

Best practices for creating valid PDF/X files

PLEASE NOTE THAT PDFX Files can be certified without have all required standards in place. We must add addition PDF preflight profile in order to make sure our PDF file will print correctly.

Start by asking your print provider or publisher which PDF preset to use when creating the PDF/X file, and which preflight profile to use to confirm that the file meets your requirements. Your print provider or publisher may provide you with custom PDF presets and preflight profiles.

Before converting files created in InDesign, Illustrator, or Photoshop to PDF/X, do the following:

- Verify that all the fonts used in the document are available on the system. All fonts must be embedded.
- Make sure that links to images are current, and update links to high-resolution images. You do not want to flatten transparency on low-resolution images.
- Make sure that all images are in the correct color mode: for PDF/X-1a files, CMYK or spot colors
- Specify the appropriate image resolution for the final output device. PDF/X standards do not require a minimum image resolution. However, you can create a custom PDF settings file with a policy that warns you or cancels the job when image resolution is below a specified level.
- Confirm that the mechanical specifications, such as bleed and trim values, are correct. The CS4 components automatically define the page geometry (MediaBox, ArtBox or TrimBox, and the BleedBox values) for digital output; Distiller recognizes these values. If you're creating a PDF/X from a non-CS3 application using the Adobe PDF printer, and the BleedBox has not been specified, you can set it in Distiller, equal to the MediaBox.

Before converting files created in Acrobat to PDF/X, do the following:

- Be sure to preflight any PDF files whose originating software is unknown. (For example, a client may have supplied a PDF 1.6 file with live transparency.) If preflighting reports transparency that the PDF/X format can't support, you must flatten the transparency in Acrobat before conversion. To flatten transparency, in Acrobat, choose Advanced > Print Production > Flattener Preview; choose the High Resolution flattener preset, and click Apply. Then convert the file to PDF/X.
- If you are converting a PDF whose originating software is unknown, make sure that the file includes a title. In Acrobat, choose File > Properties; click the Description tab in the Document Properties dialog box, enter a title, and click OK.
- If you plan to run a PDF/X fixup to have Acrobat automatically apply the required PDF/X settings, first make a backup copy of the file; run the fixup on this backup copy. A fixup permanently changes a file.

On converting files to PDF/X, for best results, do the following:

- Use PDF/X-4 or other PDF formats that maintain live transparency. Adobe recommends that designers not flatten transparency, but rather leave that to the print service provider. If flattening is required, use the High Resolution flattener preset; converting to PDF/X-1a or PDF/X-3 automatically uses this preset. See A Designer's Guide to Transparency for Print Output for more information.
- For PDF/X-1a, select Convert Color To Destination and set the destination to CMYK. PDF/X-3 and PDF/X-4 support color management, so the color settings may differ.
- Set the trapping status.
- Specify a default output intent to use if one is not defined. An output intent is required.

Table 1: PDF/X file formats available in Adobe Creative Suite 3 components

PDF/X FORMAT	CONTENTS	USE	STANDARD	COMPATIBILITY	TRANSPARENCY SUPPORT ON OUTPUT
PDF/X-1a	CMYK colors, named spot colors. (No RGB or device-independent (color-managed) data.)	Blind exchange of documents; streamlined and validated for use in high-end press workflows.	PDF/X-1a:2001	Acrobat 4.0/PDF 1.3	Transparency must be flattened
			PDF/X-1a:2003	Acrobat 5.0/PDF 1.4	
PDF/X-3 (All PDF/X-1a files meet the requirements for PDF/X-3 files.)	CMYK, spot, calibrated RGB and Lab colors, ICC-based color.	ICC color-managed workflows. ICC color profiles are included in PDF/X file. Allows RGB images that include enough information to be treated as device-independent.	PDF/X-3:2002	Acrobat 4.0/PDF 1.3	Transparency must be flattened
			PDF/X-3:2003	Acrobat 5.0/PDF 1.4	
PDF/X-4	CMYK, spot, calibrated RGB and Lab colors, and ICC. Can contain live (unflattened) transparency and layers.	Color-managed workflows and workflows using Adobe PDF Print Engine. Transparency in artwork stays live.	PDF/X-4:2007 (draft)	Acrobat 7.0/PDF 1.6	Live transparency and layers supported

- 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 (Specifications for Web Offset Publications) or SNAP (Specifications for Non-heat Advertising Printing); or when you want to maintain absolute control over a file's content and color appearance.
- Choose PDF/X-3 if your workflow requires 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 digital presses or other color-managed environments, 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. Expected to be ratified as a standard in 2007, PDF/X-4 supports transparent artwork and effects, as well as layers. Print workflow systems based on the Adobe PDF Print Engine will be able to process PDF/X-4 jobs natively, without flattening artwork or converting the file to PostScript.

About 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 PDF/X files before creating, preflighting, and correcting them; and when customizing any settings.

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.