

PDF Guideline for FDA

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This document provides a general guideline for creating PDF documents that are to be processed by FDA(Florida Digital Archive). The guideline is based in part on the PDF/A-1 specification, ISO 19005-1 [ISO 19005-1]. It is strongly recommended that the submitted PDF documents conform to at least the PDF/A-1b standard.

The most recent version of Adobe Acrobat Professional, version 7.0.7 (released on Feb 14, 2006), supports the official PDF/A-1b standard by providing two configuration settings: PDF/A-1b:2005(RGB) and PDF/A-1b:2005(CMYK). When using the build-in support in Acrobat Professional 7.0.7 to convert documents into PDFs, it is recommended to use those two PDF/A-1b standard settings without modification.

Tool	Conversion Support	Recommended PDF Settings
Acrobat Professional	MS Office, MS Project, Visio, MS Publisher and Postscript to PDF/A-1b	PDF/A-1b:2005(RGB) or PDF/A-1b:2005(CMYK)
Acrobat Distiller	Postscript to PDF/A-1b	PDF/A-1b:2005(RGB) or PDF/A-1b:2005(CMYK)
Adobe PDF Maker plug-in Microsoft Word	Word to PDF/A-1b	PDF/A-1b:2005(RGB) or PDF/A-1b:2005(CMYK)

It is highly recommended that users use the preflight feature available in Adobe Acrobat Professional 7.0.7 to validate the created PDF file against the PDF/A-1b standard and remove all non-conformances prior to submission.

The following sections describe the PDF/A requirements for users to understand the built-in PDF/A-1b settings during the PDF/A creation process. Some of the sections also contain applicable suggestions for configuring Adobe Acrobat PDF settings when it is required. Nevertheless, this document is not intended to be served as the user manual for Adobe Acrobat nor as a comprehensive how-to document for creating PDF/A documents.

1. Color Space

The submitted documents must use only device-independent color spaces, such as CalGray, CalRGB, Lab or ICCBased. Any ICCBased color space must be embedded and conform to ICC specification. Alternatively, the device independence may be achieved by using an uncalibrated color space (such as DeviceRGB or DeviceCMYK) which also contains an OutputIntent to specify the color characteristics of the device that is intended for rendering.

Suggestion: To ensure that all device-dependent color will be converted by using either device-independent color space or in a device-independent manner, it is recommended that the PDF/A-1b standard settings related to colorspace to be used unaltered. However, if it is necessary to configure the

Adobe PDF settings, select one of the “Tag Everything for Color Management,” “Convert All Colors to sRGB,” or “Convert Everything to CMYK” options [Adobe]. Do not set the applicable working space for the selected color management policy to “None”.

2. Compression

The submitted documents must use only lossless compression algorithms which are not subject to intellectual property constraints. The use of LZW compression is prohibited.

Suggestion: For compression on monochrome images, choose either “Off,” “Run Length,” “CCITT Group 3” or “CCITT Group4” in Adobe Acrobat. For color or grayscale images, choose either “Off,” “Zip,” “JPEG” or “automatic (JPEG)” in the compression settings.

3. External Reference

For the purpose of long-term preservation, it is mandatory that the submitted document is self-contained with no external dependency. Therefore, those PDF features allowing for external references must not be used. These features include:

- Actions to launch external applications
- Actions to execute Java scripts. The use of Java script may create external dependency and interfere with normal rendering of the document.
- Actions to import form data from external files (ImportData action)
- Annotations to contain references to external files (FileAttachment annotation)

Suggestion: When configuring Adobe PDF settings for creating PDF/A documents in Acrobat, Distiller or PDF Maker, please do not enable the “Add bookmarks and links to Adobe PDF file” option; Doing so may transfer links for external contents to the created PDF files.

4. Font

All fonts, including standard fonts, used in a submitted document must be legally embedded for unlimited, universal rendering. Font embedding ensures that the submitted document will be rendered in the way it was originally created. To reduce the size of the PDF file, the embedded fonts must also be subsetted such that it contains only the required glyphs to render the document.

Suggestion: In the Adobe PDF settings, select both the “Embed all fonts” and “Subset embedded font when percent of characters used is less than 100%” options to embed and subset all the fonts used in the file. Do not select the “Optimize for fast web view” option as it will cause Acrobat not to embed the standard fonts in the created PDF file.

5. Form

To ensure consistent rendering on form fields, any action that could potentially change the visual appearance of the form is prohibited.

Suggestions: Remove all form actions from a document prior to converting it into the PDF format.

6. Image

All the embedded images in a PDF file must oblige to the following restrictions:

- Alternative images, allowing for variant representations of an image, must not be used.
- It is recommended to avoid image down sampling during PDF creation process, as it could

- result in quality loss. Note: This is not a PDF/A requirement.
- The use of transparency feature in an image is prohibited. Instead, Flattening those multiple-layer images in a PDF file is recommended.

7. Metadata

To uniformly describe the descriptive, administrative and technical metadata, the PDF file must contain a Metadata stream that conforms to the XMP specification. The following XMP metadata properties must be provided in the PDF file:

Metadata	XMP Property
Document Title	dc:title
Document Author	dc:creator
Subject	dc:subject
Keywords	pdf:keywords
Creator Program	xmp:CreatorTool
Producer	pdf:Producer
Creation Date	xmp:CreateDate
Modification Date	xmp:ModifyDate
File Identifier	either through the use of xmp:Identifier, xmpMM:DocumentID, mpMM:VersionID, or xmpMM:RenditionClass
File Provenance Information	xmpMM:History

Every XMP metadata property, which has a corresponding entry in the document information dictionary, must be defined with the value equivalent to the one in the document information dictionary. The XMP metadata stream must also contain properties to indicate the PDF/A version and conformance level of the document. Those properties must be specified using the PDF/A Identification extension schema.

The description of all extension schemas used in the document must be embedded. The descriptions must be specified following the PDF/A extension schema description schema. In addition, the XMP metadata stream must not be filtered.

Suggestion: Using a PDF/A conformed writer will embed a XMP metadata stream according to the PDF/A standard. Do not use any PDF writer that is not PDF/A conformed.

8. Multimedia

Embedding of multimedia content, including the use of Sound Annotation, Sound Action, Movie Annotation and Movie Action, is prohibited.

Suggestion: Remove all multimedia content from a document prior to converting it into the PDF format.

9. Security

The submitted document must not be encrypted or password protected. Encryption or password protection hinders the accessibility of the documents. Any encrypted or password protected document would not be migrated in the future.

Suggestion: When configuring Adobe PDF settings to create PDF documents in Acrobat, Distiller or PDF Maker, please select “None” for the “Adobe PDF Security” setting to avoid possible password protection in the created PDF file.

10. PDF/A-1a Conformance

PDF/A-1a conformance includes the full set of PDF/A features. In addition to the PDF/A-1b features, a document which is PDF/A-1a compliance must also adhere to the following constraints:

- The use of tags to specify the logical structure of the document. However, tagging could significantly increase the size of the PDF files.
- The use of Unicode Character Map to map character codes into Unicode values.

As Adobe currently does not support PDF/A-1a conformance level, FDA does not require the submitted documents to conform with PDF/A-1a. However, if the submitting institutions use a tool that supports PDF/A-1a, creating PDF/A-1a conformed PDF files is strongly recommended.

References

[Adobe] “Create Adobe PDF Online”, http://createpdf.adobe.com/cgi-feeder.pl/help_color?BP=&LOC=en_US

[Adobe 2004] “XMP Specification”, Adobe Systems Incorporated, January 2004

[ISO 19005-1] “Document management – Electronic document file format for long-term preservation – Use of PDF 1.4 (PDF/A-1)”, International Organization for Standardization, 2004

[ICC] “ICC.1: 1998-09, File Format for Color Profiles”, International Color Consortium

[PDF Tools] “White Paper PDF/A – The Basics”, PDF Tools AG, February 7, 2006