

# Checks for Print Data Normalization

## 1. Introduction

When Print Data is uploaded, it is checked in the Workflow to provide corresponding information on possible Errors or Warnings in the data at the start of production. **Errors** and **Warnings** are displayed in the Workflow and can be provided in a **PDF report** for clarification with the customer. The report type used can be selected in the Workflow settings.

Which **Errors** and **Warnings** are displayed in a report or the Workflow can be controlled product-specifically by the user by creating a user-defined **Check-in Template**.

## 2. Available Checks

The Check (preflight) of the print file is based on the activated Checks and the severity level selected for the individual Check - *Error*, *Warning*, or *Info* - in a Check-in Template. Well over 40 Checks are available in the Workflow for configuring a product-specific Check-in Template. The number of available Checks grows from version to version, depending on user requests.

Below, all available Checks are listed and provided with additional information, category, and recommendations for solutions. Thereby, you can decide faster whether you want to use this Check for your Check-in Template.

### 2.1. Bleed is available

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**Category:** Object, Page Content


**Description:** Checks if the Bleed is defined in the artwork as expected. This not only checks whether the BleedBox is set correctly, but also whether the entire Bleed is filled with printable content. By specifying the Safety Zone, it is also checked whether text elements are located within this area.

With an error warning users are informed when

- no Bleed is present on the top, left, right or below
- the Bleed on the top, left, right or below is not sufficient
- there's no content in the Bleed (in the BleedBox though) on the top, left, right or below

**Solution:** Subsequently, create missing Bleed with the Fixup [Create Bleed by Upscaling](#), [Create Bleed by Mirroring](#) or [Create Bleed on Irregular Shape](#) by carrying out a Fixup Chain or by executing the respective Fixup.

**Figure 1:** The settings area for the Check *Bleed is available*

**Bleed Check**  Error ✕ ^

Checks if the Bleed is defined in the artwork as expected. This not only checks whether the BleedBox is set correctly, but also whether the entire Bleed is filled with printable content. By specifying the Safety Zone, it is also checked whether text elements are located within this area.

**Safety Zone**

|||||

**Bleed Left - expected**

|||||

**Bleed Right expected**

|||||

**Bleed Top - expected**

|||||

**Bleed Bottom - expected**

|||||



### Checking the Bleed is time consuming

Please note that checking the Bleed can take a little longer, especially with large files, as image content has to be rendered and compared.

## 2.2. CMYK Object uses Rich Black

**Category:** Object, Color, Text

**Description:** Checks whether CMYK objects of the selected object type - Text, Vector, Text and Vector, Image or All Objects - will be printed in deep black. While "Texts" and "Vectors" are checked by entering a maximum value for each CMYK channel, images are checked with regard to the maximum Total Ink Coverage (TAC).

Use this check to find objects in the print file that would not be printed uniformly black or with too much ink application.

**Solution:** Objects that are not uniformly black can be changed with the Fixup "Redye CMYK Objects" or converted to a Spot Color with the Fixup "Map CMYK Values to a Spot Color". Thereby it is possible to achieve a controlled output of the Rich Black.

**Figure 2:** The settings area for the Check *CMYK Object uses Rich Black*

CMYK Object uses Rich Black

Checks whether CMYK objects of the selected object type - Text, Vector, Text and Vector, Image or All Objects - would be printed as Rich Black. While "Text" and "Vectors" are checked by entering a minimum value for each CMYK channel, images are checked with regard to the maximum Total Ink Coverage (TAC).

**Apply to**

Text and Vector

**Cyan (greater than or equal to)**

85

**Magenta (greater than or equal to)**

85

**Yellow (greater than or equal to)**

85

**Black (greater than or equal to)**

100

**Total Ink Coverage check (only for "Images" and "All Objects")**

**Maximum Total Ink Coverage**

300

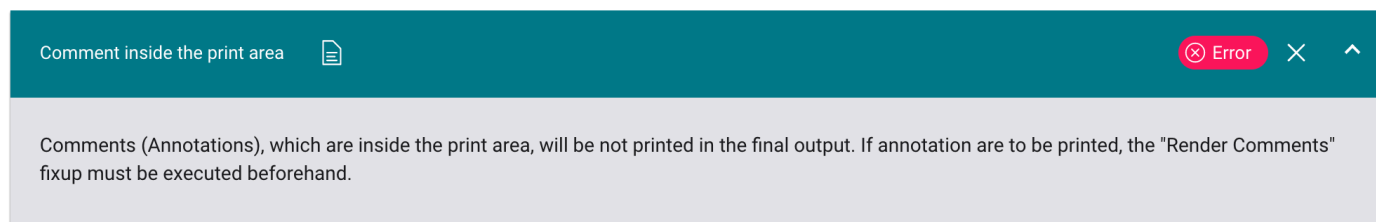
## 2.3. Comment inside the print area

**Category:** Page Content

**Description:** Checks the print file to see if an annotation - text correction, note, text highlight, stamp, etc. - has been applied within the printable area. By default, comments are ignored when the file is rendered and are therefore not output.

**Solution:** If creative minds have generated text corrections or highlights in a graphic with comments in Acrobat Pro or Adobe Reader and should actually need to print these, the Fixup Render Comments is available for this purpose.

**Figure 3:** The settings area for the Check *Comment inside the print area*



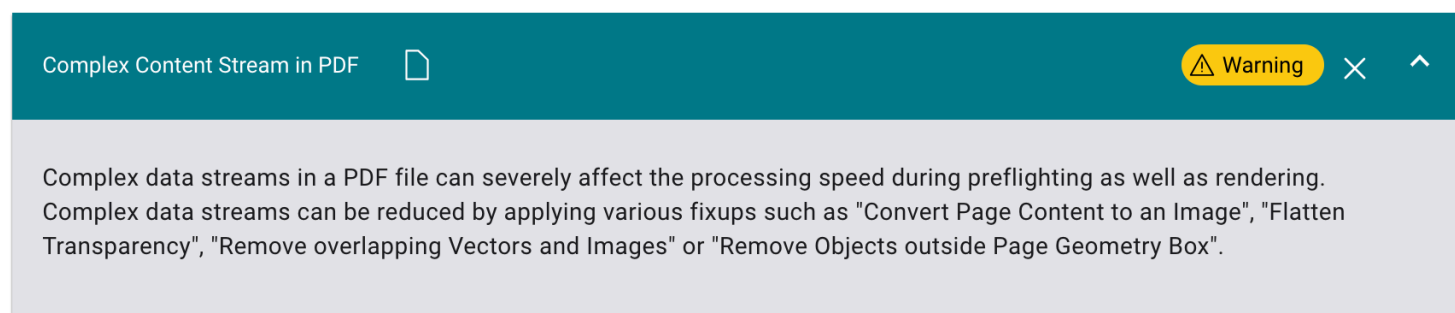
## 2.4. Complex Content Stream in PDF

**Category:** Document

**Description:** Checks the print file to see if there are tens of thousands of vector objects in it in conjunction with effects - application of [Blend Modes](#) as well as changes in *opacity*. Such print data can very much affect the processing speed during checking and correcting as well as rendering.

**Solution:** To optimize print data, the Workflow includes the following Fixups: [Convert Page Content to an Image](#), [Flatten Transparency](#), [Remove Overlapping Vectors and Images](#), and [Remove Objects outside Page Geometry Box](#).

**Figure 4:** The settings area for the *Check Complex Content Stream in PDF*



## 2.5. Contains ICC based CMYK text and/or vector objects

**Category:** Color, PDF/X-1a

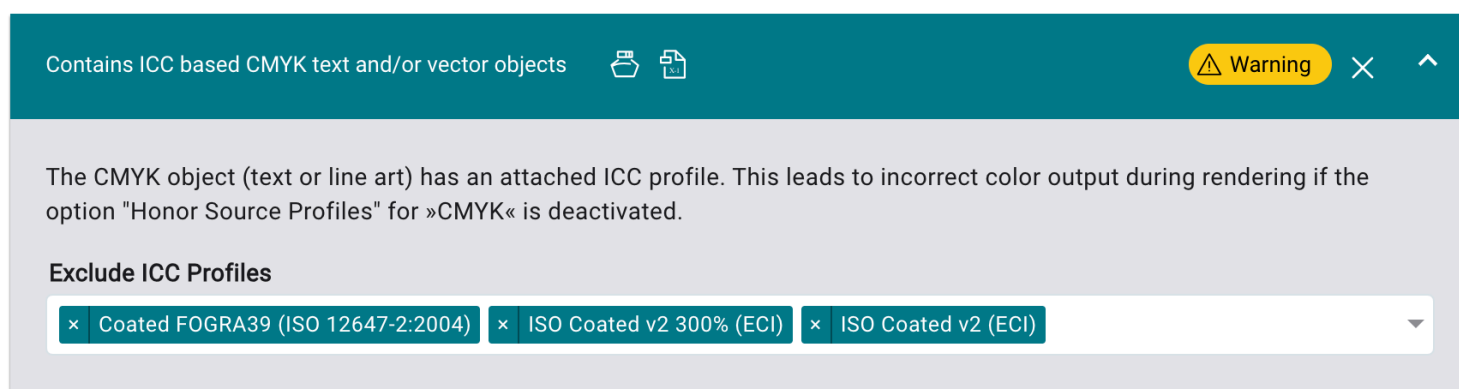
**Description:** This finds CMYK text or vector objects that have a source profile. Actually, ICC-based CMYK objects are not an error. They will only be rendered incorrectly regarding their color if you have not activated the option for *CMYK* and *Text* as well as *Vector* in *Administration > Settings > Color Management* in the *Honor Source Profiles* settings area. This would ignore the existing source profile and assign the CMYK Working Color Space instead during rendering.

In **Exclude ICC Profiles** you should select the ICC profiles that you have chosen as Working Color Space profile for CMYK in **Administration > Settings > Color Management**. Thereby, only markings of ICC-based CMYK that deviate from the Working Color Space are found in text and vector objects during the Check.

ICC-based CMYK text and vectors are furthermore not allowed in PDF/X-1a driven Workflows.

**Solution:** In *Administration > Settings > Color Management*, in the *Honor Source Profiles* settings area, enable the option for *CMYK, Text, and Vector*.

**Figure 5:** The settings area for the *Check Contains ICC based CMYK text and/or vector objects*



## 2.6. Contains ICC based Gray text and/or vector objects

**Category:** Color, PDF/X-1a

**Description:** This will find gray text as well as vector objects that contain a Source Profile. In fact, ICC-based gray texts and vectors are not an error. They will only be output incorrectly in terms of color if you have not activated the option for Gray and Text as well as Vector in **Administration > Settings > Color Management** in the *Honor Source Profiles* settings area.

ICC-based gray vectors and text are furthermore not allowed in PDF/X-1a driven Workflows.

**Solution:** In *Administration > Settings > Color Management* activate the option *RGB and Images*.

**Figure 6:** The settings area for the *Check Contains ICC based Gray text and/or vector objects*

Contains ICC based Gray text and/or vector objects



Warning



The Gray object (text or line art) has an attached ICC profile. This leads to incorrect color output during rendering if the option "Honor Source Profiles" for »Gray« is deactivated.

## 2.7. Contains ICC based RGB text and/or vector objects

**Category:** Color, PDF/X-1a

**Description:** This will find RGB text as well as vector objects that have a source profile. In principle, ICC-based RGB texts and vectors are not an error. They will only be rendered incorrectly in regard to their color, if you have not enabled the option for *RGB, Text and Vector* in *Administration > Settings > Color Management* in the *Honor Source Profiles* settings area. This would ignore the existing source profile and assign the RGB Working Color Space instead during rendering.

ICC-based RGB images are furthermore not allowed in PDF/X-1a driven workflows.

**Solution:** In *Administration > Settings > Color Management*, in the *Honor Source Profiles* settings area, enable the option for *RGB and Images*.

**Figure 7:** The settings area for the Check *Contains ICC based RGB text and/or vector objects*

Contains ICC based RGB text and/or vector objects



Error



The object (text or line art) is defined in RGB with an ICC-profile which represents a characterized color space. RGB images must be converted to the output color space. Make sure that the option "Honor source profiles" for »RGB« is always activated.

## 2.8. Document is damaged

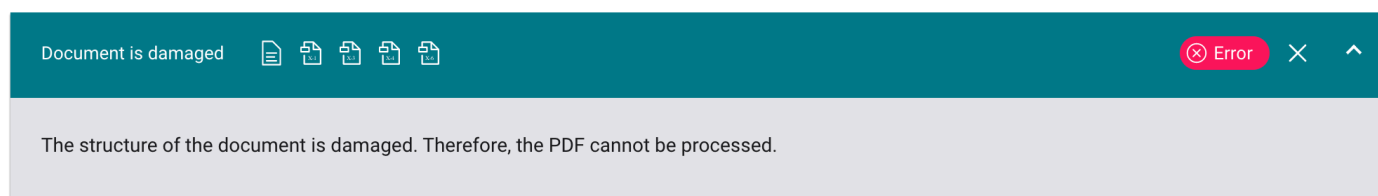
**Category:** Document, PDF/X-1a, PDF/X-3, PDF/X-4, PDF/X-6

**Description:** The document is damaged. Even if Acrobat attempts to repair the document when it is opened, there is no guarantee that the document will display correctly or print to the output device without problems.

In addition, damaged documents are not allowed in any PDF/X-driven workflows.

**Solution:** You should/must request a new print file from the data creator.

**Figure 8:** The settings area for the Check *Document is damaged*



## 2.9. Document is encrypted

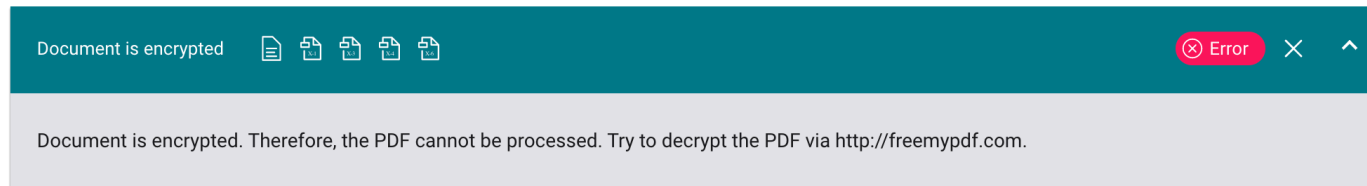
**Category:** Document, PDF/X-1a, PDF/X-3, PDF/X-4, PDF/X-6

**Description:** Checks whether the document requires a password to open or modify the file. Encrypted documents cannot be processed in the Workflow.

Encrypted documents are also not allowed in any PDF/X-driven Workflow.

**Solution:** You must request an unencrypted print file from the data creator or try to decrypt the file e.g.: via <http://freemypdf.com>.

**Figure 9:** The settings area for the Check *Document is encrypted*



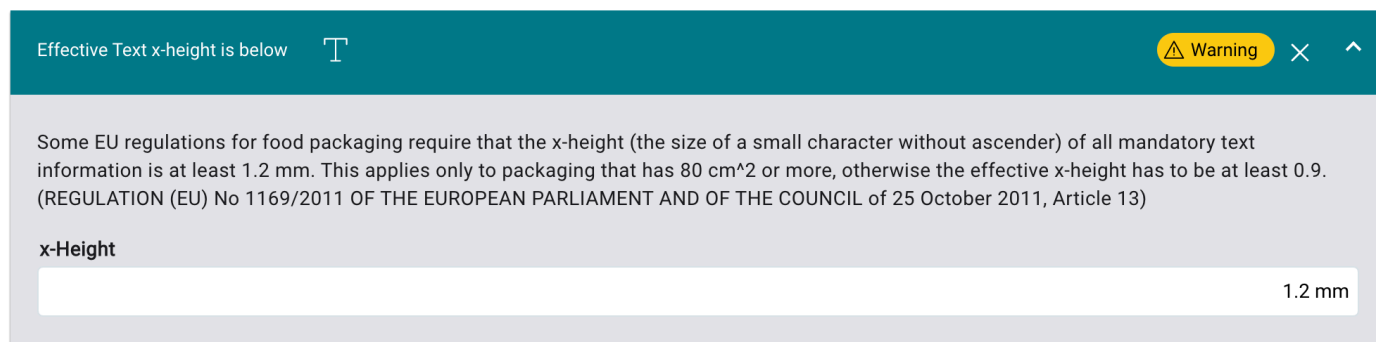
## 2.10. Effective Text x-height is below

**Category:** Text

**Description:** Checks the x-height of all texts within the TrimBox for the entered height. Note that a check can only be made for texts and not for texts converted to contour!

**Solution:** If the value falls below and the situation would lead to an error, you would have to request a new print file from the data creator.

**Figure 10:** The settings area for the Check *Effective Text x-height is below*



## 2.11. Font is not embedded

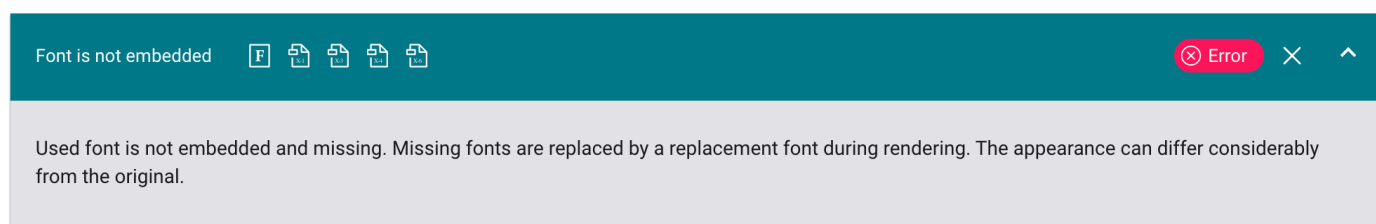
**Category:** Fonten, PDF/X-1a, PDF/X-3, PDF/X-4, PDF/X-6

**Description:** Checks if all fonts for texts are embedded within the selected Page Geometry Box. Missing fonts are replaced by a substitute font - in the worst case by *Courier* - during rendering.

**Solution:** Fonts can possibly be solved afterward by the Fixup **Embed missing fonts** on the one hand or by the Fixup **Embed missing fonts** in a Check-in Template on the other hand. Since font embeddings are not always reliable due to complex encodings, applying the Fixups will embed fonts only if the encoding for the individual glyphs matches exactly.

Furthermore, missing fonts are not allowed in all PDF/X-driven Workflows, which are typically used for prepress.

**Figure 11:** The settings area for the Check *Font is not embedded*



## 2.12. Font is syntactically incorrect

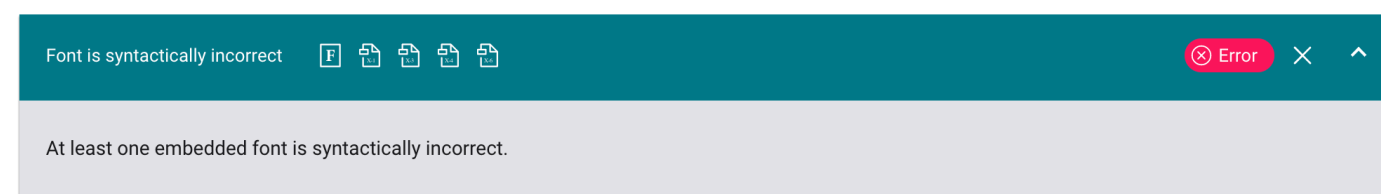
**Category:** Font, PDF/X-1a, PDF/X-3, PDF/X-4, PDF/X-6

**Description:** Checks whether fonts in the print file are syntactically correct. This check can be used to identify fonts that affect text editing as well as glyph rendering.



**Solution:** You must request a new print file from the data creator to get the problem solved. If this is impossible, you will have to pay attention to the texts in the output and visually check if all glyphs are available and correctly positioned.

**Figure 12:** The settings area for the Check *Font is syntactically incorrect*



### No restrictive Check

With version 1.16.0, the restrictive Check has been replaced by a normal Check. You can therefore again include this Check, which otherwise always generated an error, in your Check-in and Fixup Template.

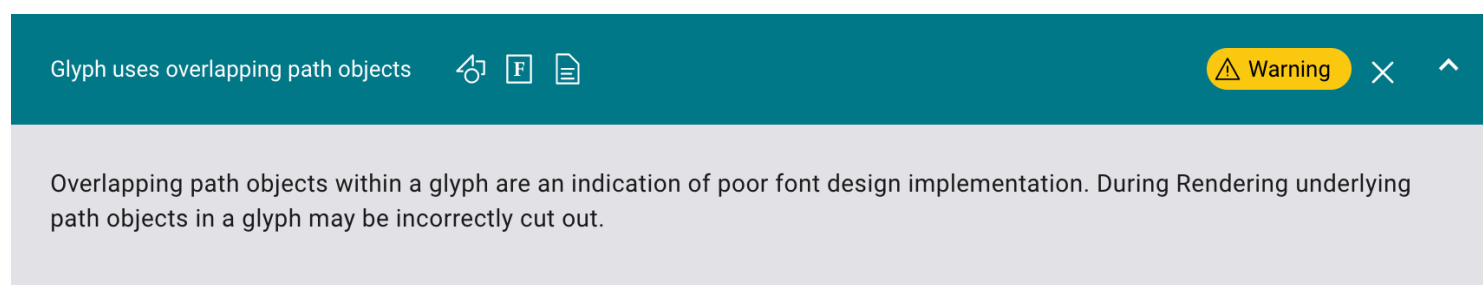
## 2.13. Glyph uses overlapping path objects

**Category:** Object, Font, Page Content

**Description:** Checks whether individual glyphs of a text overlap in the layout. In many cases this can be a design element intended by the designer, but in some cases the occurrence of overlapping glyphs is an indication of poor font encoding, which can cause letters to shift into each other.

**Solution:** If glyph overlays have occurred due to poor font encoding, you must request a corrected print file from the data creator.

**Figure 13:** The settings area for the Check *Glyph uses overlapping path objects*



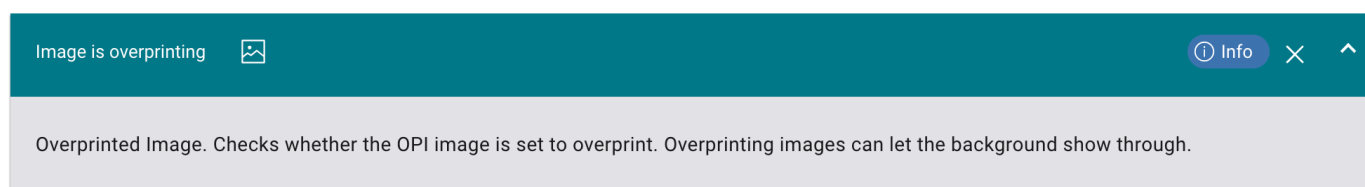
## 2.14. Image is overprinting

**Category:** Image

**Description:** With this Check it is possible to find overprinting images. Overprinting images can allow objects behind them to show through in the print. Overprinting images are usually used for design purposes only. In most cases, overprinting images are not intended by the designer, which would lead to an undesired effect in the print. This issue would have to be clarified in advance with the print data creator and a release would have to be requested.

**Solution:** There is no Fixup option available in the Workflow to solve the problem. The issue must be clarified in advance.

**Figure 14:** The settings area for the Check *Image is overprinting*



## 2.15. Image uses device dependent RGB (DeviceRGB)

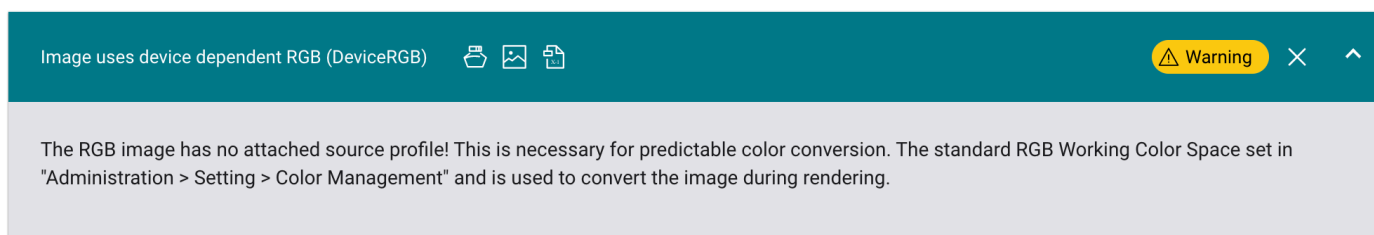
**Category:** Image, Color, PDF/X-1a

**Description:** With this Check it is possible to find RGB images that do not contain a source profile. When ripping these images the RGB working color space ICC profile set in *Administration > Settings > Color Management* will be assigned. This may result in significantly different colors in the output if the working color space ICC profile and the ICC profile used when creating the color image differ.

Furthermore, RGB images are not allowed in PDF/X-1a driven workflows anyway.

**Solution:** Device RGB images can be assigned a source profile afterwards via the Fixup [Image uses device dependent RGB \(DeviceRGB\)](#).

**Figure 15:** The settings area for the Check *Image uses device dependent RGB (DeviceRGB)*



### Which RGB source profile should be assigned?

In principle, print data with missing RGB source profiles should be clarified in advance with the print data creator.

If you do not want to initiate an approval process with the data creator, we recommend assigning *sRGB* as the source profile, since in the case of missing source profiles it can be assumed that the data creator took the image with a cell phone camera. If you want to "overdraw" the image in terms of color, we recommend assigning AdobeRGB as the source profile.

However, we would like to point out once again that there is no 100% solution here and the case must always be carried out assuming a situation.

## 2.16. Image uses ICC-tagged CMYK

**Category:** Image, Color, PDF/X-1a

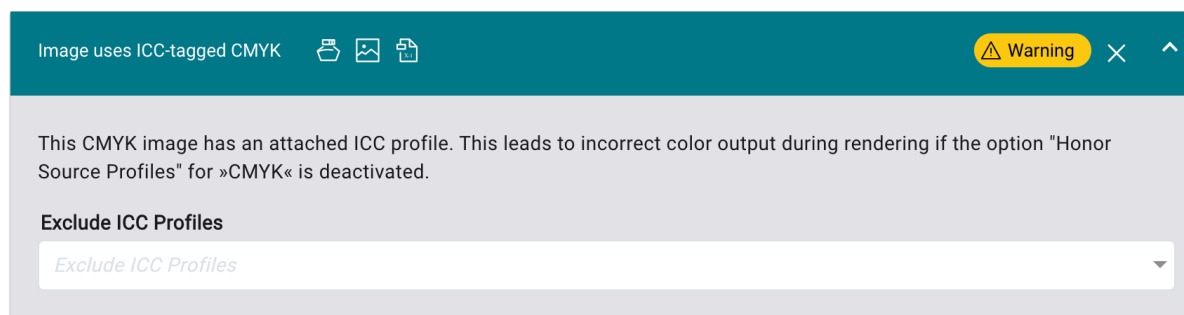
**Description:** This Check finds CMYK images that contain a source profile. In fact, ICC-based CMYK images are not an error. They will only be output incorrectly in terms of color if you have not activated the option for *CMYK* and *images* in *Administration > Settings > Color Management* in the *Honor Source Profiles* settings area. When ripping this would ignore the existing source profile and assign the CMYK Working Color Space profile instead.

In **Exclude ICC Profiles**, you should select the ICC profiles that you have selected as the Working CMYK Color Space profile in **Administration > Settings > Color Management**. Thereby, only ICC-based CMYK designations that deviate from the Working Color Space are found in images during the Check.

ICC-based CMYK images are furthermore not allowed in PDF/X-1a driven Workflows.

**Solution:** In *Administration > Settings > Color Management*, in the *Honor Source Profiles* settings area, enable the option for CMYK and Images.

**Figure 16:** The settings area for the Check *Image uses ICC-tagged CMYK*



## 2.17. Image uses ICC-tagged Gray

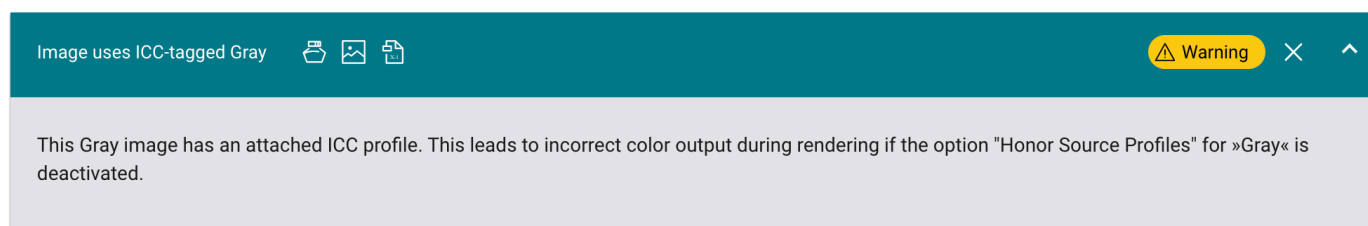
**Category:** Image, Color, PDF/X-1a

**Description:** This Check finds grayscale images that contain a source profile. In fact, ICC-based grayscale images are not an error. They are only output incorrectly in terms of brightness if you have not activated the option for grayscale and images in *Administration > Settings > Color Management* in the *Honor Source Profiles* settings area. This would ignore the existing source profile and assign the grayscale working color space profile instead when ripping.

ICC-based grayscale images are furthermore not allowed in PDF/X-1a driven Workflows.

**Solution:** In *Administration > Settings > Color Management*, in the *Honor Source Profiles* settings area, enable the option for *Gray* and *Image*.

**Figure 17:** The settings area for the Check *Image uses ICC-tagged Gray*



## 2.18. Image uses ICC-tagged RGB

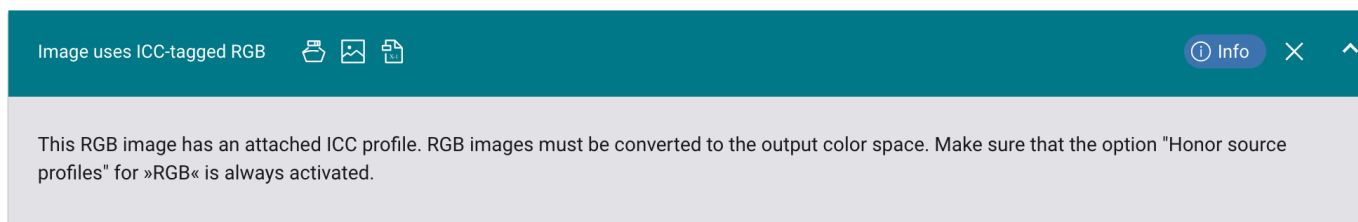
**Category:** Image, Color, PDF/X-1a

**Description:** This Check finds RGB images that contain a source profile. In fact, ICC-based RGB images are not an error. They will only be output incorrectly in terms of color if you have not activated the option for RGB and images in *Administration > Settings > Color Management* in the *Honor Source Profiles* settings area. This would ignore the existing source profile and assign the grayscale working color space profile instead when rendering.

ICC-based RGB images are furthermore not allowed in PDF/X-1a driven Workflows.

**Solution:** In *Administration > Settings > Color Management*, in the *Honor Source Profiles* settings area, enable the option for *RGB* and *Image*.

**Figure 18:** The settings area for the Check *Image uses ICC-tagged RGB*



## 2.19. Image uses Lab

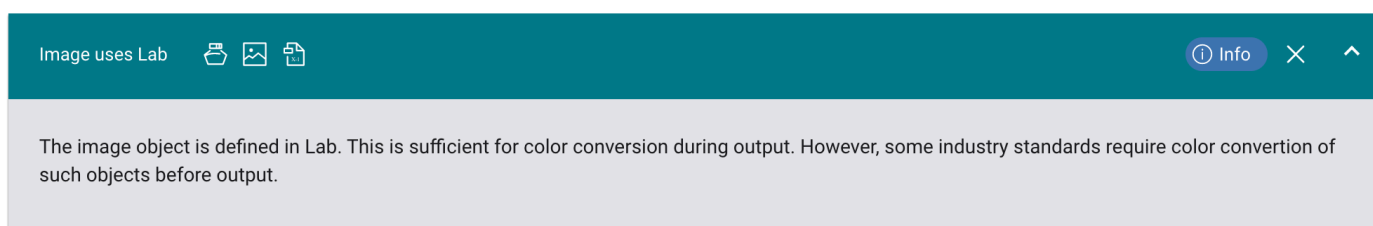
**Category:** Image, Color, PDF/X-1a

**Description:** This Check will find Lab images. During rendering, these images are converted to the selected intermediate color space that you set in *Administration > Settings > Color Management > Settings > Color Management > Working Color Space > CMYK* before being converted to the Output Color Space. Thus, the color representation in the PDF viewer may differ significantly from the printed result.

Lab images are furthermore not allowed in PDF/X-1a driven Workflows.

**Solution:** Work with a large CMYK Working Color Space - e.g.: eciCMYK v2 - to reduce color differences to a minimum (of the possible Output Color Space).

**Figure 19:** The settings area for the Check *Image uses Lab*



## 2.20. Image is syntactically not correctly encoded

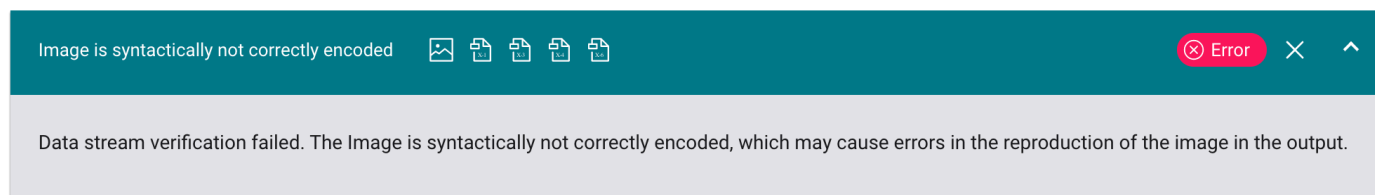
**Category:** Image, PDF/X-1a, PDF/X-3, PDF/X-4, PDF/X-6

**Description:** This checks whether the data objects for images are syntactically correct. Images that are not coded correctly may be output incorrectly or incompletely.

**Solution:** Incorrect data objects of images cannot be corrected. You must request a new print file from the data creator in order not to run the risk of defective production. However, you can try to extract the image from the print file and edit it in an image editing program - e.g.: Adobe Photoshop - and then save the data object correctly onto the print file.

Damaged structures of image objects are furthermore not allowed in all PDF/X driven Workflows.

**Figure 20:** The settings area for the Check *Image is syntactically not correctly encoded*



## 2.21. Is a multipage document

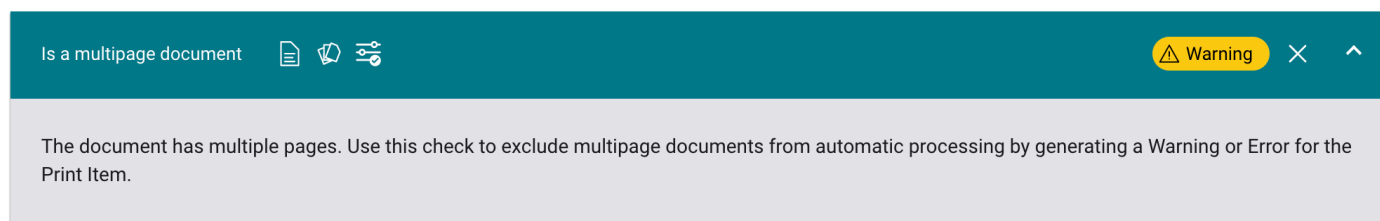
**Category:** Document, Page, Lift-ERP

**Description:** Checks if the print file consists of multiple pages (> 1). If multi-page documents are not desired, this check can draw attention to the circumstance.

**Solution:** Multipage documents can be handled in the Workflow as follows:

- Split into individual Print Items - by selecting the command in *Action > Split Print Items* in the Process menu, a multi-page document can be split into individual Print Items.
- Split multi-page files into individual Print Items - by selecting this option in *Administration > Settings > Preflight / Fixups*, individual Print Items can be created automatically when uploading a multi-page document.
- Merge pages - with this Fixup individual pages can be overlaid on other pages in the same document.
- Delete pages - with this Fixup selected pages can be removed from the document.

**Figure 21:** The settings area for the Check *Is a multipage document*



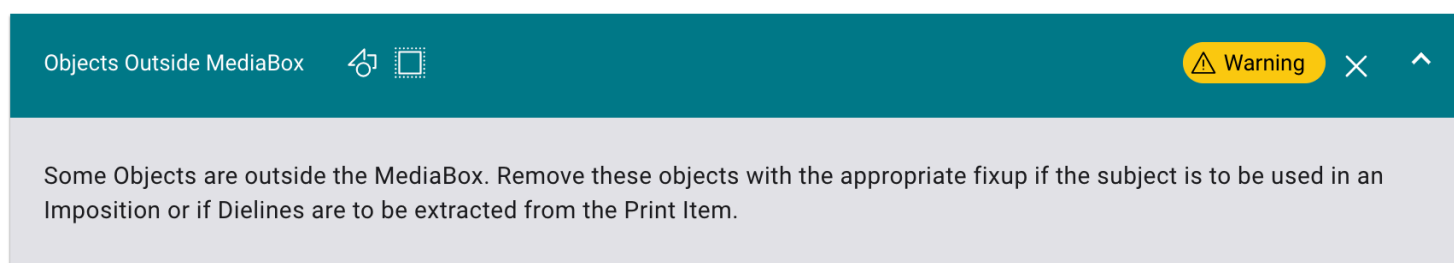
## 2.22. Objects Outside MediaBox

**Category:** Object, Page Geometry Box

**Description:** Checks whether individual objects are completely outside the MediaBox. Objects outside the MediaBox are not relevant to the output at any time. Situations such as a found Spot Colors or Registration Colors, although no object in the print file that has this Spot Color or Registration Color was found, are typical situations in practice.

**Solution:** Objects outside the MediaBox or any other selected Page Box can be removed in the Workflow with the Fixup [Remove Objects outside Page Geometry Box](#) in the postprocessing.

**Figure 22:** The settings area for the *Check Objects Outside MediaBox*



## 2.23. Object with white stroke is not set to knockout

**Category:** Object

**Description:** Checks the print file for white - CMYK=0/0/0, RGB= 255/255/255 as well as gray=100 - overprinting strokes. Overprinting white strokes would disappear during rendering and thus be missing as a graphic element in the printout.

**Solution:** White overprinting contours can be set to omit in the Workflow using the Fixup [Set White Objects to Knockout](#) on the one hand and the [Set White Objects to Knockout](#) option in *Administration > Settings > Color Management* on the other.

**Figure 23:** The settings area for the *Check Object with white stroke is not set to knockout*

Object with white stroke is not set to Knockout



Error



White objects should be set to Knockout, otherwise they may simply disappear when the PDF is printed. This check lists objects inside the TrimBox using white (DeviceCMYK 0/0/0/0 or DeviceRGB 255/255/255) which are set to overprint. ICC-based white objects that are set to overprint are not identified by this check because they will be knocked out during rendering.



**Select "Set White Objects to Knockout" as the default setting.**

In *Administration > Settings > Color Management*, activate the option Set White Objects to Knockout in General Settings, since such objects generally make no sense in a print file. If you follow this recommendation, this check can be omitted in a Check-in Template.

## 2.24. Overprinting Spot Colors

**Category:** Object, Page Content

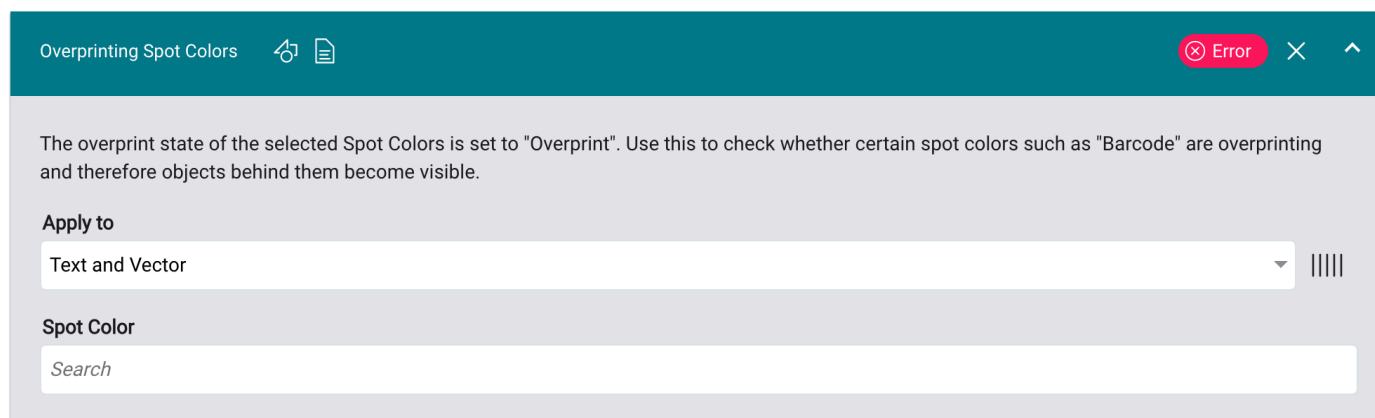
**Description:** Checks the print file to see if objects with selected Spot Color are set to overprint. Which Spot Colors are to be considered during the check can be entered user-defined.

Especially with barcodes / QR codes that are colored with a Spot Color, overprinting could have such a negative effect on the print that the information cannot be extracted from the barcode / QR code.

**Solution:** Overprinting Spot Colors can be corrected subsequently with the Fixup [Set Overprint State for Spot Colors](#) and with the Fixup [Set Spot Colors to "Overprint"](#) in the Check-in Template.

**Figure 24:** The settings area for the Check *Overprinting Spot Colors*





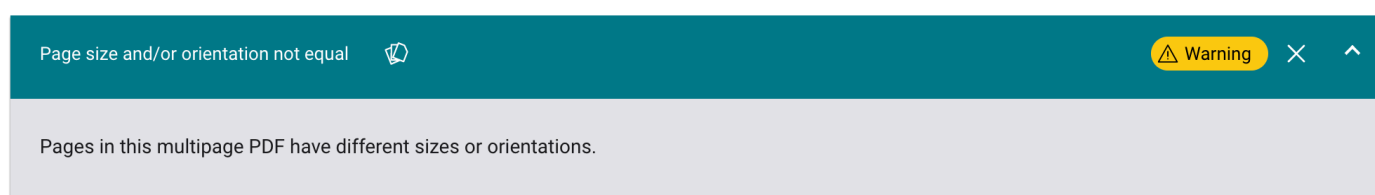
## 2.25. Page size and/or orientation not equal

**Category:** Page

**Description:** Checks a print file to ensure that all pages of a multi-page print file have the same page size and orientation. Different sizes and orientations can lead to unwanted results during processing - e.g. when applying Fixups or imposing pages.

**Solution:** If there are only marginal differences between the individual pages, the print file can be corrected afterward for all pages using the Fixup [Set to Page Geometry Box](#). If there are major differences, you can divide the multi-page document into individual Print Items and then apply the desired Page Geometry Box or rotations to the individual Print Items.

**Figure 25:** The settings area for the Check *Page size and/or orientation not equal*



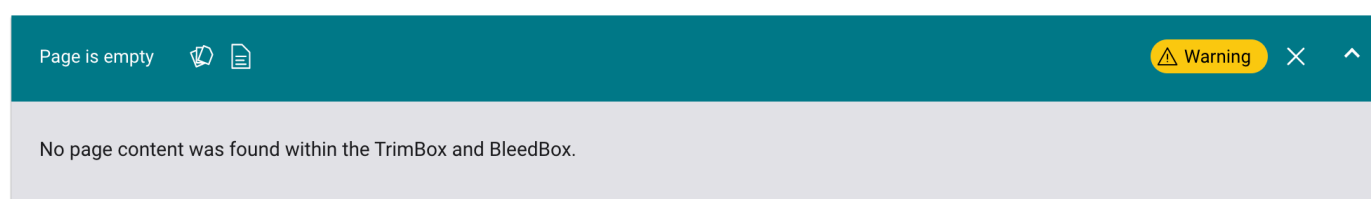
## 2.26. Page is empty

**Category:** Object, Page Content

**Description:** Checks whether the print file has a vacat page, which is a page that is intentionally left blank. A page is marked as blank if no printing or visible elements are found within the TrimBox or BleedBox.

**Solution:** Vacat pages can be deleted afterward with the Fixup [Delete Pages](#).

**Figure 26:** The settings area for the Check *Page is empty*



## 2.27. Page scaling factor used

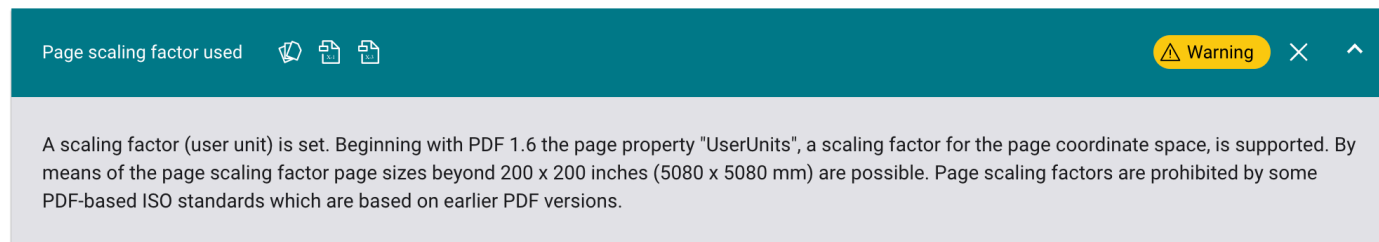
**Category:** Object, PDF/X-1a, PDF/X-3

**Description:** Checks whether a page scaling factor (user unit in PDF) is set in the PDF file. Which scaling factor is set can be read out in the details view for the Print Item.

Page scaling factors are allowed in PDF versions from *PDF 1.6* and in *PDF/X* files larger than *PDF/X-3*.

**Solution:** A page scaling factor can be deleted afterward with the Fixup [Remove Scale Factor](#) on the one hand and set with the Fixup [Set Scale Factor](#) on the other hand.

**Figure 27:** The settings area for the Check *Page scaling factor used*



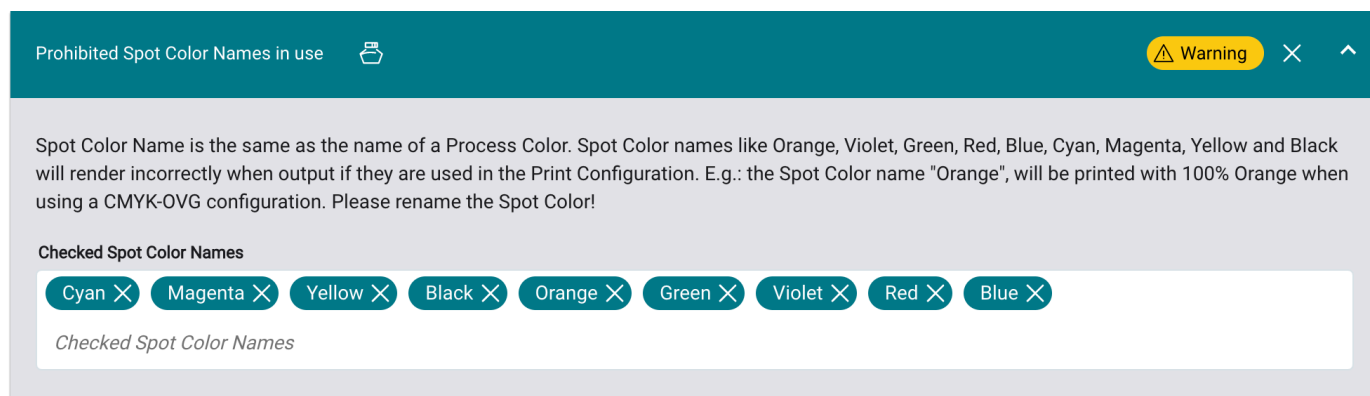
## 2.28. Prohibited Spot Color Names in use

**Category:** Color

**Description:** Checks the print file for forbidden Spot Color names. Spot Color names must not be the same as Process Colors, otherwise the Spot Color will be rendered only with the same Process Color and won't be color managed.

**Solution:** Correct Spot Color names afterwards with the Fixup [Rename Spot Color](#) or use the available Fixup [Rename prohibited Spot Color names](#) in the Check-in Template.

**Figure 28:** The settings area for the Check *Prohibited Spot Color Names in use*



## 2.29. Registration Color used

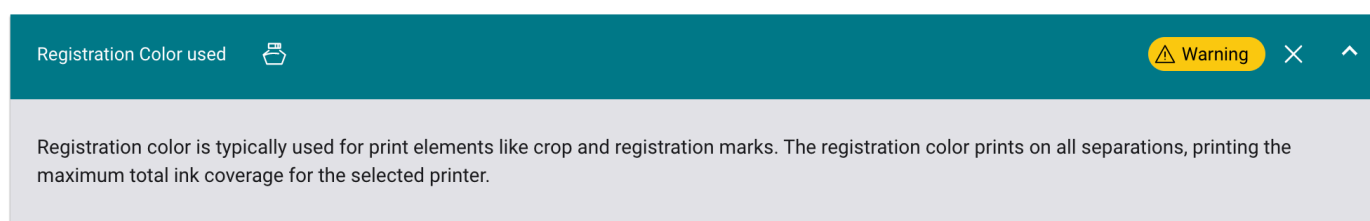
**Category:** Color

**Description:** Checks the print file to see whether objects colored with Registration Color are located within the selected Page Box.

Since different black definitions such as Pure Black, Rich Black, RGB Black, and Registration Color Black result in a different appearance in the print, attention should be paid to this issue.

**Solution:** Objects that use the Registration Color can be corrected afterward in the Workflow using the Fixup Convert Registration Color. Further Fixups, such as Convert Pure Black to Rich Black, Convert Black Text Objects to Rich Black, and Redye CMYK-Objects, can be applied to the Print Item afterward to ensure a uniform black representation in print.

**Figure 29:** The settings area for the Check *Registration Color used*





### Always convert Registration Color?

The option to automatically correct *Registration Color* is available system-wide by activating the Convert Registration Color to K option in *Administration > Settings > Color Management*. A similar Fixup is also available.

A general recommendation to convert Registration Colors to 100% K cannot be given, as this could result in clashes in color connector gradients. Stay on the safe side and observe the situation depending on the Print Item.

## 2.30. References Form XObjects found

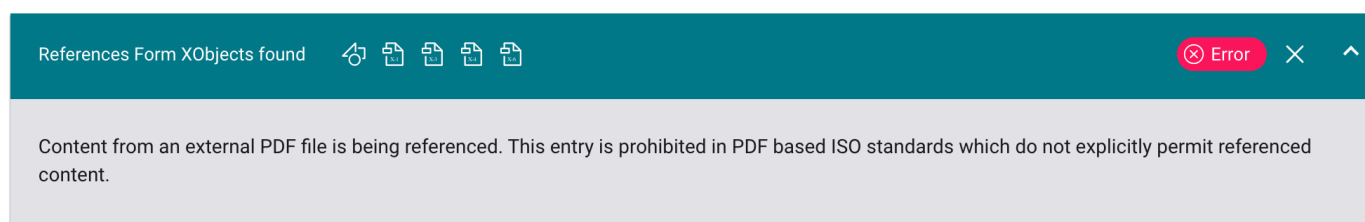
**Category:** Object, PDF/X-1a, PDF/X-3, PDF/X-4, PDF/X-6

**Description:** Checks whether an external file is referenced in the print file. Since no referenced files are resolved in the Workflow, such constructs can use only the preview file contained in the print file for rendering.

Referenced files are also not allowed in any PDF/X-driven Workflow, nor in PDF/A.

**Solution:** You must request a new print file from the data creator. Request a PDF/X-compliant print file where entries to referenced files will not be present.

**Figure 30:** The settings area for the Check *References Form XObjects found*



## 2.31. Resolution for Bitmap images is between

**Category:** Object, Image, Page Content

**Description:** This checks which bitmap images (black and white images) in the print file are within the specified resolution range. In conjunction with the resolution Check *Resolution for Bitmap images is lower than defined*, images with too low or not optimal resolution can be checked separately.

With this Check, only those images are checked that are located within the BleedBox.

**Solution:** To reduce the sawtooth effect in the print, images with a too-low resolution can be improved with the Fixup [Upscale Image Resolution](#).

**Figure 31:** The settings area for the Check *Resolution for Bitmap images is between*

Resolution for Bitmap images is between

The image resolution of bitmap images is greater than the defined minimum value and at the same time is also less than the defined maximum value.

Minimum Image Resolution

72 dpi

Maximum Image Resolution

300 dpi



#### Which image resolution range is correct?

The resolution of a bitmap image should on the one hand not exceed the maximum print resolution. On the other hand, it should be a fourfold higher value for color and grayscale images as minimum resolution.

## 2.32. Resolution of bitmap images lower than defined

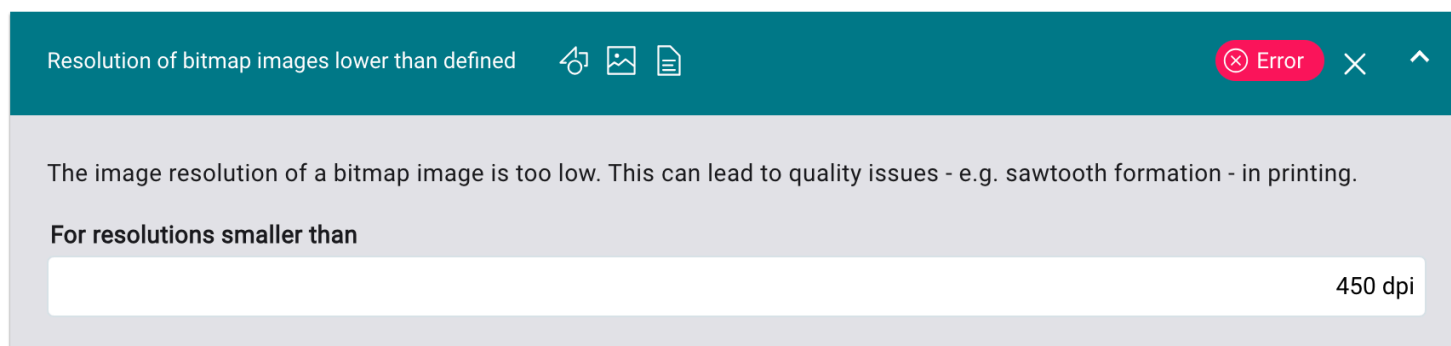
**Category:** Object, Image, Page Content

**Description:** This checks which bitmap images (black and white images) in the print file have a lower resolution than specified. In conjunction with the resolution of bitmap images is between check, images with too low or not optimal resolution can be checked separately.

With this Check, only those images are checked that are located within the BleedBox.

**Solution:** To reduce the sawtooth effect in printing, images with a too low resolution can be improved with the Fixup [Upscale Image Resolution](#).

**Figure 32:** The settings area for the Check *Resolution of bitmap images lower than defined*



#### Which image resolution range is correct?

The minimum resolution of a bitmap image should not be less than half the print resolution. A value greater than the print resolution is never useful.

### 2.33. Resolution for Grayscale and Color images is between




**Category:** Object, Image, Page Content

**Description:** This checks which halftone images (color or grayscale images) in the print file are within the specified resolution range. In combination with the check *Resolution for Grayscale and Color images is lower than defined*, images with too-low or not optimal resolution can be checked separately.

With this Check, only those images are checked that are within the BleedBox.

**Solution:** To reduce resolution artifacts in print, images with too low resolution can be improved with the Fixup [Upscale Image Resolution](#).

**Figure 33:** The settings area for the Check *Resolution for Grayscale and Color images is between*

Resolution for Grayscale and Color images is between    Warning × ^

The image resolution of color and grayscale images is greater than the defined minimum value and at the same time is also less than the defined maximum value.

**Minimum Image Resolution**

**Maximum Image Resolution**



### What is the correct resolution range?

The resolution of a halftone image should not exceed half of the print resolution and should usually be a maximum of a quarter of the print resolution. Thus, the resolution of the halftone image should be at least 150 dpi for a 600 x 600 dpi print, for example.

## 2.34. Resolution of gray scale or color images lower than defined

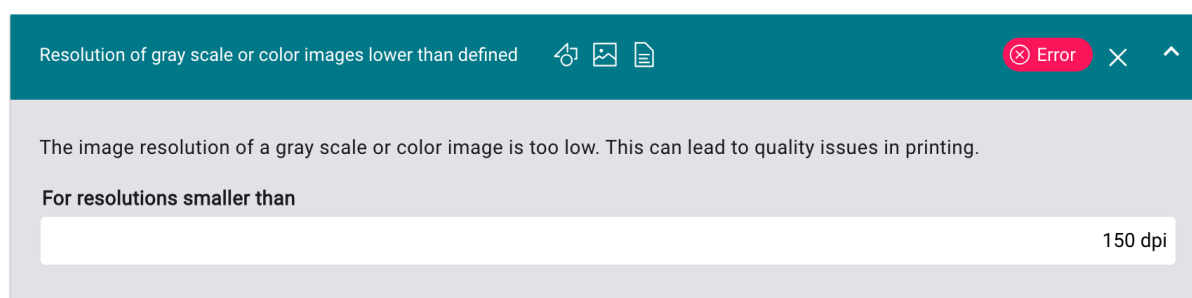
**Category:** Object, Image, Page Content

**Description:** This checks which halftone images (color or grayscale images) in the print file have a lower resolution than specified. In combination with the check *Resolution for Grayscale and Color images is between*, images with too low or not optimal resolution can thus be checked separately from each other.

With this Check, only those images are checked that are located within the BleedBox.

**Solution:** To reduce resolution artifacts in printing, images with too low a resolution can be improved with the Fixup [Upscale Image Resolution](#).

**Figure 34:** The settings area for the Check *Resolution of gray scale or color images lower than defined*



### What is the correct minimum resolution?

The minimum resolution of a halftone image (color or grayscale image) should not be less than one-eighth of the print resolution. A value greater than half of the print resolution is never useful.

## 2.35. RGB Object uses Rich Black

**Category:** Object, PDF/X-1a, PDF/X-3, PDF/X-4, PDF/X-6

**Description:** Checks whether RGB objects of the selected object type - Text, Vector, Text and Vector, Image or All Objects - will be printed in jet black. While texts and vectors are checked by entering a minimum value for each RGB channel, images are checked with respect to the maximum Total Ink Coverage (TAC).

Use this check to find objects in the print file that would not print uniform black or would print with too much ink coverage.

**Solution:** Rich black RGB objects must first be converted to the CMYK color space using the "Convert to CMYK" Fixup before non-uniform black objects can be changed using the "Redye CMYK Objects" Fixup or converted to a Spot Color using the "Convert CMYK Values to Spot Color" Fixup.

**Figure 35:** The settings area for the Check *RGB Object uses Rich Black*



RGB Object uses Rich Black

Warning

Checks whether RGB objects of the selected object type - Text, Vector, Text and Vector, Image or All Objects - would be printed as Rich Black. While "text" and "vectors" are checked by entering a minimum value for each RGB channel, images are checked with regard to the maximum Total Ink Coverage (TAC).

**Apply to**

Text and Vector

**Red Channel (less than)**

20

**Green Channel (less than)**

20

**Blue Channel (less than)**

20

**Total Ink Coverage check (only for "Images" and "All Objects")**

**Maximum Total Ink Coverage**

290

## 2.36. SmoothShade is overprinting

**Category:** Object, Page Content

**Description:** With this check, it is possible to find overprinting gradients (smooth shades). Overprinting gradients can allow objects behind them to show through in the print. Overprinting gradients are usually used for design purposes only. In most cases, overprinting gradients are not wanted by the designer - except the packaging industry - which would lead to an undesired effect in the print. This would have to be clarified in advance with the print data creator and approval would have to be requested.

**Solution:** There is no Fixup option available in the Workflow to solve the problem. The issue must be clarified in advance.

**Figure 36:** The settings area for the Check *SmoothShade is overprinting*

SmoothShade is overprinting

Info

Overprinted Smooth Shade. Checks whether a gradient overprints. Overprinting gradients can cause the background to show through.

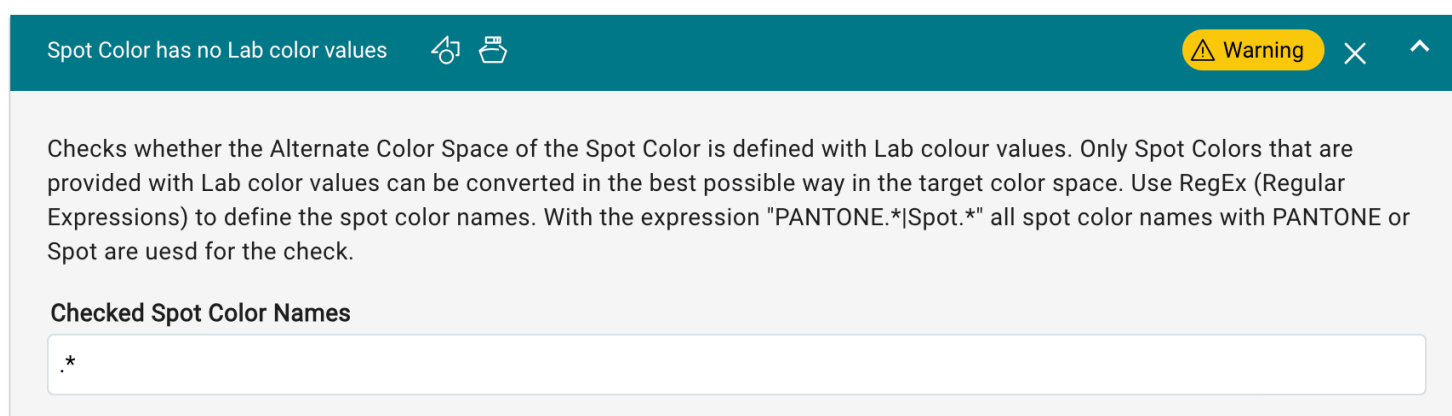
## 2.37. Spot Color has no Lab color values

**Category:** Color, Object

**Description:** Checks whether the Alternate Color Space of the Spot Color is defined with Lab colour values. Only Spot Colors that are provided with Lab color values can be converted in the best possible way in the target color space. Use RegEx (Regular Expressions) to define the spot color names. The expression "PANTONE.\*|Spot.\*" finds all spot color names that have "PANTONE" or "Spot" in the spot color name at the beginning and any character after it. With the expression ".\*" (default value of the variable) all spot color names are used for the check.

**Solution:** Convert all Spot Colors with CMYK values in the Alternate Color Space to CMYK. To do this, use the Fixup [Convert Spot Colors with CMYK Alternative Colors to CMYK](#), which is available in the Check-in template. It is also possible to apply the Fixup [Convert Spot Colors to CMYK](#) in a Fixup Chain or by applying the single Fixup.

**Figure 37:** The settings area for the Check *Spot Color has no Lab color values*



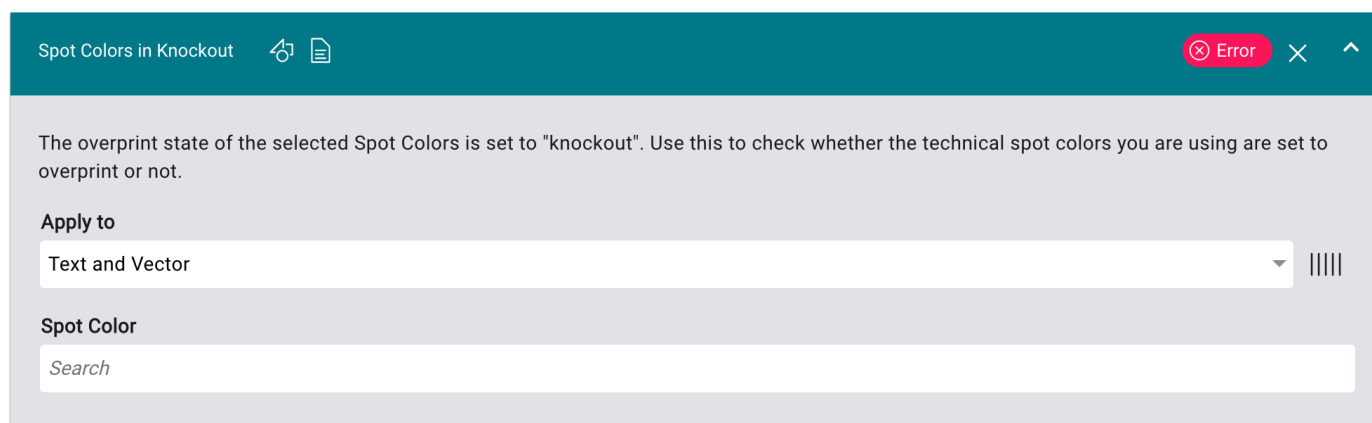
## 2.38. Spot Colors in Knockout

**Category:** Object, Page Content

**Description:** Checks objects - *text and vectors*, *text* or *vectors* - colored with the Spot Color you are looking for, to see if the overprinting status of the object is set to "Knockout". This check can be used mainly to find Technical Colors which are set to Knockout in a Print Item.

**Solution:** You can automatically correct objects which are set to Knockout and are colored with the searched Spot Color. This is possible either afterward with the Fixup [Set Overprint State for Spot Colors](#) or with the Fixup [Set Spot Colors to "Overprint"](#) in the Check-in Template.

**Figure 38:** The settings area for the Check *Spot Colors in Knockout*



### Is it possible to use a Check and a Fixup together?

If a Check and a Fixup are offered for the same task in the Check-in profile, you should use either only the Check or only the Fixup in a check template. Thus, you can save some time in the check-in process.

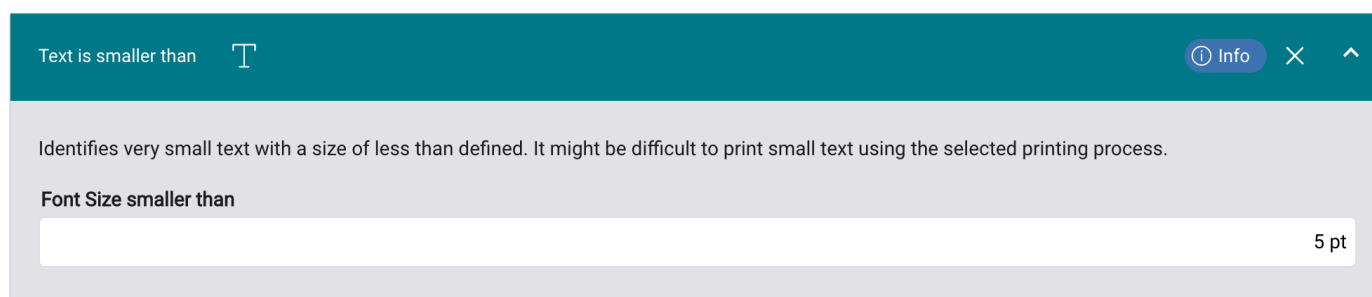
## 2.39. Text is smaller than

**Category:** Text

**Description:** This checks whether there are text objects with font sizes smaller than the specified font size in the print file. Use this check to find product-specific minimum sizes.

**Solution:** Font sizes cannot be changed by any Fixup in the Workflow. A tool for editing text in PDF files - e.g. OnPoint PDF Editor - can be used for this alteration.

**Figure 39:** The settings area for the Check *Text is smaller than*



## 2.40. Text is overprinting

**Category:** Text

**Description:** Checks if text is overprinted, which could cause objects in the background to shine through. The check can be restricted to texts larger than, and alternatively to black text only.

**Solution:** Overprinted black texts can be corrected afterwards with the Fixup [Set Black Objects to Knockout](#) and converted to Rich Black with the Fixup [Redye CMYK-Objects](#).

**Figure 40:** The settings area for the Check *Text is overprinting*

Text is overprinting T

Info X ^

Checks if text is overprinted, which could cause objects in the background to shine through. The check can be restricted to texts larger than, and alternatively to black text only.

☐ Restrict to Text Size

Text is greater than

12 pt

☐ Restrict to black text only - "CMYK=0/0/0/100", "RGB=0/0/0" or "Gray=100".

## 2.41. Text- or Vector object uses device dependent RGB (DeviceRGB)

**Category:** Color, Text, PDF/X-1a

**Description:** This Check finds RGB text or RGB vector objects that do not have a source profile. When rendering, the RGB Working Color Space ICC profile set in *Administration > Settings > Color Management* is assigned. This may result in significantly different colors in the output if the Working Color Space ICC profile and the ICC profile, which are used when creating the objects, differ.

RGB text and RGB vector objects are not allowed in PDF/X-1a driven Workflows anyway.

**Solution:** Device RGB text and RGB vector objects can be assigned afterwards with a source profile via the Fixup [Assign Source Profile for RGB objects](#).

**Figure 41:** The settings area for the Check *Text- or Vector object uses device dependent RGB (DeviceRGB)*

Text- or Vector object uses device dependent RGB (DeviceRGB)



Warning



The RGB object (text or line art) has no attached source profile. This is necessary for predictable color conversion. The standard RGB Working Color Space is set in "Administration > Setting > Color Management" and is used to convert the image during rendering.



### Which RGB source profile should be assigned?

In principle, print data with missing RGB source profiles should be clarified in advance with the print data creator.

If you do not want to initiate an approval process with the data creator, we recommend assigning *sRGB* as the source profile. This is recommendable when the data creator has little knowledge of color management.

However, we would like to point out once again that there is no 100% solution here and the issue must always be solved assuming a certain situation.

## 2.42. Text or Vector element uses Lab

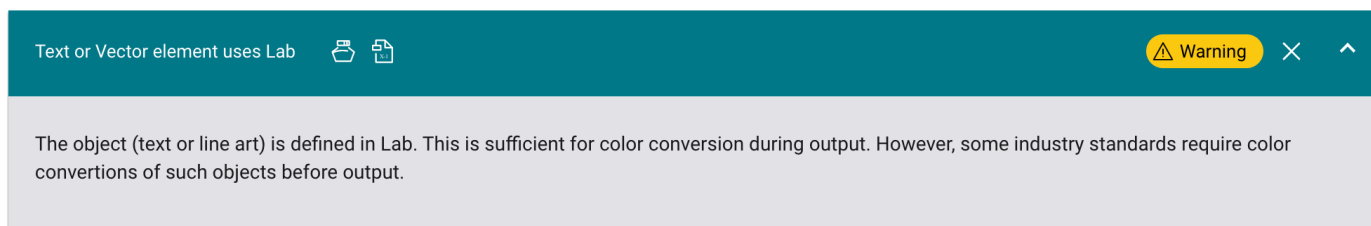
**Category:** Color, PDF/X-1a

**Description:** This will find Lab texts as well as vector objects. These objects are converted during rendering into the selected intermediate color space, which you have set in *Administration > Settings > Color Management > Working Color Space > CMYK*, before they are converted into the *Output Color Space*. Thus, the color representation in the PDF viewer may differ significantly from the printed result.

Lab texts and vectors are also not allowed in PDF/X-1a driven Workflows.

**Solution:** Work with a large CMYK Working Color Space - e.g.: *eciCMYK v2* - to reduce color differences to a minimum (of the possible Output Color Space).

**Figure 42:** The settings area for the Check *Text or Vector element uses Lab*



## 2.43. Transparency blend color space is not DeviceCMYK

**Category:** Color

**Description:** Checks whether the transparency Blend Color Space is set to DeviceCMYK. If this is the case, unnecessary or unexpected color shifts may occur during transparency flattening during rendering.

**Solution:** You can set the transparency blend color space to DeviceCMYK using the Fixup [Set transparency blend color space to DeviceCMYK](#) in the Check-in Template.

**Figure 43:** The settings area for the Check *Transparency blend color space is not DeviceCMYK*



## 2.44. Transparency used

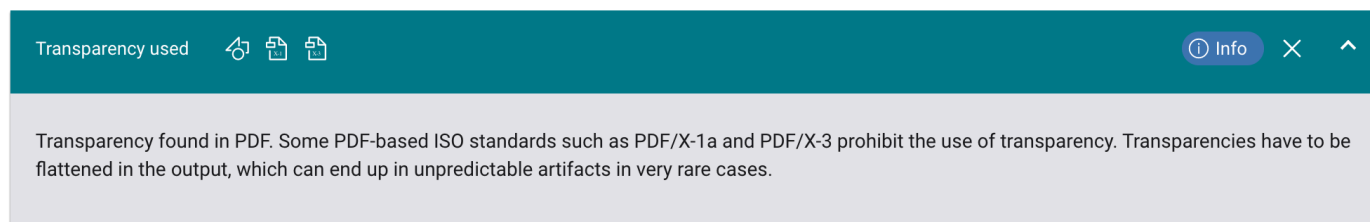
**Category:** Object, PDF/X-1a, PDF/X-3

**Description:** Checks if there are transparent objects in the print file.

Furthermore, transparencies are only possible in PDF versions larger than PDF1.3 and in PDF/X versions larger than PDF/X-3.

**Solution:** Transparencies are flattened during rendering according to the set transparency flattening color space. In addition, transparencies can be flattened afterward with the Fixup [Flatten Transparency](#). Note that before flattening transparencies in the Workflow, perform all Fixup which are to be applied - resizing, color corrections, Spot Color mapping, etc. - in advance, since applying Fixups afterward could result in color changes as well as low-resolution image content.

**Figure 44:** The settings area for the Check *Transparency used*



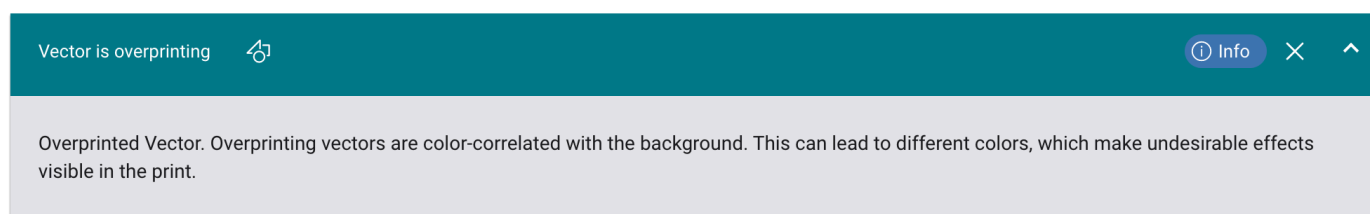
## 2.45. Vector is overprinting

**Category:** Object

**Description:** With this check it is possible to find overprinting vectors. Overprinting vectors can allow objects behind them to show through in the print. Overprinting vectors are usually used for design purposes only. In most cases, overprinting vectors are not intended by the designer, which would lead to an undesired effect in the print. This situation should be clarified in advance with the print data creator and approval requested.

**Solution:** There is no Fixup option available in the Workflow to solve the problem. The issue must be clarified in advance.

**Figure 45:** The settings area for the Check *Vector is overprinting*



## 2.46. White stroked text is not set to knockout

**Category:** Text

**Description:** Checks the print file for white - CMYK=0/0/0, RGB= 255/255/255 as well as gray=100 - overprinting strokes of a text. Overprinting white strokes of a text would disappear during rendering and thus be missing as a graphic element in the printout.

**Solution:** White overprinting strokes of a text can be set to Knockout in the Workflow on the one hand with the Fixup [Set White Objects to Knockout](#). On the other hand, they can be dealt with using the option Set white objects to Knockout in *Administration > Settings > Color Management*.

**Figure 46:** The settings area for the Check *White stroked text is not set to knockout*

White stroked text is not set to knockout



Error



White objects should be set to knockout, otherwise they may simply disappear when the PDF is printed. This check lists text objects inside the TrimBox using white (CMYK 0/0/0/0 or RGB 255/255/255).



### Set "Set White Objects to Knockout" as General Setting

In *Administration > Settings > Color Management*, activate the Set White Objects to Knockout option in General Settings. This is recommendable since such objects generally make no sense in a print file. If you follow this recommendation, this check can be omitted in a Check-in Template.

## 2.47. White text is not set to knockout

**Category:** Text

**Description:** Checks the print file for white - CMYK=0/0/0, RGB= 255/255/255 as well as gray=100 -, overprinting texts. Overprinted white texts would disappear during rendering and thus be missing as a graphic element in the printout.

**Solution:** White overprinting texts can be set to Knockout in the Workflow on the one hand with the Fixup Set White Objects to Knockout. On the other hand, they can be dealt with using the option Set White Objects to Knockout in Administration > Settings > Color Management.

**Figure 47:** The settings area for the Check *White text is not set to knockout*

White text is not set to Knockout



Error



White objects should be set to Knockout, otherwise they may simply disappear when the PDF is printed. This check lists text objects inside the TrimBox using white (DeviceCMYK 0/0/0/0 or DeviceRGB 255/255/255) which are set to overprint. ICC-based white objects that are set to overprint are not identified by this check because they will be knocked out during rendering.



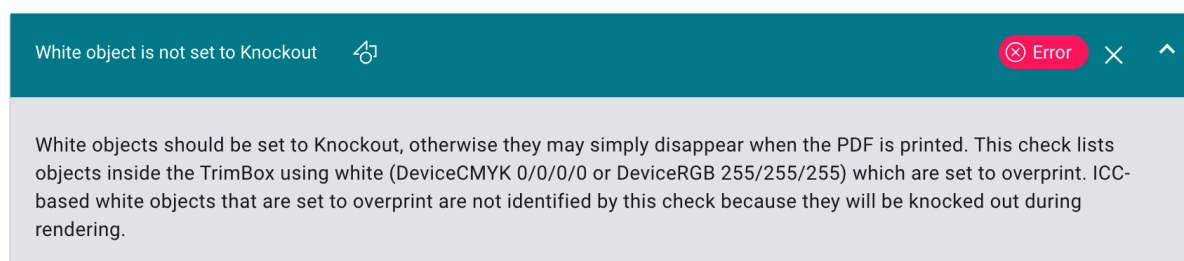
## 2.48. White object is not set to knockout

**Category:** Object

**Description:** Checks the print file for white - CMYK=0/0/0, RGB= 255/255/255 and Gray=100 - overprinting objects. Overprinting white objects would disappear during rendering and thus be missing as a graphic element in the printout.

**Solution:** White overprinting objects can be set to Knockout in the Workflow using the Fixup [Set White Objects to Knockout](#) on the one hand and the [Set White Objects to Knockout](#) option in *Administration > Settings > Color Management* on the other.

**Figure 48:** The settings area for the Check *White object is not set to knockout*



### Do not create duplicate warnings or errors

If you have selected the check *White object is not set to Knockout*, you should not use the check *White text is not set to Knockout*, *White stroked text is not set to Knockout* in the Check-in Template, as this would result in two warnings or errors for the same object.



### Select "Set White Objects to Knockout" as General Setting.

In *Administration > Settings > Color Management*, activate the option Set White Objects to Knockout in General Settings. This is recommendable since such objects generally make no sense in a print file. If you follow this recommendation, this check can be omitted in a Check-in Template.

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