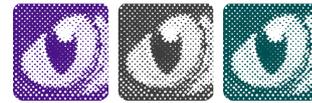


The Wild Format guides are intended to expand awareness and understanding of the craziness that can be created on wide format digital printing devices, from floors to lampshades and everything in between.

These guides are made possible by a group of manufacturers working together with Digital Dots. We hope you enjoy the articles and that you put into practise what you learn. If you want to talk about it, go to our LinkedIn group at <http://linkedin/1pkeLH1>

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How to design for digital textile printing

Digital printing on textiles is an amazing option for communicating new ideas in print using fabrics. There is a massive range of possibilities for what you can do when you bring together digital printing and textiles for all sorts of applications, from signage to apparel to interior decorating. The design consideration for outdoor applications like signs or tents and gazebos will be somewhat different from the ones for interior design and apparel, but there are some technical aspects which many digital print projects share. This article will help you understand what you need to take into account when creating designs for digitally printed textiles.

When preparing print projects using digital printers suitable for fabrics and textiles, you can use pretty much the same checklist as for conventional, that is, analogue printing like offset, screen or flexo. But if anyone has given you the impression that there are no special technical requirements for digital printing in terms of how the artwork is prepared, they are unfortunately mistaken, or they underestimate the challenges. Well prepared artwork has to take into consideration things like the resolution of images, using the best type of file format for vector-based illustrations and for pixel

based images. Other technical factors such as bleed, trapping, overprint (or not), pattern repeat (if necessary), type of fonts used and so on, should be considered and optimised to get the best results for your project. And then there is colour management – not every colour can be reproduced in every printer and on every type of substrate. Don't believe anyone who tells you otherwise because it's simply not true. If you care about colour accuracy in your print project, there are some basics to keep in mind at the outset.

Some common errors in Preflight

The term Preflight was originally used in aviation, dating as far back as 1935. It refers to the checks that a pilot and ground crew do before clearing a plane for take off. Chuck Weger, a consultant within the graphic arts industry, realised as early as 1990 that something similar was needed handling electronic artwork, before sending it off to be printed. A preflight checklist for print production can be as simple as a written list of "don't forget to check that. . .", or using special software to go through the files before sending them off to the printer. We'll come back later to common software available on the market, and what can be done within the Adobe Creative Cloud suite of applications. Don't panic ... it's all do-able!



You need to preflight your artwork so you have factored in things like bleed, so you don't have gaps in the design when you cut or stitch the garment together. Image courtesy of Roland DG.

Things to watch out for in your artwork preparation

By far the most common error in artwork being sent for production at the printer's is images that are at a far too low resolution to be printed. While for some large format production, when the printed matter is to be viewed at a considerable distance, you don't need to adhere to the general rule of around 300 ppi resolution (pixels per inch), but you should probably stay well over 100 ppi effective resolution even for textile printing. By effective we mean what the resolution is after you have placed the image and possibly enlarged it in the layout software. If you place an image at let's say 300 ppi but then enlarge the image 200%, you have halved the effective resolution, and it's now at 150ppi in the artwork. If this

is to be viewed close up, the image may look slightly blurred. But on the other hand, fabric is by nature a substrate that isn't entirely smooth, so you might get away with fairly low resolution in the images. But keep an eye in this anyhow. It's better to get it right before you send the work off to be printed.

Bleed refers to print that has to go completely to the edge of the substrate. It's the term for when a printed area is supposed to be cut off, but you want the image to go over the trimmed edge. Make sure you have some 3-5 mm bleed on any such image, so you don't have a gap when the fabric is cut or stitched together either with other parts of a garment or for interior décor, such as cushions which need to have a seamless appearance.

Trapping is the term for when different colours touch in a design, and depending on the characteristics of the ink, you might have a possibly unwelcome change in colour appearance in the area where they overlap. If you for example have an area with pure yellow and another area of cyan (blue) side-by-side, you will get green of the overlap due to some slight misregistration in the printing process. But luckily most digital printing presses are very precise in how they lay down ink, so in most cases this shouldn't be a problem. But if in doubt you should check with the prepress department at your contracted printer, and they can advise if compensation for trapping needs to be done in your artwork. Sometimes this is better dealt with in the workflow system used in the prepress department, and if so they will tell you what they plan to do. Either way, ask the question.

How to prepare your artwork

Most print service providers with experience of digital colour printing on textiles will offer guidance on how the artwork should be prepared for a certain type of production and project. Use those guides when available, and take the time to read them through and ask questions if you aren't sure. Don't assume that it will all be fine. We would strongly recommend that

you favour print service providers who have taken the time and effort to produce such guides because it shows their commitment to you as a customer, and an ambition to help you achieve the highest possible quality in your printed products.

You should expect some instructions on which file format they prefer for images and logos (vector graphics). For artwork created in Adobe Illustrator, it's common to suggest that the text in illustrations and logos is converted to vectors. Vectorisation converts text into outlines in order to avoid problems with missing fonts in artwork.

You should also expect some instructions from the printer relating to colour management, specifically which colour profiles they prefer for RGB work, as well as their recommended ICC profiles for CMYK work. If you address colours in your artwork as defined spot colours, you need to be sure if the printer can really handle true spot colours, or if the colours are converted to the colour space (ink setup) of the printing device. If spot colours will be converted, you need to check that the colours match your expectation so ask for colour accurate proofs before the final print production.

Many professional designers of artwork for high end graphic arts production use dedicated software for preflight checks.



While you can preflight and optimise your artwork to a great extent yourself, some final preparations and optimisation is best done in special software used in the prepress departments. Here the special version of the ErgoSoft RIP, developed for Roland DG, is used to position the different pieces of a garment onto the substrate.

Among the most well known are Callas PDF Toolbox, Enfocus PitStop and Markzware FlightCheck. If you use Adobe CC you have some basic preflight functions in InDesign, and a “light” version of the Callas PDF Toolbox is embedded in Adobe Acrobat Pro. If you haven’t tried this before it should be worthwhile as there are many fixups available in the preflight functions in Acrobat Pro.

Some of the final adjustments and optimisations of your artwork are made in the professional software used in the prepress department. Examples are workflow and Raster Image Processing systems (RIP) from vendors like EFI, with their Fiery RIP series, used by many vendors, among them HP, and the graphics industry preferred RIP across all industry sectors.

And there are special versions for digital print on fabrics developed by Ergosoft for Roland DG. But while those RIP systems can do a lot to enhance your artwork, they might not be able to fix serious errors or shortcomings. So learn which key preflight steps you need to pay attention to, and prepare your artwork carefully. In this way you will achieve the top quality end result you hoped for.

– Paul Lindström