

TOP THREE – Artwork Tips for Digital Print

by Chole Kerr, June 19, 2015

There is so much you can achieve with digitally printing textiles. Including a huge variety of colours, intricate detail, beautiful photographic translations of texture and contrasts. The scale of artwork is restricted to the width of the fabric only and you can design incredible placement prints weather for a dress or a pair of curtains.

As with all textile technology it has strengths and weaknesses so we wanted to let you know what we have learnt as a Top Three to do and to avoid!

To Do

1. SET UP FILES CORRECTLY

The most important thing in getting a great result is setting up files correctly from the beginning. Each printer will have a different work flow of how they like files to be. Remembering that your work is part of that flow, is a crucial step in getting the desired outcome.

2. UNDERSTAND THE TECHNOLOGY

Great design works to the strength of the technology that is supporting the execution of the design. Working to the strength of that technology will give you the best result. Working with colour, gradient, texture all demonstrates the strength and individuality of digital printing. Different fabrics have different characteristics; they could be light weight and full of lustre or matte finish and heavy duty. Taking this into consideration when designing will always enhance your outcome. Remembering that the transfer of inks and dyes onto a textile is a physical process and that what you see as an image on a screen is a very different way of viewing a design.

3. SAMPLE

Trial or sample first. Create a file that is characteristic of your design work. Use different colours, textures and images that you intend to work with. By printing this it guides you to see what looks great and what does not work like you intended with your design. Printing a sample of an artwork before you go to bulk printing will always provide an insight into the finished product and allow you to make changes to the work. Always ask the printer if they can see any potential areas that may not translate as intended

To Avoid

1. AVOID LARGE AREAS OF DARK COLOUR

When printing, we lay down ink onto the surface of the fabric to create the image. Large areas of dark flat printed colour do not always print with the same intensity you see on a screen. Depending on the fabric, printed blacks can appear a little more vintage. This is because we print onto the fabric as a pose to a dyed fabric which has been immersed into a dye bath. Breaking up large dark areas of print tends to look better.



2. AVOID SUBTLE TONE VARIATIONS

When we view images on our screens they are projected at us from a light source in a high resolution. Subtle colour variations are easily decipherable and lots of different tones in dark colours can be seen. When we translate that from a projected image to the world of ink and textiles, subtle variations are not always translatable. On a screen where you may see three similar shades of grey may appear as a solid grey in textiles. It is good to create more contrast in designs when placing similar colours next to each other.



The image on the left is how we view artwork on our screen and the image on the right is printed onto Next State's Premium Home Fabric

3. AVOID LOW QUALITY IMAGES

A low quality pixelated image will print as a low quality pixelated print. When creating your design if the initial artwork or image is low quality, in the print it will reproduce as that. Always make sure images are at the 1:1 scale you will be printing them at.



PLACEMENT PRINTS

A placement or engineered print is the controlled position of an artwork within a product. Different to a repeat print, which features continuous tiling of artwork. A placement print relies on artwork done to the scale of a product and then being cut in a particular position to control the placement of a print.

In Textile design it is a good idea to make sure you know the size of the product, let us say a dress, before you begin the file set-up. In a perfect situation you would be able to fulfil the following steps.

1. Have a completed pattern/template of the final product
2. Create the artwork for printing based on the scale of that product
3. Print the artwork on selected fabric
4. Use the pattern/template of the product to engineer the placement of the print, ready for construction.

Many designers have asked me about printing the artwork in the shape of a pattern, I don't tend to recommend this (unless the pattern is a square or rectangle) as it allows no room for error, what if your pattern ended up being larger than the print, you would have an unprinted gap in the seams of a garment. Further to that placement prints rely heavily on quality cutting to get the position of the print correct. Cutting can be both a timely and costly process and minimising that will assist in the overall manufacture of the product. Individually cutting multiple copies of pattern pieces is best to avoid where possible.

I always recommend keeping placement patterns within the shape of a square or rectangle. This means you can cut a large volume of the shapes out and stack them on top of each other before cutting the shape of the pattern. It will also allow for a printer to maximise the use and economy of the fabric.



PIXELS PER INCH VS DOTS PER INCH

by Chole Kerr, March 16, 2015

Pixels Per inch (PPI) refers to the amount of pixels there are in a square inch of a digital file. Dots Per Inch (DPI) Refers to how many dots of ink are dropped down in the printing of a file.

Often the two terminologies are interchanged; in conversation around file creation PPI is still called DPI. However as you will notice in Photoshop the wording used is Pixels Per Inch, and has been for a very long time.

A pixel is the tiny little square of colour forming part of a multifaceted image full of many tiny little squares. Each square is a pixel and pixels are bitmap images. Common bitmap/pixel image file types are JPEG, TIFF and PNG.

Let's look at an example:

- Image one is 150 PPI and printed at 750 DPI
- Image two is 300 PPI and printed at 750 DPI



Pixels per inch - PPI



A close up of bitmapped image shows the individual pixels

Dots per inch - DPI



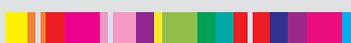
A close up of a print shows the overlay of ink drops to form the image

So you can see that the physical world of ink being dropped from the printer is not reliant on the amount of pixels you have in an image.

The amount of pixels you have in an image pertain to the individual quality of that image and will dictate its use around being scaled up and maintaining a high quality. We have all heard of pixilation, it occurs when a small image or image with a low PPI (such as web images which are usually 72 PPI) are stretched to print bigger. Each pixel is being stretched causing the image to expand at low quality.

Take Away

- Refer to file/ document set-up resolution as PPI.
- Always check the PPI and size of an image before beginning work with it so you know the sort of outcome and scale that can be achieved
- DPI refers to the world of inks and printers.



REPEAT PRINTS

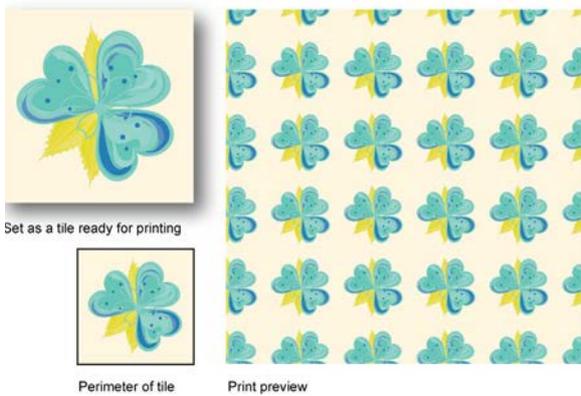
by Chole Kerr, March 16, 2015

There are different styles of creating repeat prints, but all are designed to seamlessly repeat and artwork along a length. In some repeats you can clearly see where the "tile" of artwork is and in some it is nearly impossible to decipher the intertwining elements of the print. Depending on the end use of the print all methods of repeat are relevant for a particular purpose.

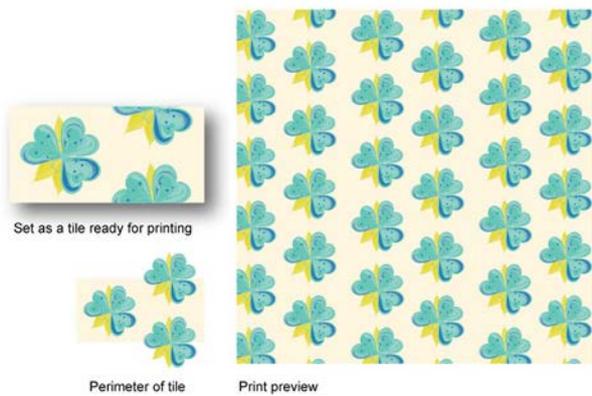
Ensuring a repeat will work as you desire, you must set it up as a perfect tile ready to duplicate along the fabric.

Common types of repeats

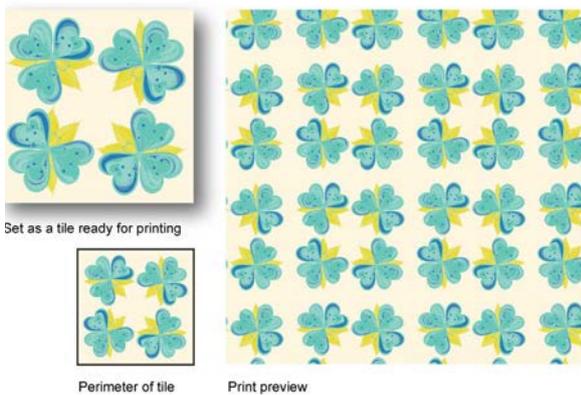
Full Drop



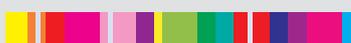
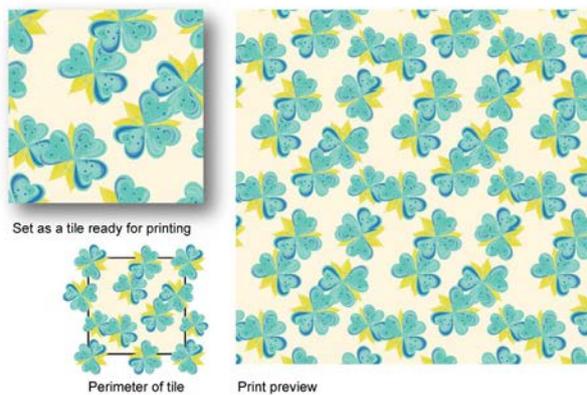
Mirror



Half Drop



Seamless Repeat



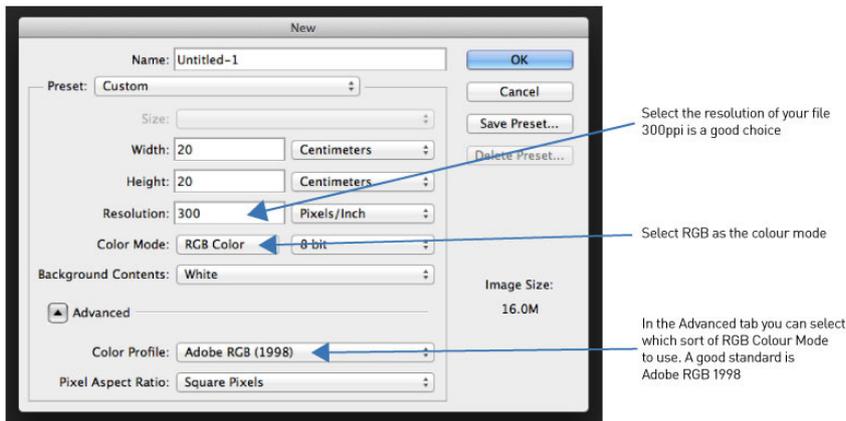
CREATING AND SAVING FILES FOR PRINT

by Chole Kerr, March 16, 2015

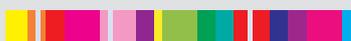
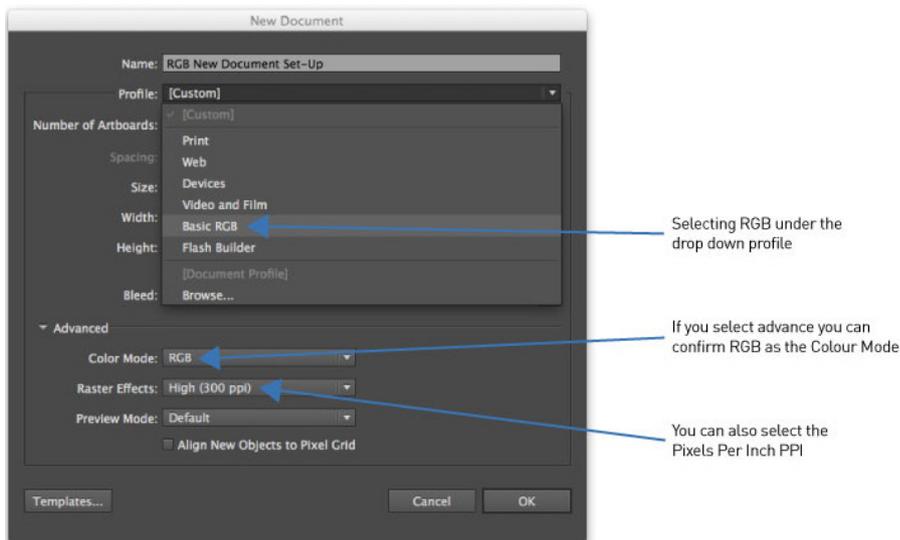
Creating - So you are ready to start a new artwork? File > New...

STOP! - Before you go any further, make sure you are creating a file that is RGB and 300ppi to achieve the best result for digital textile printing.

See below the new document setup for a file in Photoshop:



See below the new document setup for a file in Illustrator:

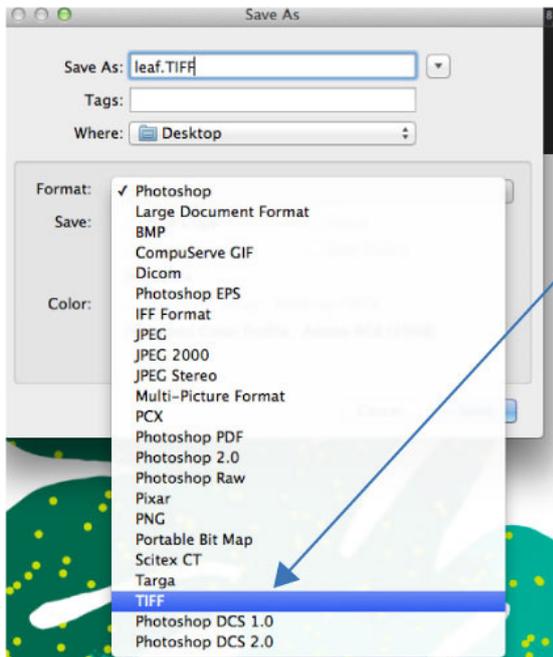


Saving

When saving your artwork files the best option is to save them as a TIFF. TIFF is a high quality Bitmap (pixel) Image. A TIFF does not compress colour information.

Always save your file first as a native program file, like .psd (Photoshop,) or .ai (Illustrator) before converting it to a TIFF for print.

See below for saving a file as a TIFF in Photoshop

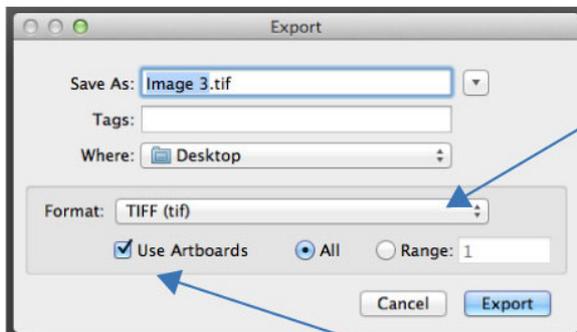


The option to select for saving as a TIFF.
File → Save As → TIFF → OK

Once you select OK another option box will pop up asking about the compression of the image. Depending on if you are on a PC or Mac the wording may be slightly different. You can select - none or LZW for compression, then Save.

In Illustrator you will need to ensure you have placed your final work onto the art board space and tick the box for saving art board. This will crop in the document to save only what is on the art board instead of what is in the whole document. You must however be careful doing this as you need to ensure the art board is the exact same size as the artwork you are saving.

See below for saving a file as a TIFF in Illustrator.



The option to select for saving as a TIFF.
File → Export → TIFF → Export

If you have other images/vectors on you page make sure to tick → Use Artboards



COLOUR MODES – RGB AND CMYK

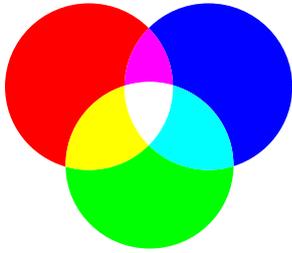
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We often hear about colour modes and what we should use when creating artwork for different purposes. Even more so, when creating a new document we are asked to select a colour mode or to accept the the default, (it's too easy to just press 'OK' and move on!

Creating a new environment for our file is arguably the most important moment in the life of that file; the correct selection of colour mode will make a big impact on our final result.



RGB

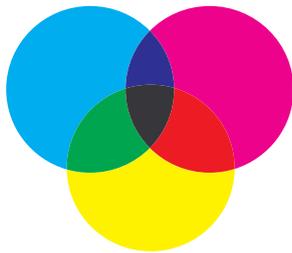


The Red Green Blue Colour Mode (RGB) is an additive colour mode in which Red, Green and Blue are added together in various configurations to display a spectrum of colour. On our computer screens we see RGB added to a white light source to reflect colour at us. As well as on computer screens, RGB is the colour mode used on Digital Cameras, Scanners, TV's and phones. In fact, it is the colour mode utilised on all digital devices.

Being a colour mode on a digital device means we can specify RGB colour with great accuracy. It is worth noting that not all devices are calibrated to provide the same impression of a particular colour, nor do our eyes see it the same.

RGB specifies the Red, Green and Blue colour channels individually as values between 0 and 255. We can pinpoint a colour by providing a number for each channel.

R	=	0	122	255
G	=	0	122	255
B	=	0	122	255
				



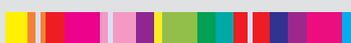
CMYK

RGB has the ability to display lots of colours. If you think about all the colours your eyes can see as the visible spectrum, under that sits all of the colours an RGB screen can display and we can see as a light source of colour coming towards us. We then need to look at CMYK and what source of colour mode that is and when it is used.

Cyan, Magenta, Yellow and Black, CMYK is used in printing. It is a subtractive colour mode, meaning it uses the white space around it (on fabric or paper) and an overlay of combinations to create a full colour library.

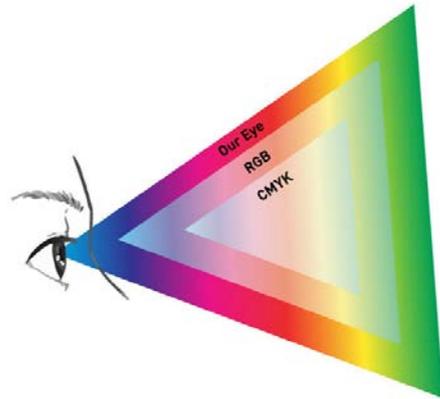
CMYK is directly connected to the physical world of inks. It is measured in percentage from placing down 0% – 100% of any of the Cyan, Magenta, Yellow and Black inks to create colour. The job of a printer is to transfer a digital artwork into a realistic interpretation using inks laid down onto a substrate, in a combination of tiny little drops.

Consider that inks are being used onto a tactile surface to create an image. Does this mean CMYK can produce



more or less colours than RGB? If you answered less, you are correct.

RGB has the light source and can produce dynamic and full-bodied colour, but not as much as our eye can see. CMYK is limited to the ability to lay down ink to produce a likeness of a colour our eye desires to see. This sizing up of colour against different modes is referred to as Gamut.



Of course there are always exceptions, with the development of new technology and inks we can now offer specialisation in many different colour reproductions in print.

So what do we create our files as? RGB of course! Why?

- RGB has the biggest Gamut. Don't limit yourself to less!
- It is the role of the printer to create the interpretation of colour and translate it into inks.
- If you create a CMYK file you will be telling the printer what percentage of inks to lay down to create a colour. Do you know what 80% of yellow will look like on a particular printer?