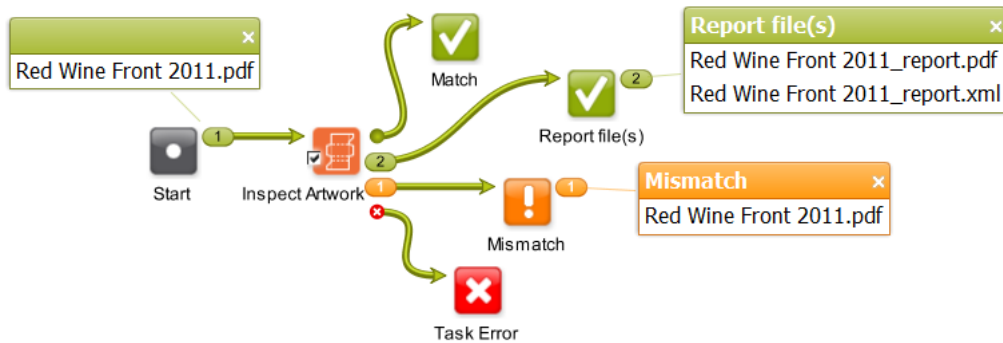
Status and Workflow Output Pins

The sample file (task input file) is also the task output file. This makes it easy to continue your workflow with this file. It will be placed on one of these output pins:

- **Match.** When no differences were found.
- **Mismatch.** When one or multiple differences were found.

- **Error.** When the task itself could not function properly. For example when no *profile* was selected, when the master file could not be found or when the files could not be matched.

See an example (to help visualize the output pins, an end status step was created with the same name as the status):



Tip: To get that extra output pin for the report(s) as in above example, you will need to configure it as mentioned in [the page about the inspection report](#).

Integration with Automation Engine Viewer

When opening the sample file in the Automation Engine Viewer, the area where differences were found are shown in red rectangles and automatically become part of the **Annotations list**. Learn more in [Working with \(GlobalVision\) Annotations](#).

4.4.2. Compare Artwork Tab

- **Compare With.** Indicate the master file you that want to compare your input sample file(s) with.



Note: This field needs a full URL (path). When using SmartNames, make sure you also define a file extension.

When the task input is a folder, you here also need to define a folder. The first file in the master folder is compared with the first one in the sample folder. The second master one to the second sample one, etc. When the amount of files in the input folder is not equal to that in the master folder, the task ends in error. The task does not check files in subfolders.

- **Compare Resolution.** This option is present in several GlobalVision tasks. Learn more in [Generic Option "Resolution"](#).
- **Profile.** An inspection profile is a collection of parameters that define how (precise) to inspect. Profiles differ (slightly) in thresholds of what you consider as differences. They are centrally located *.ini files that you can adapt using the [GlobalVision Profile Editor \(OUTDATED\)](#) on page 105. You can there both adapt the default inspection profiles or create your own.



Attention: The profiles listed below are the default ones from GlobalVision. You might use a (test-)version that already offers other profiles that were fine-tuned for Esko prepress workflows.

- **None.** The task will end in error when you do not select a profile.

- **Booklet.** Choose this setup to compare multi-page files. It will compare all pages of the sample file with each same-number page of the master-file. Alternatively, for a slightly more precise inspection, choose **Digital** and select **Multipage**.
- **Digital to Scan.** Choose this profile to compare a digital artwork file to a scanned master file.
- **Digital.** Choose this profile to compare revisions or variations of digital artwork.
- **Proof.** Choose this profile to compare files that are supposed to be the same. This is typically to compare digital artwork against a digital proof. Also use it to compare a proof against a printed hard copy. This profile uses refine, auto distort and smoothing to compensate for changes in the image.
- **Scan to Scan.** Choose this profile to compare scanned files.



Note: The parameters of the chosen profile are listed on the last page of the [report](#).

- **Multipage.** By default only the first page of a document is inspected. Select this option to compare all pages of the input multi-page sample file to each same-number page of the master file.



Note: The task will end in error when the sample file and the master file do not have the same number of pages.



Note: This option is ignored when the profile 'Booklet' is chosen (or any other custom profile that already uses the multi-page parameter in its configuration).

- **Region.** This option is present in all GlobalVision tasks. Learn its basics in [Generic Option "Region"](#). As this task has both a master and sample file(s), these following notes are important:



Note: When using a region based on a **Shape**, the task looks for the content of the defined shape in the master file and looks for that similar content in the sample file. This also done when choosing regions based on **Trim** or **Media Box**: the content in that box of the master file will be looked for in the sample file and then compared.



Attention: Even when you select an ink or layer from the list of those in the input sample file, this ink or layer is used to find a shape in the master file.

- **Ignore Inks** and **Ignore Layers.** These options are present in several GlobalVision tasks. Learn more in [Generic Options "Ignore Inks or Layers"](#).
- **Configure.** This button opens the item in the configure panel where you can activate the software license that you acquired from GlobalVision.

4.4.3. Report Tab

This option is present in several GlobalVision tasks. Learn more in [the Generic Option "Report"](#). We here only mention some specifics for this task.



Attention: The last page of the PDF report summarizes the parameters of the profile chosen in the task ticket. Any parameters that were chosen separately in the Esko ticket (like resolution), and that overruled parameters in that profile, are not mentioned here. This means that the here mentioned 'Desired DPI' is possibly not the one that was really used for inspection.

4.5. Inspect Barcodes



Note: This is one of several inspection tasks that use technology from the company [GlobalVision](#). Learn about the general concept and setup in the [Introduction](#) on page 85.

4.5.1. Concept and Workflow

This task inspects all barcodes in a file. It scans and decodes them and verifies their grade (quality level) against the minimum grade chosen in the ticket.

A barcode quality problem could for example be that it is too small or it could have too little color contrast, a QR code could miss some parts, etc.

You can also check if the barcodes defined in the Product or Job database are present in the file.

The main advantage of this task is that you do not have to open these files and check them visually or use a device to verify them. The detailed report is also a useful step in your quality control process.



Note: You can use the [GlobalVision Profile Editor](#) to compare barcodes in a master and sample file.

This task also checks the barcode "quiet zones". For 2D barcodes, a specific grade is given for these zones, one for each side, 100% when the zone is big enough.

Supported Barcodes



Attention: Add-on codes and composite codes are not supported. UPC-A or EAN-13 add-on codes are recognized but are not graded.

- **1D/Linear codes:**
 - PharmaCode
 - RSS/GS1 Databar Omnidirectional Stacked
 - RSS/GS1 Databar Expanded
 - RSS/GS1 Databar Limited
 - RSS/GS1 Databar Stacked
 - RSS/GS1 Databar Expanded Stacked
 - RSS/GS1 Databar Omnidirectional
 - RSS/GS1 Databar Truncated
 - UPC-E
 - UPC-A
 - EAN 13
 - EAN 8
 - Code 39
 - Code 93
 - Code 128
 - GS1 128

- MSI
- Interleaved 2 of 5
- Codabar
- ITF-14
- ITF-16
- Telepen (only decoding supported)
- Code 11 (only decoding supported)
- UPC-A add-on codes (only decoding supported)
- **2D codes:**
 - Data Matrix
 - GS1 Data Matrix
 - QR
 - MicroQR

Detecting Rotated Barcodes

For linear barcodes, the option "Support Rotation" in the profile needs to be enabled in order to be guaranteed that a rotated barcode is detected. If the option is not enabled, linear barcodes can only be detected when in 0, 90, 180 and 270 degree angles.

However, because linear barcodes can be sheared, it is possible that rotated barcodes are still detected even if the option "Support Rotation" is not enabled.

Rotated 2d barcodes with an angle other than 0, 90, 180, 270 degrees can not be guaranteed to be detected.

Supported File Types

The input file types supported by this task are the same [as described here for the Inspect Artwork task](#), here excluding the type 'Folder'.

Status and Workflow Output Pins

The task input file is also the task output file. It will be placed on one of these output pins:

- **OK.** When all barcodes conform to the chosen minimum barcode grade and, when that option is selected, all the barcodes described as product or job barcode are found (with their specified parameters). Learn about these options in [this next page](#).
- **Not OK** (status 'Warning'). When one or more barcodes do not conform to the chosen minimum grade, or, when that option is selected, when a barcode described as product or job barcode is not found or has different parameters. This is also the status when the input file has no barcodes.
- **Warning.** When all barcodes conform to the chosen minimum grade, and, when that option is selected, when a barcode described as product or job barcode is not found or has different parameters.
- **Error.** When the task itself could not function properly. For example when no [profile](#) was selected, or no license was available.

See an example (to help visualize the output pins, an end status step was created with the same name as the status):



Tip: To get that extra output pin for the report(s) as in above example, you will need to configure it as mentioned in [Configuring Output Statuses](#).

Integration with Automation Engine Viewer

When opening the inspected file in the Automation Engine Viewer, the detected barcodes are indicated in red rectangles and is detailed in the **Annotations list**. Learn more in [Working with \(GlobalVision\) Annotations](#).



Note: Due to used resolutions, small differences can occur when comparing BWR measured by the task with BWR measured interactive in the AE Viewer. Learn more [here](#).

4.5.2. Check Barcodes Tab

- **Minimum Grade.** Select the minimum grade (quality level) to which all found barcodes must comply. Choose a letter or a number. Numbers deliver more detail. Learn more below and in the [GlobalVision Profile Editor \(OUTDATED\)](#) on page 105.
- **Grades in Letters (ISO 15416:2000)**

Table: Overview of Barcode Grades in Letters

Grade	Meaning
A	These barcodes should scan easily the first time with most scanning equipment. The aim should be to produce codes of this quality whenever the printing processes and materials allow this.
B	Codes of this quality may read after a single scan. If a second scan is required, the probability of success is very high.
C	This is the minimum quality that most barcodes should achieve. It means that re-scanning might be required to get a successful read. Flatbed scanners, which read the barcode at several places, are recommended with codes of this quality.
D	This grade is only acceptable for ITF-14 barcodes printed on fiberboard.
F	F is fail.

Barcode Individual Grade Parameters (Letters)

The overall grade of a barcode is determined by its individual grade parameters. The overall grade is equal to the lowest grade of any of these individual ones:

Table: Value of Individual Grade Factors in overall Barcode grade (Letters)

Barcode Group Type	Individual Grade Parameter	Meaning
1D/Linear	Minimum Reflectance	Pass or fail grade (A or F) and the min reflectance value (darkest part of the barcode).
1D/Linear	Symbol Contrast	The difference in contrast between the darkest and the lightest part of a barcode (%).
1D/Linear	Minimum Edge Contrast	Pass or fail grade (A or F) determined by the minimum contrast between a space and its adjacent bars.
1D/Linear	Modulation	The ratio between symbol contrast and minimum edge contrast.
1D/Linear	Defects	The amount of discrepancies in the reflectance of a barcode.
1D/Linear	Decode	Pass or fail grade (A or F) determined by whether the barcode was generated correctly (i.e. sufficient spacing between bars).
1D/Linear	Decodability	The ease of barcode identification.
2D	Modulation	The contrast difference between light and dark regions.
2D	Decode	Pass or fail grade (A or F) determined by whether the barcode was generated correctly (for example sufficient spacing between bars).
2D	Axial Non-Uniformity	The difference in length of the two axis of the barcode.
2D	Grid Non-Uniformity	The vector deviation of the barcode from an ideal position.
2D	Fixed Pattern Damage	The damage done to the pattern of a barcode.
2D	Unused Error Correction	The amount of unused error correction embedded in the barcode.

- **Grades in Numbers (ISO 15416:2016)**

This new calculation method can in some cases result in a higher averaged score for the above parameters using this interpolation method compared with the method using letters (ISO 15416:2000).

Find more details about the decimal grades method in http://www.aisvision.com/files/2815/1602/9515/ISO_15416_December_2016_Changes.pdf and in <https://www.sis.se/api/document/preview/921309/>.

There are 41 possible grades: 0.0 , 0.1, 0.2 up to 4.0 (source <http://www.axicon.com/fractional-grading.html>).

Table: Value of Individual Grade Factors in overall Barcode grade (Numbers)

Grade	Symbol contrast	Modulation	Decodability	Defects	Decode	Rmax/Rmin	Min. Edge Contrast
0.0	< 15%	< 30%	< 20%	> 30%	Fail	< 2	< 15%
0.1 to 0.9	15% to 19%	30% to 39%	20% to 24%	NA			
1.0 to 1.9	20% to 38%	40% to 49%	25% to 36%	26% to 30%			
2.0 to 2.9	39% to 54%	50% to 59%	37% to 49%	21% to 29%			
3.0 to 3.9	55% to 69%	60% to 69%	50% to 61%	16% to 20%			
4.0	>= 70%	>= 70%	>= 62%	<= 15%	Pass	>= 2	>= 15%

- Profile.** An inspection profile is a collection of parameters that defines how (precise) to inspect. They are centrally located *.ini files that you can adapt using the Esko tool "[GlobalVision Profile Editor](#)". You can there both adapt the default inspection profiles or create your own.

When unsure, use the **Default** profile. Selecting **None** will result the task to end in error.

- Compare barcode data with job or product barcode data.** When this option is selected, the task will, after having checked the minimum grade, also check if all barcodes specified in the [Product Part Properties](#) or in the [Job Setup](#) of the input file are present as such in this file. Not just their type or code, but also all the other parameters entered in those product or job parameters.

This table shows you how the terms in Automation Engine's product and job parameters map to the terms used by GlobalVision (that are also used in the reports).

Automation Engine term	GlobalVision term
BOBST	Laetus Pharma Code
CLF-8	Laetus Pharma Code
CODABAR	Codabar
CODE-128	Code 128
CODE-39	Code 39
CODE39_EXTENDED	Code 39
DATAMATRIX	DataMatrix
EAN-13	EAN 13
EAN-8	EAN 8
GS1-128	GS1 128
GS1_DATABAR-OMNIDIRECTIONAL	GS1 Databar Omnidirectional
GS1_DATABAR-EXPANDED	GS1 Databar Expanded
GS1_DATABAR-EXPANDED_STACKED	GS1 Databar Expanded Stacked
GS1_DATABAR-LIMITED	GS1 Databar Limited

Automation Engine term	GlobalVision term
GS1_DATABAR_STACKED	GS1 Databar Stacked
GS1_DATABAR_STACKED_OMNIDIRECTIONAL	GS1 Databar Stacked Omnidirectional
GS1_DATABAR_TRUNCATED	GS1 Databar Truncated
GS1_DATAMATRIX	GS1 DataMatrix
GS1_US-COUPON-INTERIM	UPC-A + GS1 Databar Expanded Stacked
HIBC-39	Code 39
HIBC-128	Code 128
ITF-14	ITF-14
ITF-16	ITF-16
INT_2_of_5	Int. 2 of 5
KURANDT	Laetus Pharma Code
LAETUS_PHARMA	Laetus Pharma Code
MS_7	EAN 8
MSI	MSI
MARKS_AND_SPENCER	EAN 13
NDC_HRI	UPC-A
PLESSEY	MSI
PZN	Code 39
PZN8	Code 39
PARAF_ITALY	Code 39
QR	QR
MicroQR	Micro QR
UPC-A	UPC-A
UPC-E	UPC-E
UPC-SCS	Int. 2 of 5

- **Region.** Learn more about specifying an inspection region in [Generic Options](#).
- **Resolution.** This option is present in several GlobalVision tasks. Learn more in [Generic Option "Resolution"](#). Make sure the resolution is high enough to detect barcodes.



Attention: The resolution you can specify here does not influence the accuracy with which the barcode is inspected. This resolution is used to render the complete file before inspecting any barcodes. The higher this resolution, the longer it will take to render the complete file.

To set a high accuracy of inspection of the barcode itself, you can define a higher resolution in the barcode profile that you are using. This can be done via the GlobalVision Profile Editor.

This means that it's possible to inspect the file at for example a resolution of 300 ppi, but that the barcode is inspected at 1.200 ppi.

Setting different resolutions in the profile leads to different results. An example:

An 'Inspect Barcodes' task that inspects at 300 ppi, can result in a narrow bar width of

- 0.48 mm when the profile resolution is set to 300 ppi
- 0.46 mm when the profile resolution is set to 600 ppi
- 0.45 mm when the profile resolution is set to 1.200 ppi.

- **Ignore Inks.** When you are sure your barcodes do not contain specific inks, you can here ask to ignore those inks. This can speed up the task. Learn more in [Ignoring Ink or Layers](#) on page 87.
- **Ignore Layers.** Same as above, but for layers.
- **Configure.** This button opens the item in the configure panel where you can activate the software license that you acquired from GlobalVision.

4.5.3. Report Tab

This option is present in several GlobalVision tasks. Learn more in [the Generic Option "Report"](#). We here only mention some specifics for this task.



Note: Pharma codes (folder and gluer) return a different number when read upside down. The report mentions both possible numbers. For example "121" might show up as "121 86".



Attention: These reports do not include information about the comparison with Product or Job barcode data. Those details are part of the task's log file.

- The **PDF report** first shows a summary of all found barcodes and their grade. It then describes the barcodes in detail.
- The **XML report** also contains all details about the found barcodes.

4.6. Inspect Braille



Note: This is one of several inspection tasks that use technology from the company [GlobalVision](#). Learn about the general concept and setup in the [Introduction](#) on page 85.

4.6.1. Concept and Workflow

This task detects braille, translates it to a chosen language and displays information such as the language, number of dots, number of characters, number of lines, dot spacing, character spacing, word spacing and line spacing values.

Braille should comply to the [Marburg Medium braille specification](#). Braille that does not comply might get misinterpreted. For example wrongly grouping dots of different characters into one character, or not detecting certain dots to be part of the braille, or not recognizing the braille at all.

The task can also compare the found braille to a given text.



Note: You can use the [GlobalVision Profile Editor](#) to **compare braille** data between a master and sample file.

Supported File Types

The input file types supported by this task are the same [as described here for the Inspect Artwork task](#), except the type 'Folder'.

Status and Workflow Output Pins

When finished, the task input file will be placed on one of these output pins:

- **OK.** When no error occurred and when the **compare** option is not enabled.
- **Not OK** (status "warning"). When the option **compare** was used and found a mismatch.



Attention: A mismatch will not be shown in the report file (the actual comparison is done with the report data). Mismatches are mentioned at the bottom of the task log file. For example:

```
INFO: GlobalVisionTask.INFO.ComparingWithBrailleData
ERROR: GlobalVisionTask.Message.BrailleDataDifference (< correct text >, <
mismatch >)
```

- **Error.** When the task itself could not function properly. For example when no license was available.



Tip: To get an extra output pin for the report(s), you will need to configure it as mentioned in [the page about the inspection report](#).

Integration with Automation Engine Viewer

When opening the inspected file in the Automation Engine Viewer, the detected braille is indicated in red rectangles and is detailed in the **Annotations list**. Learn more in [Working with \(GlobalVision\) Annotations](#).

4.6.2. Check Braille Tab

- **Language.** Braille is written in a specific language. Some braille characters mean different things in different languages. Select the language in which you think that the braille code is written. You then will get the correctly translated version in that language.



Note: A language translation set is an XML file that describes mapping of characters. Some (pharma) companies create their own mapping style. You can use the [GlobalVision Profile Editor \(OUTDATED\)](#) on page 105 to export and add custom languages.

- **Compare.** Enable this option to compare the text resulting from all the detected and translated braille with the text written in this field or resolved by a SmartName in this field. To indicate a new line in the text, add a space in the text field.



Attention: The comparison is done with the text in this field, *not* with text present inside an external file.



Note: If your file has separate groups of braille that you want to compare with a text you defined here in this field, you can work with layers. Add the different groups of braille to different layers in your file and use the option **Select Layers** to control which translated braille you here compare with the here defined (smart) text.

- **Region.** Learn more about specifying an inspection region in [Generic Option 'Region'](#).
- **Resolution.** Make sure the resolution is high enough to detect braille. 72 ppi for example will not be sufficient to detect the braille objects. Learn more in [Generic Option "Resolution"](#).
- **Select Inks.** Braille is usually present in a specific ink or layer. Specify one or more inks that contain the braille data. Once braille is found in one ink, all braille is expected to be in that ink (all braille in another selected ink will then be ignored). The list of inks does not determine the order in which the inks are searched.
- **Select Layers.** Same as **Select Inks**, but for layers. Except that when you specify multiple layers, that not just the first (found) layer will be checked.
- **Configure.** This button opens the item in the configure panel where you can activate the software license that you acquired from GlobalVision.

4.6.3. Report Tab

This option is present in several GlobalVision tasks. Learn more in [the Generic Option "Report"](#).

4.7. Inspect Spelling



Note: This is one of several inspection tasks that use technology from the company [GlobalVision](#). Learn about the general concept and setup in the [Introduction](#) on page 85.

4.7.1. Concept and Workflow

Concept

This task checks the spelling of the text in the input file. You need to specify the language the text is written in. This can also be a custom dictionary.



Attention: This task only checks spelling of live text objects (not of contoured text).

Supported File Types

This task supports PDF, Normalized PDF, PDFPLA, AI (when PDF compatible), TXT, DOC(X), RTF, XML, HTML and XLS(X) files.

Status and Workflow Output Pins

When finished, the task input file will be placed on one of these output pins:

- **Match** (status "OK"). When the spelling was correct.
- **Mismatch** (status "Warning"). When the spelling was not correct.
- **Error**. When no live text was found or when the task itself could not function properly (for example when no license was available).



Tip: To get an extra output pin for the report(s), you need to configure it as mentioned in [the page about the inspection report](#).

Integration with Automation Engine Viewer

When opening the inspected file in the Automation Engine Viewer, the spelling violations are indicated in the **Annotations list**. Learn more in [Working with \(GlobalVision\) Annotations](#).

4.7.2. Check Spelling Tab

- **Language**. Select the language the text is written in.



Note: You can customize a language (dictionary) by using the [GlobalVision Profile Editor \(OUTDATED\)](#) on page 105.

- **Region**. Learn more about specifying an inspection region in [Generic Option "Region"](#).



Tip: When your file contains live text in more than one language, you could organize the different texts in specific layers and then specify a layer selection in this task.

- **Select Layers.** You can specify one or more layers that contain the text in the selected language.

4.7.3. Report Tab

This option is present in several GlobalVision tasks. Learn more in [the Generic Option "Report"](#).

4.8. Inspect Text



Note: This is one of several inspection tasks that use technology from the company [GlobalVision](#). Learn about the general concept and setup in the [Introduction](#) on page 85.

4.8.1. Concept and Workflow

Concept

This task compares the text in the input file with the text in another file. You select a profile that defines how should be compared and what should be seen as a difference (for example if you consider a font type or font size change a difference).



Attention: This task only detects and compares live text objects (not contoured text).

Supported File Types

This task supports PDF, Normalized PDF, PDFPLA, AI (when PDF compatible), TXT, DOC(X), RTF, XML, HTML and XLS(X) files.



Note: For XLS(X) files only the visible text is checked, so not the text outside the visible part of the cell.

Status and Workflow Output Pins

When finished, the task input file will be placed on one of these output pins:

- **Match** (status "OK"). When the text matches.
- **Mismatch** (status "Warning"). When the text does not match.
- **Error**. When one of the files has no live text or when the task itself could not function properly (for example when no license was available).



Tip: To get an extra output pin for the report(s), you need to configure it as mentioned in [the page about the inspection report](#).

Integration with Automation Engine Viewer

When opening the inspected file in the Automation Engine Viewer, the found differences are indicated in the **Annotations list**. Learn more in [Working with \(GlobalVision\) Annotations](#).

4.8.2. Compare Text Tab

- **Compare with.** Indicate the file (full URL) that contains the text that you want to compare with the text from the input file. For example: your input file is a PDF and you compare it with a Word file containing the original text.
- **Profile.** Select a profile that defines what should be seen as a difference and other parameters. Learn more about these profiles in the [GlobalVision Profile Editor \(OUTDATED\)](#) on page 105.
- **Region.** Learn more about specifying an inspection region in [Generic Option 'Region'](#).
- **Select Layers.** You can specify one or more layers that contain the text.

4.8.3. Report Tab

This option is present in several GlobalVision tasks. Learn more in [the Generic Option "Report"](#).

4.9. GlobalVision Profile Editor (OUTDATED)

Since v21.03, the 'GlobalVision Profile Editor' (an Esko-branded version of that editor) is no longer available.

Since 21.03, users should use the standard profile editor application from GlobalVision itself.



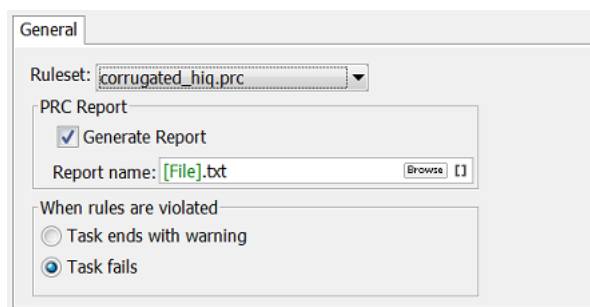
Note: You can still find documentation of this editor on [versions of the AE manual](#) older than v21.03.

5. Other QC Tasks

5.1. Check Print Rules (PRC)(Classic)

Print Rule Checker (PRC) is an old technology on board the Esko editor PackEdge. It checks the file, completely or partially, for potential printing problems or violations of standard printing conventions. These checks can include insufficient line thickness, wrong halftone densities, the use of too many inks, and various other production related issues.

This task checks the file according a rule set that you made in PackEdge. The task adds the results of its checks into the Normalized PDF file. When you then open this file in PackEdge, you can quickly see a full report of these checks and use dedicated tools to quickly navigate to the parts where rules were violated.





Task options:

- Select the **Ruleset** from the drop-down list. These were created in PackEdge and saved in a default central folder. Learn more about defining such rule sets in [the PackEdge user guide](#).



Note: In this background task version of PRC, rules on 'Small Parts' and 'Close Objects' are not checked.

- **PRC Report.** Enable this also get a .txt report that describes the used rule set and the found infringements.
- Decide what the state of the task should be **when rules are violated: Task ends with a warning**  or **Task fails** .

5.2. Compare PDF (Classic)

Concept and workflow

This task compares the input PDF file(s) to a reference PDF file. It creates TIFF files of each separation and then compares those.

You can see the found differences in a separate layer or file and also in an XML report.



Note: The *Inspect Artwork* task also serves to compare files but is more elaborate.

The task can have these output states:

- **Match:** No differences were found.
- **Mismatch:** Differences were found.
- **Error:** The task itself malfunctioned (reference file was not found, no license was available...).

Task Options

- **Compare**

- **Compare With.** Define the reference file with which you want to compare the input PDF file(s).
- Select the **Compare Region** (of both input and reference file) within which you want to compare. Learn more about page boxes [here](#).
- Set the **Compare Resolution** for the automatically created TIFF files. Enter a value between 50 and 300 dpi.
- Set the **Noise Tolerance**. The compare resolution defines in what *detail* you compare the files. This noise tolerance however defines how *strict* you want to compare: what do you consider as a difference? If you do not want the most strict form, you can here define a tolerance.

The distance in this field represents the maximum (horizontal or vertical) distance between isolated pixels for them to be ignored. An isolated pixel is a pixel that is different in both files but that has all surrounding pixels equal in both files. The higher you put the value, the more tolerant you are against noise. The more you allow noise, the less strict the comparison will be. The default is '0 mm' (no differences allowed, most strict).

An example: A comparison shows 2 isolated pixels that are 10 mm apart and also 2 isolated pixels that are only 2 mm apart. If you now set the noise tolerance to '5 mm', then the set of isolated pixels that are 10 mm apart will be ignored in the comparison.

- **Ignore Separations.** Add the names of separations to ignore during the comparison. For example for multilingual variants you may want to ignore the separation(s) that contain(s) text.



Tip: Double-click on a line in the canvas and use the small drop-down list to select separations of the ticket's input file.

- **Differences**

- **Output in:** Define the folder where you want to save the file containing the found differences and the report file. When you type in a name, it will be created as a subfolder of the input file.



Note: This field is thus only valid when you enable one or both of the below options.

- Select **Create Differences layer** if you want to add the found differences in a separate layer.



Note: When page boxes are different and/or separations do not match, the task will report a mismatch but will not create a difference layer.

In **Layer File**, when you use the SmartName `[File]`, the extra layer will be added to your input file. Alternatively, you could browse to an existing PDF file or use SmartNames to have a new one created automatically, for example `"[file]_Diff"`.

- Select **Report differences to file** to save the differences in a separate XML report file. This XML file has the extension *.comp. When the files don't match, this report contains the coordinates of the mismatched pixels for each separation.



Note: In the Esko editor Neo, you can insert these .comp files on top of the opened PDF to see the coordinates of where differences were found.



Tip: You can configure an extra output pin to see your report appear on its own pin. Learn more in [Configuring Output Statuses](#).