



**Document management applications—
Electronic document file format
enhancement for accessibility**

Part 1: Use of ISO 32000-1 (PDF/UA-1)



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-

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PREFACE

This Standard was prepared by the Standards Australia Committee IT-021, Records and Document Management Systems.

The objective of this Standard is to specify the use of ISO 32000-1:2008 to produce accessible electronic documents through the inclusion of a variety of semantic information and defining requirements for conforming readers and conforming assistive technology.

This Standard is identical with, and has been reproduced from ISO 14289-1:2014, *Document management applications—Electronic document file format enhancement for accessibility—Part 1: Use of ISO 32000-1 (PDF/UA-1)*.

As this Standard is reproduced from an International Standard, the following applies:

- (a) In the source text ‘this part of ISO 14289’ should read ‘this Australian Standard’.
- (b) A full point substitutes for a comma when referring to a decimal marker.

None of the normative references in the source document have been adopted as Australian or Australian/New Zealand Standards.

CONTENTS

1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Notation	2
5	Version identification	3
6	Conformance requirements	3
6.1	General	3
6.2	Conforming files	3
6.3	Conforming reader	3
6.4	Conforming assistive technology	4
7	File format requirements	4
7.1	General	4
7.2	Text	5
7.3	Graphics	5
7.4	Headings	5
7.5	Tables	6
7.6	Lists	7
7.7	Mathematical expressions	7
7.8	Page headers and footers	7
7.9	Notes and references	7
7.10	Optional content	7
7.11	Embedded files	7
7.12	Article threads	8
7.13	Digital signatures	8
7.14	Non-interactive forms	8
7.15	XFA	8
7.16	Security	8
7.17	Navigation	8
7.18	Annotations	9
7.19	Actions	10
7.20	XObjects	10
7.21	Fonts	10
8	Conforming reader requirements	13
8.1	General	13
8.2	Text	13
8.3	Tables	14
8.4	Optional content	14
8.5	File attachments and embedded files	14
8.6	Digital signatures	14
8.7	Actions	15
8.8	Metadata	15
8.9	Navigation	15
8.10	Annotations	15
9	AT requirements	16
9.1	General	16
9.2	Optional content	16
9.3	Navigation	16
	Bibliography	17

INTRODUCTION

PDF is a digital format for representing documents. PDF files may be created natively in PDF form, converted from other electronic formats, or digitized from paper. Businesses, governments, libraries, archives and other institutions and individuals around the world use PDF to represent considerable bodies of important information. These PDF files should be made accessible to users with disabilities.

The accessibility of a document is dependent on the inclusion of a variety of semantic information in a document such as (but not limited to) machine-recoverable text presented in a declared language, logical structure of content, and organization of that content in pages, sections and paragraphs. Semantic information can also contain a variety of descriptive metadata, such as alternative text for images. The primary purpose of ISO 14289 (known as PDF/UA) is to define how to represent electronic documents in the PDF format in a manner that allows the file to be accessible. This is accomplished by identifying the set of PDF components that may be used and restrictions on the form of their use. PDF/UA is intended as a companion standard, to be used in conjunction with ISO 32000, ISO 19005, ISO 15930 and other standards as may apply for the purpose of achieving accessibility or as mandated by this International Standard. In order for PDF/UA conforming files to be truly accessible, requirements on conforming readers and conforming assistive technology are also stipulated herein. By itself, PDF/UA does not necessarily ensure that the visual appearance of the content accurately reflects any original source material used to create the conforming file. For example, the process used to create a conforming file might substitute fonts, reflow text, downsample images, or use lossy compression. Organizations that need to ensure that a conforming file is an accurate representation of original source material may need to impose additional requirements on the processes that generate the conforming file beyond those imposed by this International Standard. In addition, it is important for those organizations to implement policies and practices regarding the inspection of conforming files for correct placement of accessibility information.

AIIM (an accredited standards developing organization) maintains an ongoing series of application notes for guiding developers and users of this International Standard. These application notes will be displayed, when available, at <http://www.aiim.org/pdfua/app-notes>. AIIM will also retain copies of the specific non-ISO normative references in this International Standard that are publicly available electronic documents.

AUSTRALIAN STANDARD

Document management applications—Electronic document file format enhancement for accessibility**Part 1:
Use of ISO 32000-1 (PDF/UA-1)****1 Scope**

This part of ISO 14289 specifies the use of ISO 32000-1:2008 to produce accessible electronic documents.

This part of ISO 14289 is not applicable to:

- specific processes for converting paper or electronic documents to the PDF/UA format;
- specific technical design, user interface, implementation, or operational details of rendering;
- specific physical methods of storing these documents, such as media and storage conditions;
- required computer hardware and/or operating systems.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 32000-1:2008, *Document management — Portable document format — Part 1: PDF 1.7*

Web Content Accessibility Guidelines 2.0, W3C Recommendation, 11 December 2008. Available from the Internet <<http://www.w3.org/TR/WCAG20>>.

3 Terms and definitions

For the purpose of this document, the following terms and definitions apply.

**3.1
assistive technology****AT**

software and/or hardware used by a person with a disability that provides alternative controls and/or renditions to facilitate their access to and usage of available functionality and information

**3.2
alternate description**

description of a structure element and its children

[SOURCE: ISO 32000-1:2008, 14.9.3]

Note 1 to entry: ISO 32000-1 uses both “alternate text” and “alternate description” to refer to the same item.

3.3

dictionary

associative table containing key-value pairs, specifying the name and value of an attribute for objects, which is generally used to collect and tie together the attributes of a complex object

[SOURCE: ISO 32000-1:2008, 4.17]

3.4

interactive reader

reader that requires or allows human interaction with the content and other objects contained in the document during the software's processing phase

Note 1 to entry: A file viewing tool is an example of an interactive reader; a raster image processor is an example of a reader that is not interactive.

3.5

Portable Document Format

PDF

file format defined in ISO 32000-1:2008

3.6

reader

software application that is able to read and process PDF files appropriately

[SOURCE: ISO 32000-1:2008, 2.2]

3.7

replacement text

text that is an exact replacement for the structure element and its children in cases where an AT device needs to read the element inline with the surrounding content

[SOURCE: ISO 32000-1:2008, 14.9.4]

3.8

writer

software application that is able to write PDF files

[SOURCE: ISO 32000-1:2008, 2.3]

4 Notation

PDF operators, PDF keywords, the names of keys in PDF dictionaries, and other predefined names are written in bold font; operands of PDF operators or values of dictionary keys are written in italic font. Some names can also be used as values, depending on the context, and so the styling of the content will be context specific.

EXAMPLE 1 The *Default* value for the **TR2** key.

Token characters used to delimit objects and describe the structure of PDF files, as defined in ISO 32000-1:2008, 7.2.1, may be identified by their ISO/IEC 646 character name written in upper case in bold font followed by a parenthetic two digit hexadecimal character value with the suffix "h".

EXAMPLE 2 **CARRIAGE RETURN** (0Dh).

Text string characters, as defined in ISO 32000-1:2008, 7.9.2, may be identified by their ISO/IEC 10646 character name written in uppercase in bold font followed by a parenthetic four digit hexadecimal character code value with the prefix "U+".

EXAMPLE 3 **EN SPACE** (U+2002).

5 Version identification

The PDF/UA version and conformance of a file shall be specified in the metadata stream that is the value of the Metadata key in the Catalog using the PDF/UA Identification extension schema defined in [Table 1](#).

The Identification schema namespace URI is <http://www.aiim.org/pdfua/ns/id/>. The required schema namespace prefix is **pdfuaid**.

Table 1 — PDF/UA Identification schema

Property	Value type	Category	Description
pdfuaid:part	<i>Open Choice of Integer</i>	Internal	Required PDF/UA version identifier
pdfuaid:amd	<i>Open Choice of Text</i>	Internal	Optional PDF/UA amendment identifier
pdfuaid:corr	<i>Open Choice of Text</i>	Internal	Optional PDF/UA corrigenda identifier

The value of **pdfuaid:part** shall be the part number of this International Standard to which the file conforms. If the file conforms to a version of this International Standard that is defined by an amendment to a part, then the value of **pdfuaid:amd** shall be the amendment number and year, separated by a colon.

The values of the **pdfuaid:part**, **pdfuaid:amd** and **pdfuaid:corr** properties do not by themselves determine conformance with any part of this International Standard.

6 Conformance requirements

6.1 General

ISO 14289 defines a file format for representing electronic documents known as “PDF/UA” and also defines how conforming readers and conforming assistive technology (AT) process such documents.

The version number of a file may be any value from 1.0 to 1.7, and the value shall not be used in determining whether a file is in conformance with this part of ISO 14289.

NOTE The proper mechanism by which a file can presumptively identify itself as being a PDF/UA file of a given conformance level is described in [Clause 5](#).

6.2 Conforming files

Conforming files shall adhere to all requirements of ISO 32000-1:2008 as modified by this part of ISO 14289. A conforming file may include any valid ISO 32000-1:2008 feature that is not explicitly forbidden by this part of ISO 14289. Features described in PDF specifications prior to ISO 32000-1:2008 which are not explicitly defined in ISO 32000-1 should not be used.

NOTE A conforming file is not obligated to use any PDF feature other than those explicitly required by ISO 32000-1 or this part of ISO 14289.

A conforming file shall contain PDF/UA version identification as defined in [Clause 5](#).

A conforming file shall adhere to all file format provisions in [Clause 7](#).

6.3 Conforming reader

A conforming PDF/UA reader shall adhere to conforming reader provisions in ISO 32000-1:2008 as well as to all reader requirements of this part of ISO 14289.

NOTE A conforming reader can also be integrated with conforming assistive technology.