

# FlexoTools for Adobe Photoshop

## 24.03

User Guide

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Mesa 3-D graphics library

Version: 7.0

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-----  
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Section: pkg.m4 - Macros to locate and utilise pkg-config.

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## 2. Installation and Setup

---

### 2.1. Installing the Flexo Tools

---

- Open the `Photoshop.mpkg` package on the installation disk and follow the instructions on screen.



This will install the **Flexo Tools** in your Adobe Photoshop® Plug-Ins folder and the **License Manager** in your Applications folder.

### 2.2. Esko Setup

---

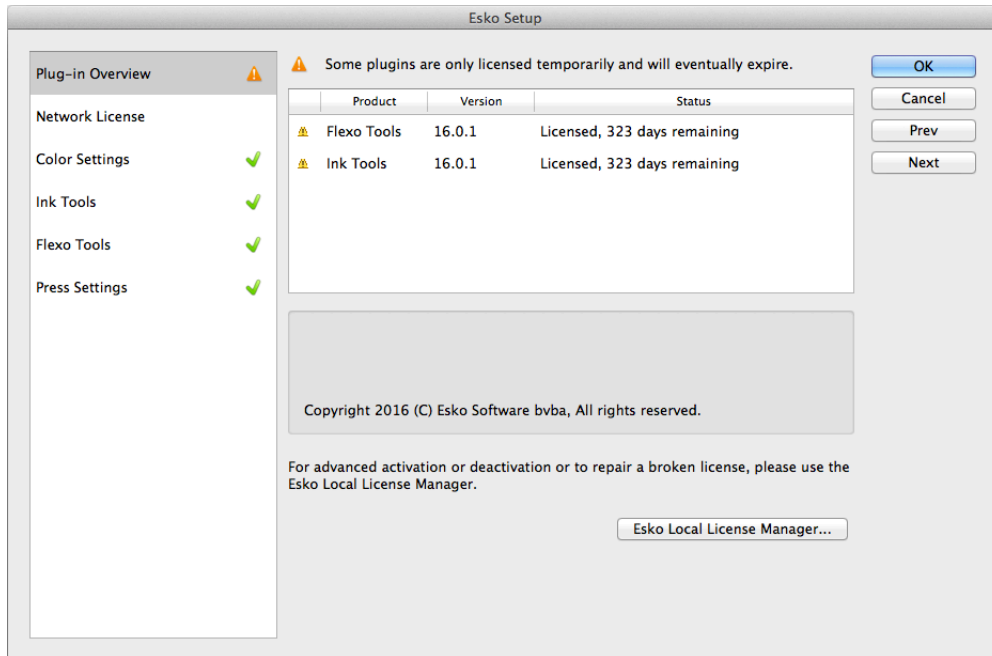
You can open the Esko Setup dialog by choosing **File > Automate > Esko Setup**

The Esko Setup contains multiple tabs:

- [Plug-in Overview](#) on page 32
- [Network License](#) on page 33
- [Color Settings](#) on page 34
- [Flexo Tools](#) on page 34
- [Press Settings](#) on page 35

You can change the tab by clicking it on the left, or by using the **Prev** and **Next** buttons.

## 2.2.1. Plug-in Overview



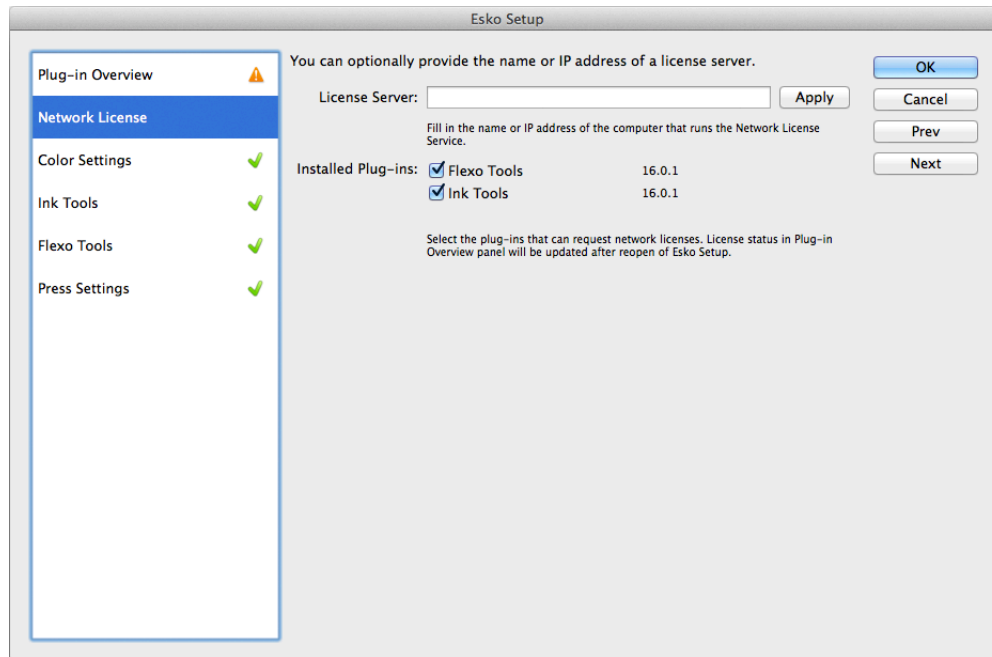
The Plug-in Overview gives an overview of the currently installed Esko Plug-ins, their version and their license status.

You can use the **Activate** button to activate a single product key online.



For more activation, deactivation and repair options, you can click the **Esko Local License Manager...** button to open the Esko Local License Manager. For more information, we refer to the Local License Manager documentation.

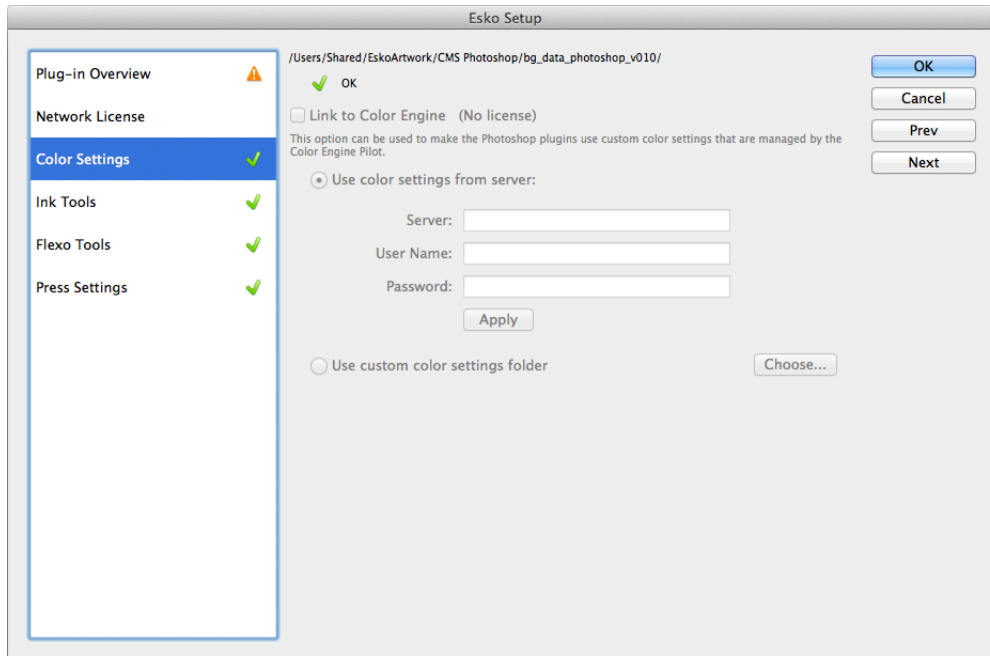
## 2.2.2. Network License



In the Network License tab, you can define the name or the IP address of the computer that runs the Network License Service, and the plug-ins that should use a Network License.

For more information, we refer to the Network License Manager documentation.

## 2.2.3. Color Settings



The Color Settings tab shows the current color setting folder path. Enable **Link to Color Engine** to use custom color settings that are managed by Color Engine Pilot.

You can either use the color settings from the server, or use a custom color settings folder, managed by Color Engine Pilot.

In the first case, you need to provide the server name and credentials, in the second you need to define the color settings folder location.

## 2.2.4. Flexo Tools

Before you can work with any of the Flexo Tools, you need to specify a **DeskPack Folder**. This folder is used internally by the Flexo Tools to store settings.

- Use the **Choose...** button to select an existing folder or to create a new one to use as **DeskPack Folder**.


**Note:**

If you are running several copies of the Flexo Tools on a network, we recommend that you use the same **DeskPack Folder** for all copies. With this setup, all Flexo Tools can use the same Press Settings.

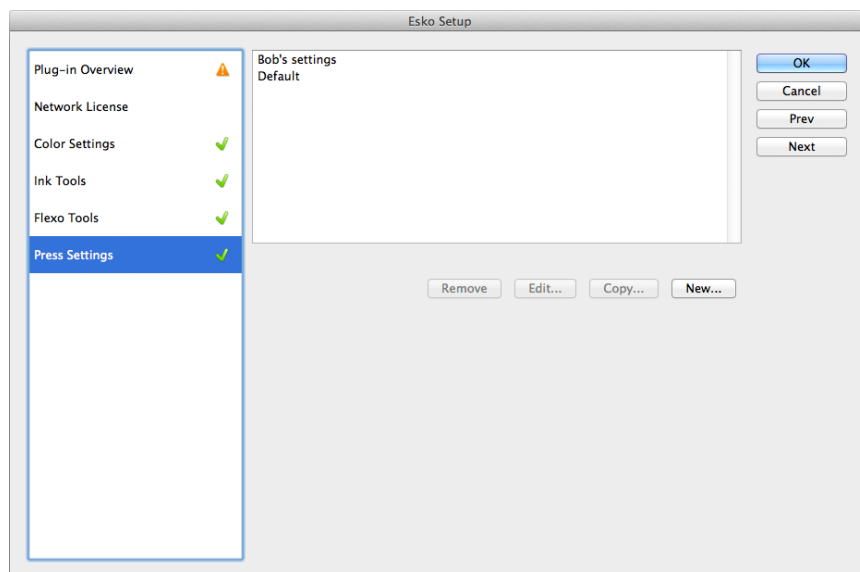
If you also have DeskPack products on Adobe Illustrator®, we suggest that you use the **DeskPack Container** as DeskPack Folder.

## 2.2.5. Press Settings

The Flexo Tools allow you to create and maintain a list of press configurations. Each configuration holds technical parameters of the output process (RIP + platemaking + press + inks + substrate). You can guarantee a consistent retouching workflow by having all Flexo Tools use the same press configuration.

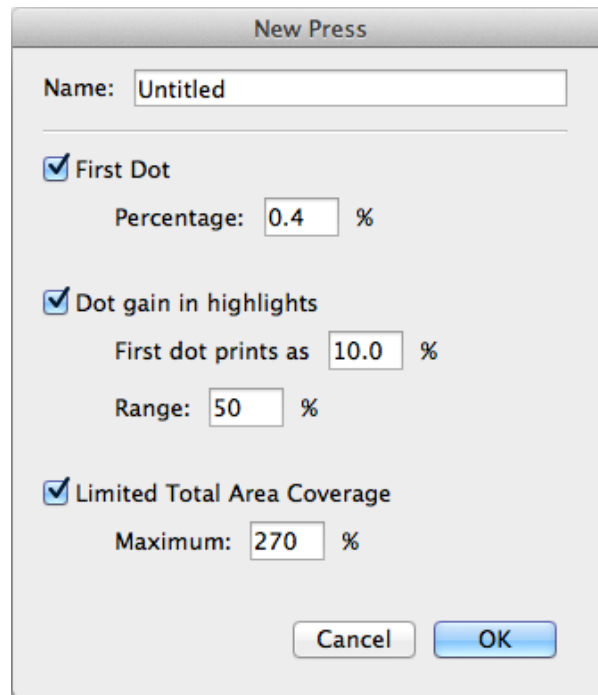
There is always one press setting called 'Default' which can be edited but not removed.

If it doesn't exist yet, Flexo Tools will create a default press settings folder. On Windows: C:\Users\Public\Documents\EskoArtwork\DeskPack Photoshop and on Mac: /Users/Shared/EskoArtwork/DeskPack Photoshop



### Making new Press Settings

Press **New...**, this will show the New Press dialog:



**Name:** Enter the name of the new press setting.

**First Dot:** You can specify which first percentage that yields a dot on the plate. Toggle First Dot on and enter the first percentage. As you can see, the percentage value has a decimal digit (see [About High Precision Percentages](#) on page 37).



**Note:**

The percentage you enter here is a job-percentage. It corresponds with the grayvalue of the pixels in the digital file that yield the first dot on plate when the RIP and platemaking are in normal operational conditions. This means after the DGC has been set up completely. The value does not correspond with any measurement that has been made prior or during DGC set up, nor does it correspond with any densitometer measurement on plate or on print. In fact, this value is (implicitly) chosen by the person who set up the DGC and plate-making. Typical values range from 0.4% to 1.6%.



**Note:**

When you don't specify a first dot, you won't be able to use the following Flexo Tools using this press setting:

- The [viewX Flexo Plate Preview layer](#) on page 44
- The [viewX Flexo Print Preview layer](#) on page 45
- [The FlexoFix Filter](#) on page 51
- [The FlexoClean Filter](#) on page 48

**Dot gain in highlights:** When you specified a first dot job percentage, you can (optionally) specify how dark it actually prints. Toggle on Dot Gain In Highlights and specify the dot gain parameters.

**First dot prints as:** Here you can enter the dot gain of the first dot. Typical values range from 5% to 15% depending on the substrate. The value is a job-percentage that will print on an ideal reference press as dark as the first dot prints on this press.

The images that are supplied to you are made to look good on an offset press with typical offset dot gain. Your color management is also configured to display the image on your screen with typical offset dot gain. In that case, when you enter 10% here, you're saying that your flexo press prints its first dot as dark as the ideal offset press is printing a 10%.

**Range:** The previous value measured the amount of dot gain in the highlights, this value expresses how far this effect penetrates into the midtones. Typically plate making is configured in such a way that the mid-tones print like an offset press.



**Note:**

When you don't specify Dot Gain In Highlights, you won't be able to use the following Flexo Tools:

- The [viewX Flexo Plate Preview layer](#) on page 44
- [The FlexoFix Filter](#) on page 51

**Limited Total Area Coverage:** Total Area Coverage is the sum of percentages of the different channels on the same location. A higher total area coverage means more ink on top of each other. If you want you can specify the maximum amount of ink that the substrate can take on the same spot. Toggle on Limited Total Area Coverage and specify the maximum amount.

## Viewing, Editing and Removing Press Settings

Use the **Copy...** button to create a duplicate of the selected press settings.

Use the **Edit...** button to edit existing Press Settings. You can also double click a press.

Use the **Remove** button to delete the selected Press Settings.



**Caution:**

Removing press settings might also affect other workstations. See [Flexo Tools](#) on page 34.



**Note:**

The default press setting cannot be removed, you can, however, edit it.

## About High Precision Percentages

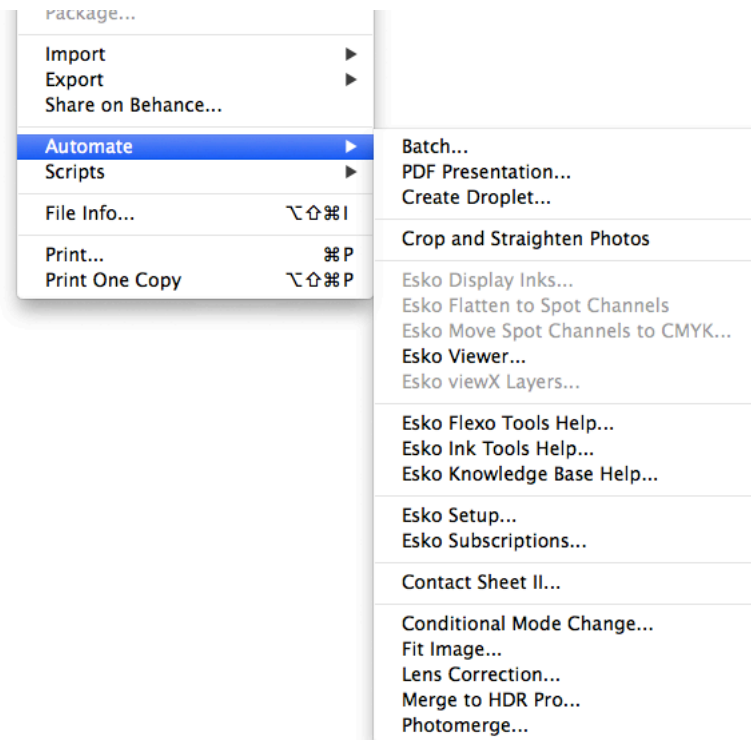
The Flexo Tools user interface often makes use of percentages with a decimal digit. Internally Photoshop has an 8-bit precision, yielding 256 different possible grey-values. A single grey value in an image may make the difference between a dot or no dot on a flexo plate. Wherever this precision is needed, the Flexo Tools will use percentages with a decimal digit.

Grayvalue	Percentage
0	0.0%
1	0.4%
2	0.8%
3	1.2%
4	1.6%
...	...
254	99.6%
255	100.0%

## 3. Where to find the Flexo Tools

---

1. Open a **CMYK** image in Photoshop.
2. Go to **File > Automate**, and you will see the Flexo Tools:



Use the **Press Settings...** in **Esko Setup** to store technical parameters of the output process (RIP, platemaking, press, inks and substrate). Having all Flexo Tools use the same Press Settings guarantees a consistent retouching workflow.

Use the **viewX Layers...** to visualize certain print characteristics, to help you detect possible printing problems.

Use the **Viewer** to get a very accurate separation viewer. See [Viewer](#) on page 55

See [Press Settings](#) on page 35 and [viewX Layers](#) on page 41 for more information.

**Note:**

You can find other Flexo Tools in the **Filter > DeskPack** menu.

Use the **FlexoClean...** filter to clean up the separations and prevent scattered dots or holes on the plate.

Use the **FlexoFix...** filter to improve the printing quality of images on a flexographic press.

Use the **Reseparate** filter to modify the CMYK separations without changing the appearance of the image.

For more information, see [The FlexoClean Filter](#) on page 48, [The FlexoFix Filter](#) on page 51 and [Reseparate](#) on page 53.



## 4. viewX Layers

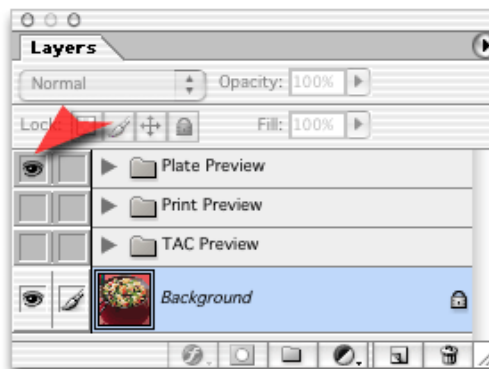
viewX Layers are Photoshop layer-sets, created by the Flexo Tools. You can find them under **File > Automate**. They can help you visualize certain print-characteristics. This makes it easier to detect possible printing problems.

There are three viewX Layer sets, each serving a different purpose:

1. Flexo Plate Preview: shows a single separation as a processed flexo-plate. This makes it easy to see where there will be dots and where there will be no dots in the highlights. ([viewX Flexo Plate Preview layer](#) on page 44.)
2. Flexo Print Preview: shows the effect of highlight dot gain on a composite image. Shows the desaturation and tonal jumps in the image due to the dot gain of the first dot. ([viewX Flexo Print Preview layer](#) on page 45.)
3. TAC Preview: shows where the sum of densities exceeds the TAC limitation of the printing substrate. ([viewX TAC Preview layer](#) on page 46.)

Please refer to [Working with viewX Layers](#) on page 42.

After you created one or more viewX layers, you can easily show and hide the effect by showing and hiding the viewX layer.



### Caution:

- When flattening the file when one of the viewX layers is visible, the adjustment will be calculated into the separations. This is probably not the intention. Make sure to toggle the viewX layers invisible prior to flattening or saving to a flat file-format (Esko-Graphics CT, EPS, ...).
- The visible viewX layer will affect the number of the densitometer in the Info palette. To measure the real densities, hide the viewX layer.
- viewX layers are adjustment layers. Photoshop does not support adjustment layers on multi-channel images. That's why the viewX layers are only available on composite CMYK images.

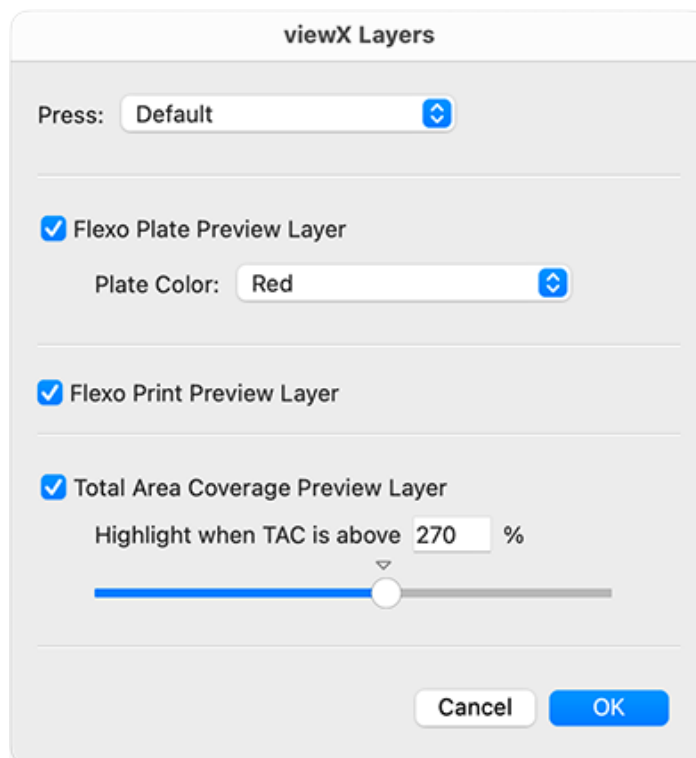
The **Viewer** is an alternative way to check printing characteristics and measure pixels, without the limitations mentioned above. The Viewer is explained here: [Viewer](#) on page 55. For more specific info on the Flexo Print or Flexo Plate preview in the Viewer, you can go directly to [Quality Control](#) on page 58

## 4.1. Working with viewX Layers

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### 4.1.1. Creating viewX Layers

To create viewX layers, go to **File Menu > Automate > Esko viewX Layers ...** A dialog pops up:



**Press:** shows the list of all press-configurations. See [Press Settings](#) on page 35 on how to edit these configurations.

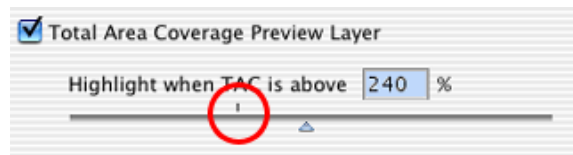
**Flexo Plate Preview Layer:** toggle this on if you want a Flexo Plate Preview layer. When the selected press has no first dot setting, this checkbox is disabled. (More on [viewX Flexo Plate Preview layer](#) on page 44).

**Plate Color:** pick the plate color that is to be used for the preview. This is strictly a visual setting. Just pick the one you like.

**Flexo Print Preview layer:** toggle this on if you want a Flexo Print Preview Layer. When the selected press has no highlight dot gain settings, this checkbox is disabled. (More on [viewX Flexo Print Preview layer](#) on page 45).

**TAC Preview layer:** toggle this on if you want a TAC Preview layer. (More on [viewX TAC Preview layer](#) on page 46).

**Highlight when TAC is above x %.** Areas in the image will be highlighted if the local sum of densities is higher than the value you select here. If there is a TAC-limit set for the selected press, that value will be shown by a marker on the scale. You're free to use a different setting for the visualization. A little marker indicates the TAC limit specified in the selected press settings. See [Press Settings](#) on page 35.

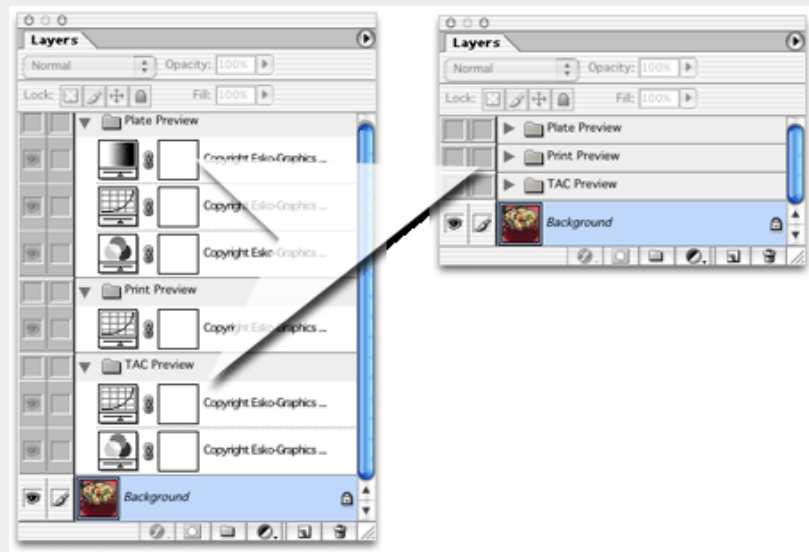


Press OK to create or modify the viewX layers. The different layer sets will be created.



**Tip:**

The content of the viewX layers are controlled by Flexo Tools. So after creating the viewX layers, we strongly recommend to close them in the Layers palette.



## 4.1.2. Deleting viewX Layers

To delete one or more of the viewX layers, go to **File Menu > Automation > Esko viewX Layers...** and toggle off the layers you no longer need. Another way to quickly delete all viewX layers, is by hiding the

viewX layers and using the Photoshop functions Delete Hidden Layers or Flatten Image. You can also drag the viewX layers to the trash button.

### 4.1.3. Using the viewX Layers

viewX layers work much like regular Photoshop adjustment layers: when toggled visible, an adjustment layer applies an effect on all underlying visible layers. The other layers are not really changed, only the visualization and the densitometer measurements are affected.



**Caution:**

Make sure the viewX layers are not visible when you merge layers. When regular layers are merged or flattened together with adjustment layers, the adjustments are calculated into the result. This can also happen when changing the image mode or saving to an unlayered file.



**Caution:**

The color values in the Info palette are incorrect when the viewX layers are visible.

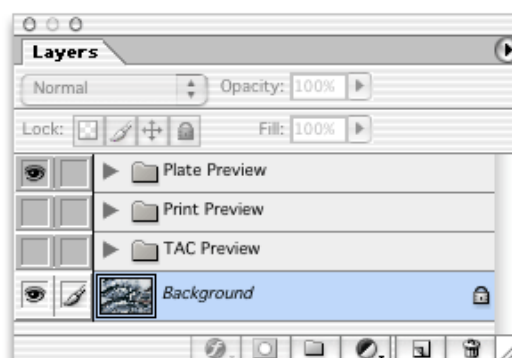
viewX layers are not completely like Photoshop's adjustment layers: viewX layers cannot be selected or changed since they are managed by Flexo Tools and created with the 'viewX layers...' option. You can only hide/show them. There can only be one viewX layer visible at a time.



**Note:** The **Viewer** is an alternative way to check printing characteristics and measure pixels, without the limitations mentioned above. The Viewer is explained here: [Viewer](#) on page 55. For more specific info on the Flexo Print or Flexo Plate preview in the Viewer, you can go directly to [Quality Control](#) on page 58

## 4.2. viewX Flexo Plate Preview layer

This viewX layer shows the selected channel as a processed flexo plate.



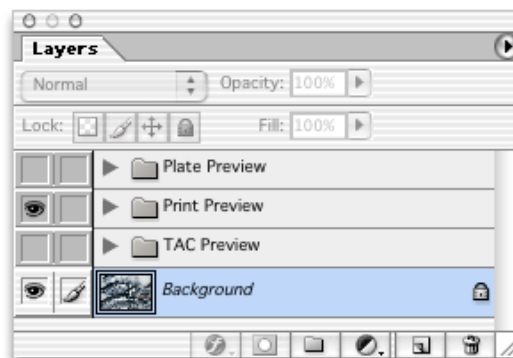
With the flexo plate preview, areas on the plate with dots can be easily distinguished from the areas without dots. There can only be one channel selected when this viewX layer is visible.

The Flexo Plate Preview Layer will use the first dot percentage from the [Press Settings](#) on page 35. Pixels with a percentage lower than the first dot percentage will be shown as areas without dots. Pixels with a percentage equal or higher than the first dot percentage will be shown as areas with dots.



### 4.3. viewX Flexo Print Preview layer

This viewX layer shows the effect of highlight dot gain on the image.



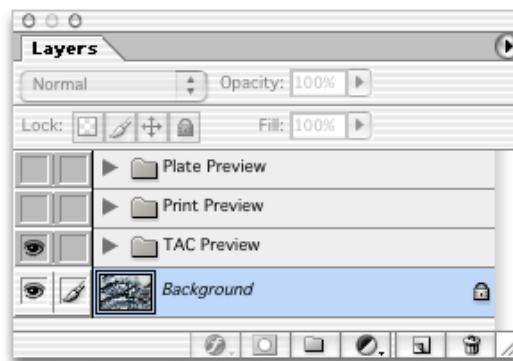
This effect is equivalent with curve adjustment. To determine this curve, the Flexo Print Preview Layer will use the first dot and the highlight dot gain settings from the selected press. Going from light to dark, the Print Preview layer will display percentages below the first dot percentage as 0%. The first dot percentage will be shown darker (using the First Dot prints As value). Towards the midtones this darkening effect will fade out until the Range value. Percentage larger than Range, are displayed unchanged.

See also: [Press Settings](#) on page 35.



## 4.4. viewX TAC Preview layer

This viewX layer clearly highlights the areas in the image where the sum of the densities exceeds the total area coverage limit of the printing substrate.



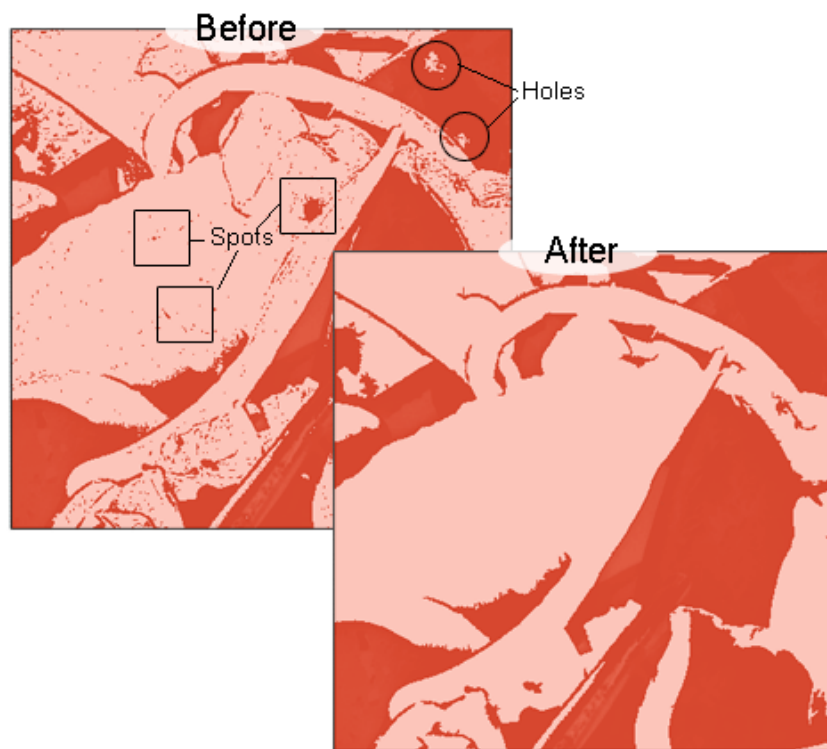
This limit-value is chosen when [Creating viewX Layers](#) on page 42...



## 5. The FlexoClean Filter

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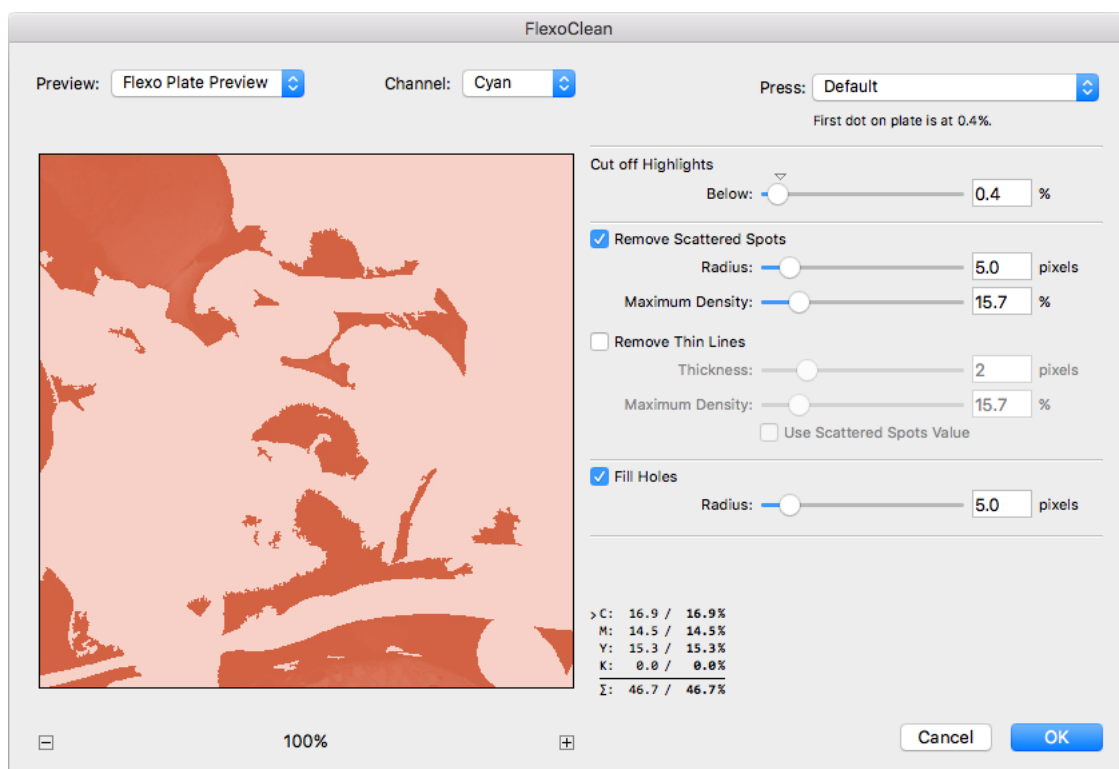
The FlexoClean filter is an image filter that prevents scattered dots or holes on the plate by cleaning up the separations. You can run the filter on one or on all CMYK channels. All selected channels will be cleaned (independently from each other). Multi-channel images can also be cleaned, but then you have to filter the channels one at a time.



To open the filter, choose **Filter Menu > DeskPack > FlexoClean**.

A dialog will pop up:





On the right hand side are the filter parameters. Pressing OK (or hitting the enter key) will apply the filter on the current Photoshop selection. Pressing Cancel (or hitting the escape key) will close the dialog. On the left hand side of the dialog there is the possibility to compare the original image with a preview of the filter.

**Press:** Shows the list of all press-configurations. See [Press Settings](#) on page 35 on how to edit these configurations. The first dot percentage value from the selected press will be used by the filter to determine where there will be dots on the plate. The filter will also make sure that all highlight percentages below the first dot percentage are pulled down to 0% or pulled up to the first dot percentage.

**Cut off Highlights Below:** Normally the plate making process will cut off the highlights below the First Dot Percentage (see [Making new Press Settings](#) on page 35). With this slider however you can influence this cut-off point for this image: All pixels with a percentage below this value will be set to 0% so that they will definitely not generate dots on the plate. If you choose a value of 0%, the highlights will not be cut-off at all and the plate will have dots everywhere.

**Remove Scattered Spots:** When this toggle in on, the filter will scan the selected channels one by one, looking for groups of pixels that will end up as an isolated dot or group of dots on the plate. When such a group of pixels is found the filter will replace it by 0% pixels.

**Radius:** Spots will only be removed if they are smaller than the given radius.

**Maximum Density:** Spots will only be removed if the darkest pixel of the spot is not darker than this given value.

**Remove Thin Lines:** when this toggle is on, the filter will scan the selected channels one by one, looking for thin lines of pixels. When such lines are found the filter will replace it by 0% pixels.

**Thickness:** Lines will only be removed if they are smaller than the given thickness.

**Maximum Density:** Lines will only be removed if the darkest pixel of the line is not darker than this given value.

**Use Scattered Spots value** will disable the sliders for the Thin Line parameters, and the **Scattered Spots** parameters will be used.

**Fill Holes:** When this toggle is on, the filter will scan the selected channels one by one, looking for groups of pixels that will end up as an area without dots completely surrounded by dots. When such a group of pixels is found, and it is not too big, it will be replaced by pixels that yield the smallest stable dot, filling the hole. Radius: Holes will only be filled if they are smaller than or equal to the given radius.

**Preview Area:** On the left, there is a big preview area, where a preview of the filter's result is shown. Use the Plus and minus buttons below to change the zoom. Click and drag in the preview image to pan and show a different part. Just click and hold in the preview image to see the original image. This can be used to compare the filter's result with the original image.

**Channel:** Choose which channel(s) to view in the preview area. This only affects the visualization in the preview area, not the effect of the filter.

**Preview:** The image in the preview area can be shown with one of the viewX visualization modes:

- Image (default): No visualization mode, the preview (and original image) is shown with normal Photoshop visualization.
- Flexo Plate Preview: The image in the preview area is shown as a flexo plate. The effect is the same as with the [viewX Flexo Plate Preview layer](#) on page 44.
- Flexo Print Preview: The image in the preview area is shown with extra dot gain in the highlights. The effect is the same as with the [viewX Flexo Print Preview layer](#) on page 45.

**Color Values:** use the mouse pointer in the filter's preview area to measure the color values and the Total Area Coverage. The first column are the original values, the second column are the values after the filter will be applied (see [About High Precision Percentages](#) on page 37).



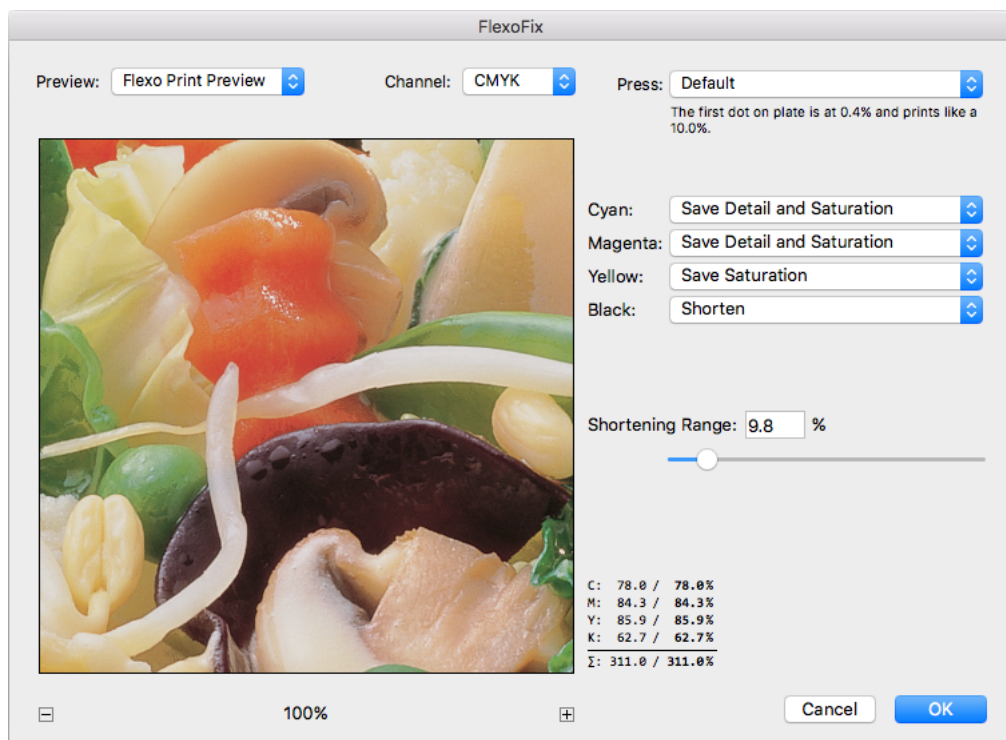
**Note:**

The selected preview mode will always affect the preview areas display. So when you click inside the preview area, the original image will also be displayed with the selected preview mode.

## 6. The FlexoFix Filter

The FlexoFix filter is an automatic way to improve the printing quality of an image on a flexographic press.

To start the FlexoFix filter, choose FlexoFix from the DeskPack submenu of the Filter menu. This will open a dialog:



On the right hand side are the filter parameters. Press OK (or hit the Enter key) to apply the filter on the current Photoshop selection. Pressing Cancel (or hit the Escape key) to close the dialog.

**Press:** Shows the list of all press-configurations. See [Press Settings](#) on page 35 on how to edit these configurations.

**Channel Actions:** For each selected channel, there is a list of possible actions to choose from. For regular CMYK images (with a 'skeleton' Black channel), the default actions will give you the best results.

For composite selection:

- **Save Detail and Saturation:** this means that the filter will raise all percentages above the first dot percentage and will compensate for the dot gain in the highlights. This compensation is done in a context-sensitive way to ensure that the detail and contrast of the original image is maintained. In some areas the midtones will be raised to compensate for de-saturation that results from the remaining highlight dot gain in the other channels.
- **Save Saturation:** this means that the filter will raise all percentages above the first dot percentage and will compensate for the dot gain in the highlights. In some areas the midtones can be raised

to compensate for de-saturation that results from the remaining highlight dot gain in the other channels.

- Shorten: this action will remove highlight dots from the plate, sacrificing some highlight detail.
- None: the filter will not change this channel.

For single channel selection, there is no such thing as 'saturation' so the list is slightly different:

- Save Detail: this means that the filter will raise all percentages above the first dot percentage and will compensate for the dot gain in the highlights. This compensation is done in a context-sensitive way to ensure that the detail and contrast of the original image is maintained.
- Shorten: this action will remove highlight dots from the plate, sacrificing some highlight detail.
- None: the filter will not change this channel.

**Shortening Range:** applies to the shorten action and specifies how far the highlights will be shortened. All highlights below this value will be reduced to 0%.

**Color Values:** use the mouse pointer in the filter's preview area to measure the color values and the Total Area Coverage. The first column are the original values, the second column are the values after the filter will be applied (see [About High Precision Percentages](#) on page 37).

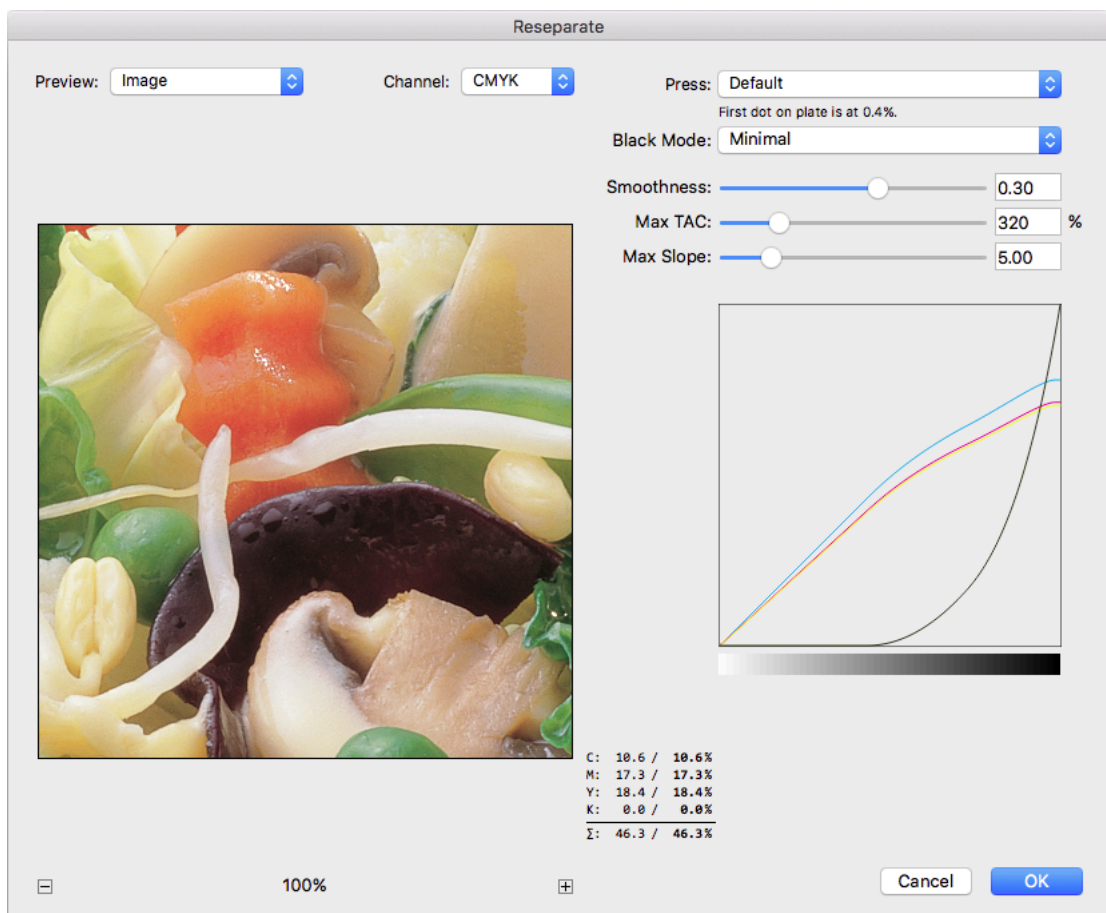
In this example (a composite orange), the Cyan is slightly lightened, as a partial compensation for the highlight dotgain. The remaining highlight dotgain of the Cyan will still desaturate the composite color, to compensate for this desaturation Magenta and Yellow especially are raised. The shorten action removed the marginal amount of Black in this pixel.

## 7. Reseparate

In CMYK, the same color can often be produced in different ways. To reproduce a certain gray color, you could use only black, or a balanced mixture of Cyan, Magenta and Yellow. In between those two options is a whole range of different CMYK combinations that all produce the same gray. A similar logic applies to non-gray colors, especially for darker colors.

Based on this, you can use **Reseparate** to modify the CMYK separations without changing the appearance of the image, in order to improve the printing stability of the images.

1. To open the filter, choose **Filter Menu > DeskPack > Reseparate**.



2. Apply the settings you want to use.
  - a) **Black Mode** can be "Minimal" or "Maximal". While Minimal turns down black and turns up CMY, Maximal does the exact opposite. The curves underneath represent the transition.
  - b) **Smoothness** defines the smoothness of the curves, while **Max Slope** defines how steep the curve can be.
  - c) **Max TAC** defines the maximum allowed Total Area Coverage, i.e. the sum of all ink percentages at a specific spot.
3. Use the **Preview** window to check the result of the current settings.

- a) Use the Plus and minus buttons below to change the zoom. Click and drag in the preview image to pan and show a different part. Just click and hold in the preview image to see the original image. This can be used to compare the filter's result with the original image.
  - b) If you move the mouse pointer over the Preview, the table at the bottom right will show the values for every separation and the Total Area Coverage for the original image (left) and the result after applying the filter (right).
  - c) **Preview:** choose between the Image, the Flexo Plate Preview (see [viewX Flexo Plate Preview layer](#) on page 44) or the Flexo Print Preview (see [viewX Flexo Print Preview layer](#) on page 45)
  - d) **Channel:** Choose which channel(s) to view in the preview area. This only affects the visualization in the preview area, not the effect of the filter.
  - e) **Press:** Shows the list of all press-configurations. See [Press Settings](#) on page 35 on how to edit these configurations.
4. Click **OK** to apply the filter.

## 8. Viewer

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The **Viewer** is available if you have the Flexotools, Ink Tools or Equinox plug-in installed.

### 8.1. About Viewer

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#### Benefits of using Viewer

**Viewer** is a very accurate separation viewer with a lot of extra production tools. It eliminates the need for separated proofs and will help you to avoid bad plate-making.

In this preview, you have access to advanced tools such as the Densitometer.

To open the Viewer window, choose **File > Automate > Esko Viewer...**

### 8.2. Define Press Settings

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Before you can start working with Viewer in a meaningful way, you should define your **Press Settings**. Without basic information on the properties of the press you are using, Viewer cannot simulate accurately.

You can open the Press Settings window by selecting **Press Settings...** in the fly-out menu of the Quality Control section, or choose **File > Automate > Esko Setup** and select the Press Settings tab.

See [Press Settings](#) on page 35

### 8.3. The Viewer window

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To open the Viewer window, choose **File > Automate > Esko Viewer...**

When opening a document, or changing to a different job, Viewer will (re)calculate the Preview. Viewer will only work when the active document is a CMYK or Multichannel image, at 8 bits per channels. Otherwise the Viewer will show a warning "The current document is not in the CMYK or Multichannel mode".

When changes are made in the Photoshop document, you have to click the **Refresh** button for the changes to become visible in Viewer.



**Note:** Viewer will take the Photoshop Layer visibility into account, but will disregard Photoshop's Channel visibility settings.

By clicking the **Minimize** button, the Viewer window is minimized, showing only the **Maximize** button. You can maximize the Viewer window by clicking the **Maximize** button. If you choose **File > Automate > Esko Viewer...** the Viewer window will be maximized and refreshed.

### Equinox profile

If you have either an Ink Tools or Equinox license, you will get an accurate preview of documents using an Equinox Profile. If you only have Flexotools license, the Equinox document with Equinox Profile will not work. A message at the bottom of the Viewer palette will inform you that color will not be accurate.

## 8.3.1. Navigating in the Preview

The Viewer window shows the preview of your document in the left pane, and the list of used inks in the right pane of your Viewer palette.

At the bottom of the palette, you will find:



1. a Pan tool (see below), a Zoom tool (see below) and a Densitometer tool (see [Measure Ink Densities](#) on page 57)
2. a zoom-in and zoom-out button and a field showing the current zoom percentage.
3. the Refresh button.
4. the Minimize button.

### Zoom in - zoom out

To zoom in the preview pane of the Viewer palette, select the zoom tool and just click, and the view will zoom in using the clicked point as center point.

To zoom out, click while holding the ALT key pressed, and the view will zoom out using the clicked point as center point.

You can also drag a rectangle to zoom in, and the new viewport will be a closest match to the rectangle you dragged.

You can also use the default Photoshop shortcuts: cmd-0 to fit the image in the window, cmd-1 to set the zoom factor to 100%.

To pan the view, select the Pan tool or hold down the spacebar and drag a line in the preview pane. The view will move the direction and the length of the line you drag.

## 8.3.2. Separation visibility

In the Ink list, you can:

- Click the eye icon in front of a separation/color name to show or hide it.
- Alt-click an eye button to quickly hide all other separations and go in single-separation mode. Alt-click the same eye button again to show all separations.
- You can also use the Photoshop shortcuts: Cmd-2 to show all separations, and Cmd-3 to show only the first separation, Cmd-4 for the second, etc.
- Double-click an ink to open the **Display Inks** window (for CMYK inks) or **Spot Color** dialog for spot colors. See [Display Inks](#) or [Spot Colors](#)



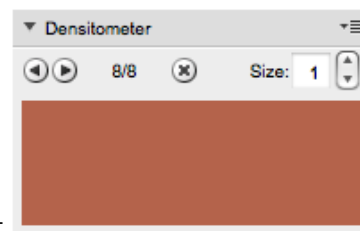
If only one ink is selected, you can choose in the fly-out menu of the Separations section if you want to see the single separation

- in RGB, using the actual color
- in grayscale, as the image might appear on film / plate
- in grayscale but inverted

### 8.3.3. Measure Ink Densities

#### Densitometer

In the middle of the right side of the Viewer window, you can see the Densitometer section. You can



show or hide the section by clicking the triangle in front of it.

- Select the **Densitometer** tool, and click on an area of your document to measure the separation densities in that area.

Every time you click, a new measuring point is set. The densities are shown to the right of each separation, and the color patch in the Densitometer section shows the measured color. The total density of all inks on the point that is being measured (the TAC value) is shown at the bottom of the separation list.



**Note:** If the TAC value exceeds the TAC limit specified in the currently selected press settings, a warning icon is shown next to the Total Area Coverage

- Use the left and right arrow buttons to browse through the different measuring points. The according densities and color patch will be shown



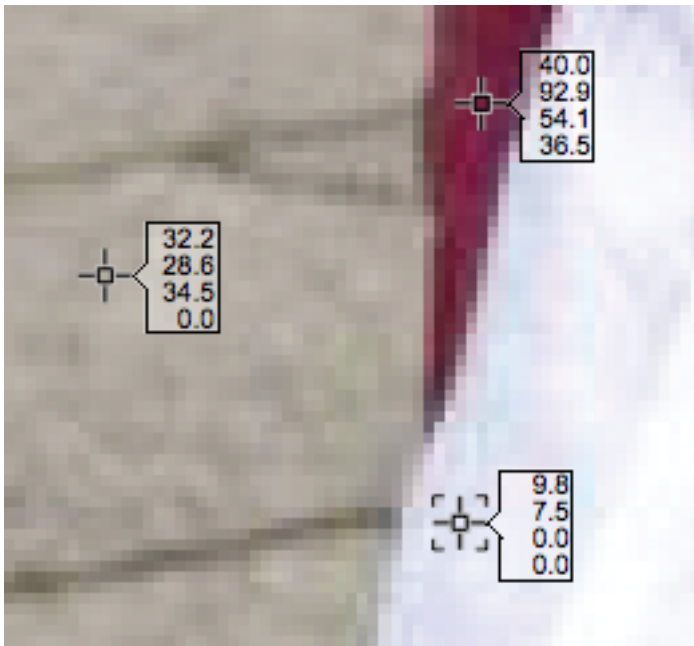
**Note:** If you are zoomed in and navigate to a measuring point not in the Viewer window, the Preview will pan to show the selected measuring point.

- Click the **Remove** button (X) or use backspace to delete the current measuring point.
- Change the **Size** of the current measuring point by clicking the up and down arrow. If the size is set to e.g. 3, the densitometer will take the average density of a 3 by 3 pixel area.



**Note:** When creating a new measuring point, the current Size will be used.

- Select **Show bubbles** to show the measured densities next to every measuring point.



When in **Flexo Print** or **Flexo Plate** preview, the bubble will show a black dot next to the density for channels with a percentage equal or higher than the first dot percentage.

When in **Breakout** preview, the bubble will show a red triangle icon next to the density for channels with a percentage below the first dot percentage.

When in **Total Area Coverage** preview, the bubble will show a black dot next to the density for channels with a percentage equal or higher than the first dot percentage, and it will show a yellow triangle icon next to the total area coverage if it exceeds the currently set TAC value.

The densities of separations that are not visible, are shown dimmed in the bubbles.

### 8.3.4. Quality Control

#### Registration Error

The Registration Error Preview is a simulation of a design printed with misregistration. It can be very helpful to see if trapping is applied sufficiently and correctly.

Use the slider to set the **Registration Error**, or enter a value in the input field.

The separations are randomly shifted. In fact, all separations are moved exactly the distance of the Registration Error, but all under a random angle.

If you want to see another random registration error simulation, click the **Simulate Again** button.



In the example above, you can see a small area of a job in regular preview (left) and with registration errors (right). In this case, you can clearly see no trapping was applied, so white lines appear at the registration shifts.

### Flexo Print

This **Viewer** preview mode shows the effect of highlight dot gain on the image.



This effect is equivalent to a curve adjustment. To determine this curve, the Flexo Print Preview will use the **First dot** and the **Dot gain in highlights** settings from the Press Settings (see [Define Press Settings](#) on page 55).

Going from light to dark:

- The Flexo Print Preview will display percentages below the **First visible dot** percentage as 0%.
- The **First visible dot** percentage will be shown using the **First Dot Prints as** percentage.
- Percentages above the **First visible dot** percentage will be shown darker.
- Towards the midtones this darkening effect will fade out until the **Range** value.
- Percentages above the **Range** value are displayed unchanged.

## Flexo Plate

If you change the **Viewer** Preview mode to **Flexo Plate**, a single separation (by default the first in the list) will be shown as a simulated flexo plate.



**Note:**

In this Preview mode, only one separation can be viewed at a time.



**Note:** This gives a preview similar to using viewX layers.



### First Visible Dot

The Flexo Plate preview will use the **First Visible Dot** percentage from the press settings (see [Define Press Settings](#) on page 55).

Pixels with a percentage lower than the First Visible Dot percentage will be shown as areas without dots.

Pixels with a percentage equal or higher than the First Visible Dot percentage will be shown as areas with dots.

### Plate Color

The Flexo Plate preview predicts how clean your flexo plates will be. Especially in very light or very dark areas, you could end up with isolated dots or holes on the flexo plate, and those areas are difficult to hold on the plate or the substrate.

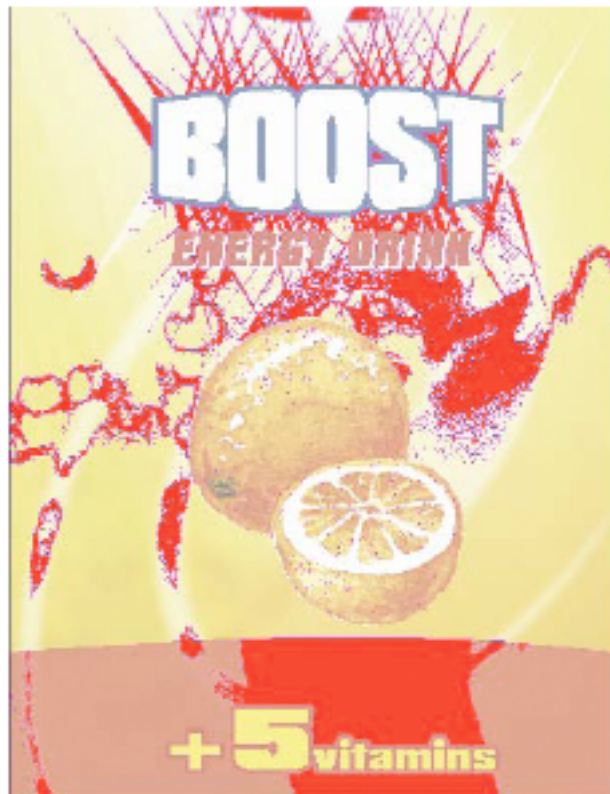
You can choose the plate color (Red, Blue, Green, Yellow, or Blue & White) to match the type of plate you are using.

### Breakout

A Breakout is an area where the percentage of a single separation is lower than the **First Visible Dot** value. This can be used to track areas that won't show up on print because the values are too low.

Your printer should provide you with the First visible Dot value. The First visible dot is set in the Press Settings: see [Press Settings](#) on page 35. When switching to Breakout mode, the preview will be dimmed and all areas where a single separation has a value lower than the **First Visible Dot** value (but higher than 0%), will be displayed in highlight color.

You can measure the actual percentages in that specific area using the densitometer (see [Densitometer](#) on page 57).



### Total Area Coverage

The Total Area Coverage (TAC) is the sum of all separation-densities at a certain point in your document.

## TAC Limit

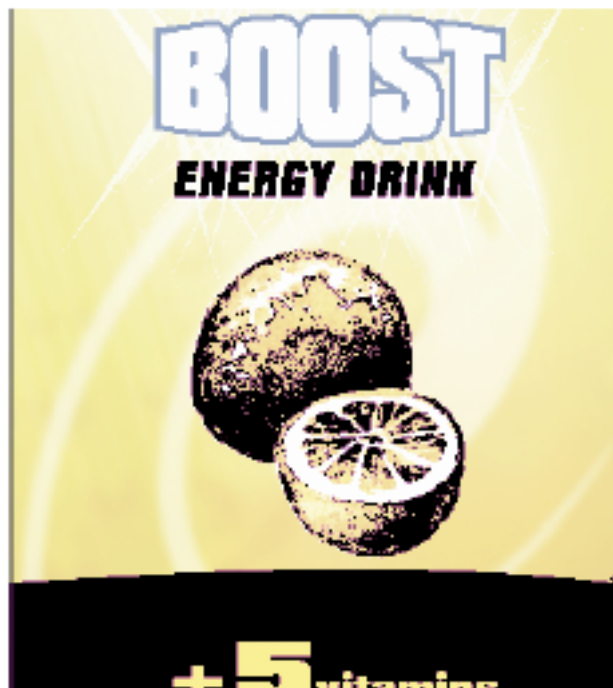
The **TAC Limit** is the maximal Total Area Coverage that your document may contain. This value depends on the press and the substrate your design will be printed on. Your printer should provide you with the TAC Limit value to use.

### Defining the TAC Limit

The TAC limit is defined in the Press settings. See [Press Settings](#) on page 35). By default the TAC Limit is set to 270%.

### Viewing areas over the TAC Limit

When you switch to the **Total Area Coverage** preview, the image in the preview pane will be dimmed and all areas where the sum of the densities is higher than the TAC limit specified in the current Press Setting will be displayed in 100% black.



#### Note:

You can click the Densitometer button to use the Densitometer tool, and measure the actual TAC amount in that specific area. See [Densitometer](#) on page 57.

To quickly see the maximum TAC in your document, use the **TAC Limit** slider.

Move the slider to the right to use a TAC Limit value higher than that used by your current Press Setting. The more you move the slider to the right, the less pixels will typically be over the TAC Limit.