Solutions to 4 Common Wide Format PDF Printing Issues

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PDF Printing

Today, Portable Document Format (PDF) files are used more than ever. With Adobe® Reader® software being freely available for every computer, PDF has become the ubiquitous file format for electronically distributing, viewing and printing all types of data and information.

However, not all PDF files are the same, especially when it comes to printing! Adobe Acrobat® software and PDF files have been around since 1993. Over the years, Adobe has created many versions of Adobe Acrobat software, adding new features and expanding the functionality in many directions. PDF files can contain text, drawings, video, 3D models, scans, full-color graphics, photos and hyperlinks. The idea behind Adobe Acrobat software and the Portable Document Format (PDF) was to create a file format that could represent documents independent of the application software, operating system and hardware that was used to create them and of the output devices that are used to display or

print them. A properly created PDF file should contain all the information required to view the document on any computer or to print the document to any printer. However, this is not always the case and many users experience many common PDF printing problems.
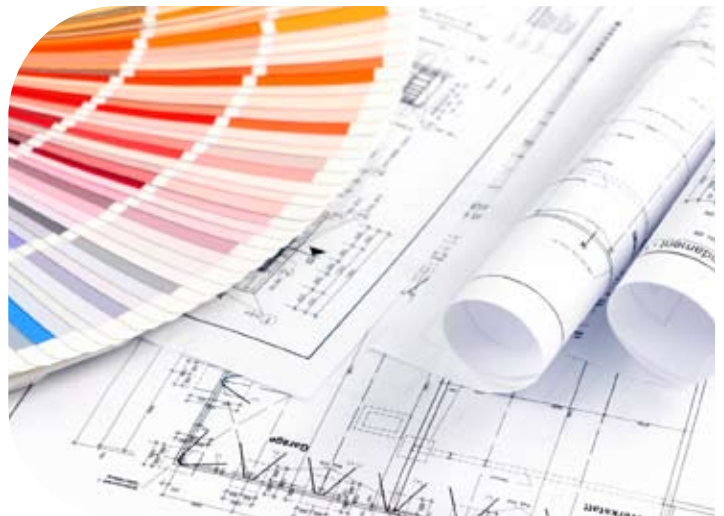
Common PDF Problems

1. Transparency

The most common issue that affects processing speed and can give unexpected print results is the use of layers and transparencies in PDF files. Transparency defines what happens when two or more objects overlap each other in a document. Transparency features are used extensively in Adobe Creative Suite applications to apply special effects to objects, such as drop shadows, opacity and feathering. However, transparency may become an issue any time there are layers of objects in documents created with any application.

Understanding transparency issues requires an understanding of the flattening concept. During the processing of a PDF file for printing, the first thing that occurs is the 'flattening' of the document. (When printing directly from Adobe Acrobat, you can see a flattening status dialog.)

Flattening takes all the layered, transparent objects on the page and converts them into opaque objects that look the same as the original transparent objects when printed. This flattening process can be quite time consuming depending on the complexity of the PDF file. Usually long processing time is due to hundreds or even thousands of transparencies needing to be flattened. Sometimes the transparent objects are not flattened correctly and the resulting prints do not match the original document.

2. Fonts

Another common problem is missing fonts in PDF files. The fonts used in the original document should be included in the PDF file created from it. Sometimes the fonts are not included. This results in font substitution (i.e. wrong fonts) when printing.

3. Page Boxes

Page boxes define the physical dimensions or size of the PDF file. There are five types of page boxes (MediaBox, BleedBox, CropBox, TrimBox and ArtBox) that can be defined in a PDF that describe its size. A PDF file may not print correctly or take a long time to process if these are not defined properly.

4. Color

Most engineering and architectural drawings are created in color, even though they will be printed in black and white. It might be something as simple as color lines or a company logo. Or, there could be more complex color 3-D models or high resolution photos. This color information makes its way into the PDF files.

While more and more documents are being printed in color, many are still printed in back and white. There can be issues when color is converted to grayscale. For example, the color yellow might be very visible on a monitor but will become a very faint gray when printed in black and white. For on screen viewing, RGB color is appropriate. However color printers use CMYK inks or toners. Colors can change during this conversion process. The absence or presence of color in a PDF and how the color is defined can impact processing times and the final printed output.

PDF Printing Methods

Now that you understand some of the common PDF issues, it is also important to know about the different ways a PDF file can be printed before we cover the solutions. There are two methods that can be used to print PDF files. The first is the *Application/Printer Driver method*. As its name implies, the Application/Printer Driver method requires two pieces of software in order to print a PDF file. The Application is software that can open and view the PDF file (e.g. Adobe Acrobat or Adobe Reader). The Printer Driver is software used by the application to convert documents into a format that can be printed. Both the application and a printer driver are required to print the document. The disadvantage to this method is there is no easy way to handle batch printing of multiple PDF files. But, it is a good fallback when other printing methods fail.

The second method is called *Direct PDF Printing* method. This method uses an application to submit PDF files directly to the printer. The PDF file is converted in the printer using an Adobe PostScript® interpreter or processor. No printer driver is required.

(Please note that not all printers support this method). The major advantage to the direct PDF printing method is its ability to batch print multiple PDF files in one job.

PDF Printing Solutions

Given these PDF printing challenges, there are two commonly applied solutions:

1. Preflighting

Preflighting or previewing PDF files in Adobe Acrobat software should alert you to potential issues before actually printing the documents. In many cases, the problems can even be corrected. Both Adobe Acrobat 8.0 Professional and Adobe Acrobat 9 Pro software have preflighting tools available to detect and correct common errors. While using Adobe Acrobat software can fix a good majority of PDF issues, it cannot fix every problem. There are many other preflighting tools available in Adobe Acrobat software that can correct printing problems. If the issues cannot be corrected, the software tools should alert you to potential trouble. At the very least, you'll know there is a problem before printing and distributing documents.

2. PDF/X

One of the easiest ways to avoid a large majority of PDF printing problems is to use the PDF/X standard. PDF files can be easily created in or converted to the PDF/X standard using Adobe Acrobat software (and many third party applications). The PDF/X standard is supported by Adobe PostScript 3 software and most third party processing software when using the direct PDF printing method. It was designed for the exchange of print-ready pages in the graphic arts and prepress world. PDF/X-1a and PDF/X-3 are two versions of this standard. Either one should work well, but use PDF/X-3 when possible.

The PDF/X standard requires that all fonts be embedded, appropriate PDF bounding boxes be specified, color be correctly defined and it eliminates transparency issues. Using PDF/X eliminates the most common errors in file preparation such as missing fonts, color space issues, missing images, page box problems, and overprinting and trapping issues.

The PDF/X standard doesn't support transparency, so, the flattening is done when the PDF/X file is created. The result is that the PDF/X file generally processes more quickly than PDF files that contain transparencies. It properly defines all page box settings. And because PDF/X encapsulates all the required page elements, such files generally have less printing issues. The one disadvantage is the file size can sometimes be larger than other PDF versions. When problems occur during the printing of a PDF file, the first course of action should be to convert it to PDF/X-3.

The PDF/X standard can also be set as a default for creating PDF files in Adobe products and other PDF generators. Standardizing on PDF/X may provide more consistent and reliable output with your printer or software.

It's clear that printing PDF files is not as easy as clicking File>Print with your mouse. However, understanding the printing issues and options presented in this guide will provide you with some great tools to be on your way to successfully printing PDF files.

Beyond the Ordinary

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