

What is PDF/X and why use it?

The PDF/X standard ensures that the page layout or graphics files are written in a way that will reproduce on press exactly as you've intended. This sounds easier than it is. It involves successful communication between two or more tasks across platforms, operating systems, software applications, color spaces, font types, file formats, etc. The PDF/X standard, or set of standards, was developed over many years to achieve this goal.

A form of Adobe PDF specifications, PDF/X is designed for the exchange of print-ready materials, and is one of the most predictable ways to deliver files for press. PDF/X-1a and PDF/X-3 are the most popular PDF/X formats; (PDF/X-4 is a newer standard, ratified in 2007)

Using PDF/X-compliant files eliminates the many common errors in file preparation: fonts that aren't embedded, incorrect color spaces, missing images, and overprinting and trapping issues. PDF/X, by definition, requires that all the fonts be embedded, bounding boxes be specified, and colors be correctly defined and describe the printing condition for which they were prepared.

If you use PDF/X-compliant files, you won't have to worry about being asked to supply missing fonts or images, or will you have to worry about your service provider converting an image from RGB to CMYK without your seeing the results. Also, your printer will be assured the final file is ready for high-quality print output.

There are three PDF/X file formats, PDF/X-1a, PDF/X-3, and PDF/X-4. In some cases, a specific format has different versions. Each format has an arena of use, depending on the kinds of files you work with and the workflow you require; all formats share the PDF/X advantage of consistently creating a "reliable PDF file for print."

When deciding which PDF/X variant to use, in general:

Choose PDF/X-1a when CMYK files are required; you're sending digital ads to be reproduced on a press characterized to a printing standard such as SWOP or SNAP; or when you want to maintain absolute control over a file's content and color appearance.

Choose PDF/X-3 if you require transferring data in CIE Lab or RGB color spaces, with conversion to CMYK occurring later. Use PDF/X-3 for complete files that you will send to a digital press or other color managed environment, or for some digital ads, where you expect the printer to optimize color reproduction for the specific printing environment.

Choose PDF/X-4 for printing artwork with live transparency and layers. PDF/X-4 supports transparent artwork and effects, as well as layers. Workflow systems based on the Adobe PDF Print Engine can process PDF/X-4 jobs natively, without flattening artwork or converting the file to PostScript.

PDF/X file contents:

PDF/X files require certain contents, prohibit others, and leave some open. It's helpful to know what's allowed and prohibited in the different versions of PDF/X files before creating, preflighting, and correcting or changing their settings.

(www.adobe.com/designcenter/acrobat/articles/acr8ap_pdfx_06.html#Bestpracticesforcreatingvalid-PDFXfiles) for additional guidelines on contents.

Here's what must be included in a PDF/X file:

- Fonts and images embedded.
- Page geometry (the trim box and bleed box) defined.
- Intended printing condition (output intent).
- Trapping key (Yes = True, No = False) defined.
- Title, creator, producer, creation, and modification dates.

Here's what's prohibited in PDF/X files:

- Live transparency, except in PDF/X-4 files.
- Layers, except in PDF/X-4 files.
- Encryption (security).
- Form fields.
- Interactive elements including movies, sounds, buttons, and hyperlinks.
- Annotations within the bleed box.
- Preseparated PDFs.
- Transfer functions.
- Actions and JavaScripts.
- Embedded PostScript®.

PDF/X files do not set a minimum image resolution nor limit the plates used.

PDF/X-1a:2001 and PDF/X-3:2002 standards are based on PDF 1.3 (Acrobat 4.0). Creating a PDF 1.3 file—such as from InDesign CS3, Illustrator CS3, or Photoshop CS3—flattens transparency.

PDF/X-1a:2003 and PDF/X-3:2003 are based on PDF 1.4 (Acrobat 5.0), but can also accommodate PDF 1.3 files. This standard *does not support transparency*. You can still use transparency in your design, but *you must flatten the transparency before creating a PDF/X-1a or PDF/X-3 file*.

PDF/X-4:2007 format saves PDF 1.6 or later files. This format preserves transparency and layers (does not flatten the file).

In general, it is best to discuss these PDF/X file formats with your print provider and use the format and settings recommended by them.

Note: PDF 1.4 and later files support live transparency, but until the PDF/X-4:2007 standard, PDF/X files did not. Thus, you can save a PDF 1.4 file from InDesign, Illustrator, or Photoshop, and any transparency remains live; but the resulting PDF 1.4 file is not a valid PDF/X file. For this reason, CS3 components create PDF/X files in PDF 1.3 format, as valid PDF/X files, with properly flattened transparency.

CS3 and Acrobat 8 support all PDF/X formats (PDF/X-1a:2001, PDF/X-3:2002, PDF/X-1a:2003, PDF/X-3:2003, and PDF/X-4:2007). CS3 components create PDF/X-1a:2001, PDF/X-3:2002, and PDF/X-4:2007 versions by default.

