

Creating Films For Printmaking

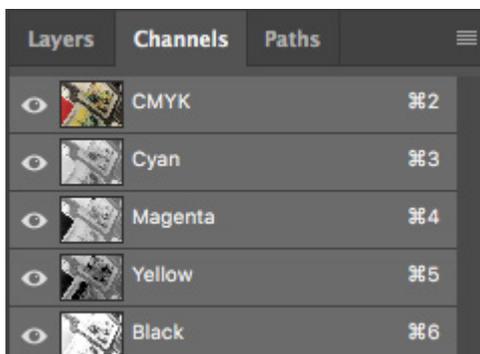
Films for CMYK Process



A close up example of a CMYK process print showing how the colours mix.

Tip

For the best possible results the digital image you wish to reproduce should be of the highest quality. If you are using appropriated imagery from the web you may run into problems as they are of a low resolution.



The channels panel in Photoshop.

Introduction

To create photorealistic images in screenprinting you will need to use the 4 colour process or CMYK process, where the image is printed as fine halftone dots in the colours Cyan, Yellow, Magenta & Black. To do this a film has to be created for each separate colour and they are printed in sequence from lightest to darkest. Where the fine halftone dots overlap they mix and create thousands of different tones.

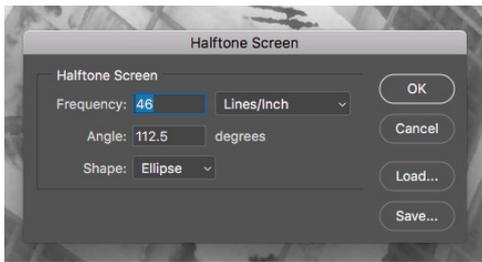
Creating Colour Separations

The first step in creating the films required is to edit and scale your image to the intended size before creating the separations for each of the CMYK colours.

01. Open a new, blank canvas in Photoshop and set the canvas size to the intended output size (A4, A3, etc.) and the resolution to 150ppi.
02. Open the image you intend to create separations of and copy and paste into your new blank file. Scale and crop the image as required.
03. Make any colour adjustments such as level and contrast as you require and save the image.
04. Convert the image to CMYK (Image > Mode > CMYK) if it is not already in that mode clicking 'Flatten' when prompted in the dialog box.
05. Go to the 'channels' panel on the right hand side of the screen. This is usually hidden behind the 'layers' panel and can be made visible by clicking the tab.

You will see the CMYK channels displayed. By clicking on the eye symbol you can turn off the separate colour channels to illustrate how the CMYK process works, and the image is built up in printmaking.

06. To create the colour separations, go to the drop down menu in the channels panel and select 'Split Channels'. this will produce four Photoshop files, one for each channel and will name them accordingly.
07. Finally, convert each colour separation file to a halftone as described in the ['Films From Digital Sources'](#) guide. Ensuring that for each colour you input the correct screen angle value as indicated below.



Halftone Dialog Box with the angles set for the Cyan.

Tip

Using the ellipse shape halftone screen is advisable for CMYK process screenprinting to maintain the best colour mixing in the print.

Typical Halftone Screen Angles

Cyan/Medium Value Colour: 112.5

Magenta/Medium Value Colour: 52.5

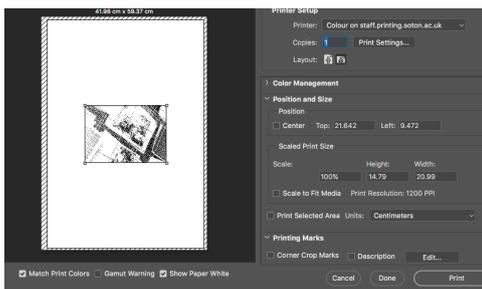
Yellow/Lightest value colour: 82

Black/Key Colour: 22.5

These angles are different from offset printing screen angles, since with screenprinting the angles 0°, 90°, and 45° must be avoided since they will typically conflict with the screen mesh. 22.5° will usually work since it is halfway between 0° and 45°.

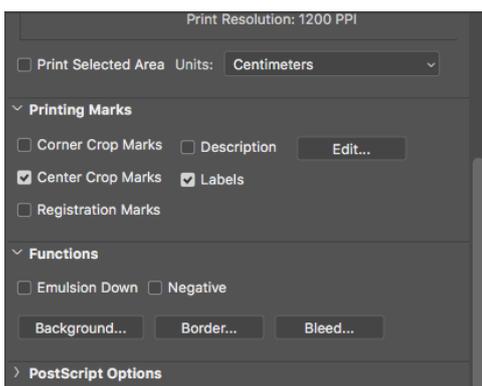
Exporting with Registration Marks

Once you have converted your files to halftone bitmaps you should add registration marks to aid alignment when printing. The simplest way to do this in Photoshop is to use the advanced settings in the print settings.



The Photoshop print dialog box.

01. From the menu bar choose File> Print to open the print dialog box.
02. Click on Print Settings and set the correct size paper for your image, (you can create custom paper sizes for larger images).
03. At the bottom of the print settings box select choose 'Save As PDF' from the drop down menu labelled PDF and save your file using the .pdf extension.
04. Back in the main Photoshop print dialog box; centre your image on the page and ensure the scale is 100%.
05. Scroll down to the 'Printing Marks' options and select either registration marks or centre crop marks. It is also a good idea to select Labels so that your filename is printed on your positive film as well.
06. Click print and the PDF will be saved to the destination folder you selected.



'Printing Marks' option menu.

Your Separations are now ready to output onto film. It is important for CMYK process printing to have the best quality films possible. It is advised that films should be sent to Creative Services to be printed.