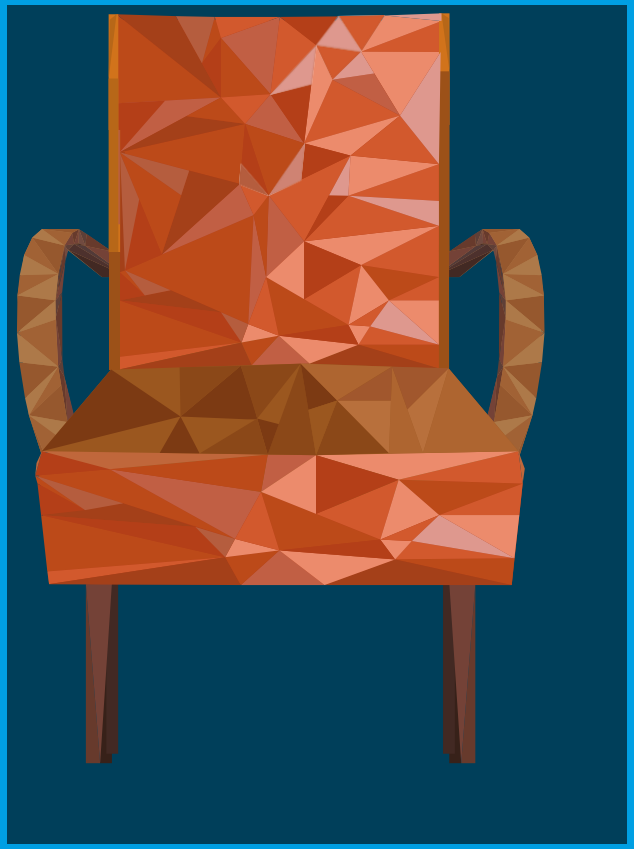

SET 9

MAY 2017

EXPERT TECHNICAL GUIDE

PRINTING FOR INTERIORS

GUIDE 3: FILE SUBMISSION GUIDELINES

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FILE SUBMISSION GUIDELINES FOR PRINTED INTERIORS

Properly prepared artwork is key to every successful print production project, and this is no less crucial when printing interior designs especially digitally.

While many printers provide guidelines for how to supply artwork, and in detail these may vary somewhat from printer to printer, there are many aspects that are quite generic and commonly accepted. Among them are the image resolution required for high quality print production, and commonly accepted file formats. But when it comes to applied colour management, things often start to get quite complicated, and instructions start to vary quite a lot. There are different expectations for whether images can be supplied as RGB-images or not, and if so, which RGB colour gamut is preferred. There are several areas of concern to think about plus general good practices for artwork.

COMMONLY USED SOFTWARE

While there are many image retouching softwares available, it's safe to say that most imaging professionals use Adobe Photoshop. It has been around for many years and has reasonably good support for colour management. The only weakness is perhaps how to properly handle spot colours, but more about that later. Photoshop is pixel editing software, so it's only suitable for scanned or digitally captured images. For line art, or vector based artwork, Adobe Illustrator (or similar) is commonly used. Illustrator was the first software to be able to edit artwork saved as Postscript, and has since been extended to also be able to open and edit PDF files. A strong link still exists between Postscript and PDF. Illustrator however uses its own internal file format, but can save or export file formats such as PDF and SVG (Scalable Vector Graphics).

Most prepress departments will accept incoming artwork as native Illustrator files. Illustrator can place pixel based images into the artwork, but only works with single page documents. This is important information to give your printed interiors customers. Also if they want to create multi-page documents they should use Adobe InDesign or Quark Xpress. Customers should be aware that InDesign can place both pixel and vector graphics, and although like Illustrator it has its own file format, InDesign can export artwork in a range of file formats. Most of the time files should come in as PDFs or possibly Postscript (EPS). Customers should also have the professional version of Adobe Acrobat, since the free Reader version lacks the nifty features of preflight and softproofing which might come in handy.

While the fonts may be embedded when customers supply artwork as a PDF, it's better to ask them to always supply fonts with their files. Some fonts contain a flag telling InDesign and/or Acrobat NOT to embed them. To avoid problems with fonts in an Illustrator file you might convert all text to vector graphics, an old trick that still comes in handy now and then. If artwork is supplied as a native InDesign file make sure you also get the original image files, in case they have not been embedded with the InDesign file.

When you produce a hardcopy or contract proof, make sure that it can be validated to conform to ISO 12647-7, the international standard for proofs. A commonly used control strip is the Ugra/Fogra media wedge shown here, with a series of colour patches which all need to be reproduced within certain tolerances to be acceptable.

IMAGE RESOLUTION

There is an old rule of thumb stating that images should be at 300 pixels per inch (ppi), based on the assumption that the screen used is at 150 lines per inch (lpi). Since the screens for CMYK separations are rotated up to 90 degrees, twice the image resolution is required to avoid blurriness in print, hence 300ppi. (Image resolution is often mistakenly written as, dots per inch (dpi), but dpi relates to output resolution, not image resolution). Most digital printers print at quite high resolution, perhaps 1200 dpi or more so for pixel based lineart (bitmap images) you should use a resolution close to that of the final output, or at least 600 ppi.

Advise customers that the image resolution required for photos must take into account the viewing distance and that it's only if artwork will be viewed close up that 300 ppi image resolution is necessary. If the viewing distance instead is about one meter, resolution can be as low as about 150 ppi, less if the viewing distance is further. Be aware that this refers to images which haven't been scaled up, so work with a factor of 1:1. Images scaled in for example InDesign for placing at 200%, a scaling factor of 1:2, the image's actual resolution is halved and may not be sufficient in print.

While it's common to let InDesign resample images when exporting the artwork to PDF, it's safer to ensure the images are used in the artwork without scaling and to switch off the conversion to JPEG in the export. This makes sure that there is no risk that images become jagged in the PDF. Better to suggest customers scale (resample) the images in Photoshop, and place them at 100% in the artwork. In this way the risk of jaggedness is avoided, since Photoshop has much better algorithms in the downsampling than InDesign does.

COLOUR MANAGEMENT

This is perhaps the trickiest issue for artwork submission guidelines, and there are often strong feelings among prepress operators of what is the right or wrong way to handle it. It's very common that printers require incoming artwork to be pre-separated CMYK files, while not always being very clear on what type of CMYK gamut this means. Other printers prefer images as RGB, but may not be specific on what type of RGB gamut they want. With proper colour management in place you should actually be able to accept artwork either in RGB or CMYK, as long as it's absolutely clear what colour gamut (what ICC profile) is used. And you can even accept files with special colours, which are neither in RGB or CMYK.

When working with spot colours, there are other tools than Photoshop to use. For example GMG's plugin ColorConversion shown here.

One advantage of using RGB is that it's close to how the original images were captured, either by scanning original artwork like a painting or hand made illustrations, or images captured using a digital camera. But it's important that when images are edited and adjusted for colour, it's done on a high end monitor calibrated to for example Adobe RGB. In this way everyone is sure that the colours are what's required and what is seen on the screen. When the images are saved in the Adobe RGB colour gamut, your prepress department will know how best to convert them to CMYK, adjusted and optimised for the printer, ink and substrate to be used in production.

If you want to insist that artwork is supplied in CMYK, you need to tell customers which CMYK ICC profile you intend to use, since it's the ICC profile which describes and determines the colour space you work in. The advantage of using CMYK as the colour space for artwork is that it can be softproofed for how it will look in print by telling Photoshop, Illustrator, InDesign and Acrobat Pro to activate this particular ICC profile. Customers should be able to do this even with the artwork as Adobe RGB: the difference is that it will only be shown temporarily as CMYK, in the softproofing stage. But be aware that if you change to another CMYK ICC profile the appearance will most likely change. You should notify the customer if you do this and explain why the original profile wasn't suitable.

For artwork where spot colours are used, the Adobe Creative suite software does a reasonable job of colour managing those spot colours, but some special solutions have additional benefits. A plugin to Photoshop from GMG called ColorConversion offers a better preview of the spot colours in artwork, and also has good tools when editing the use of spot colours. Caldera and Esko also provide sophisticated solutions for advanced handling of spot colours.

To be sure that incoming artwork is handled correctly in the prepress department you should ask for an ISO 12647-7 compliant hard copy proof or offer this as a service. ISO 12647-7 is the most commonly used standard for contract proofs. However it may not show the spot colours correctly, so in that case a proof or sample, produced in the actual printer which will be used for final production should be approved. This proof should be made with the same ink setup and substrate, to check the colour accuracy.

If you use Adobe Creative Suite (or Creative Cloud) for image retouching, you should create a colour management setting. We generally recommend Adobe RGB as the colour space for RGB images, and an ISO 12647-2 compliant profile for the CMYK images.

There are other considerations for the artwork, especially when printing on fabrics or wallpaper, if you have repeated patterns. But those requirements are often so specialised that they need to be agreed with the client before they finish their artwork. They must take into account the size of pattern repeats, overlaps, shrinkage and trim requirements. Once these are clarified, file submission conforming to these guidelines should be a breeze.