BS ISO 16612-2:2010

BSI Standards Publication

Graphic technology — Variable data exchange

Part 2: Using PDF/X-4 and PDF/X-5 (PDF/ VT-1 and PDF/VT-2)

bsi.

...making excellence a habit.™

Document Sharing Hub

Full document details: BS ISO 16612-2:2010

National foreword

This British Standard is the UK implementation of ISO 16612-2:2010.

The UK participation in its preparation was entrusted to Technical Committee PAI/43, Graphic technology.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© BSI 2010

ISBN 978 0 580 66530 1

ICS 35.240.30; 37.100.99

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 November 2010.

Amendments issued since publication

Date	Text affected

Documents
Document Sharing Hub

Full document details: BS ISO 16612-2:2010

INTERNATIONAL STANDARD

ISO 16612-2

First edition
2010-08-15

Graphic technology — Variable data exchange —

Part 2: Using PDF/X-4 and PDF/X-5 (PDF/VT-1 and PDF/VT-2)

Technologie graphique — Échange de données d'impression variables —

Partie 2: Utilisation de PDF/X-4 et PDF/X-5 (PDF/VT-1 et PDF/VT-2)

Reference number
ISO 16612-2:2010(E)

Documents
Document Sharing Hub

© ISO 2010

Full document details: BS ISO 16612-2:2010

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

COPYRIGHT PROTECTED DOCUMENT

© ISO 2010

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

© ISO 2010 – All rights reserved

Documents
Document Sharing Hub

Full document details: BS ISO 16612-2:2010

Contents

Page

Foreword iv
Introduction v
1 Scope 1
2 Normative references 1
3 Terms, definitions and abbreviated terms 2
3.1 Terms and definitions 2
3.2 Abbreviated terms 5
4 Notations 5
5 Conforming files and equipment 5
5.1 General 5
5.2 PDF/VT-1 conformance 6
5.3 PDF/VT-2 conformance 6
5.4 PDF/VT-2s conformance 6
5.5 All PDF/VT file conformance levels 6
5.6 Validation of PDF/VT files 6
6 Technical requirements 7
6.1 General 7
6.2 PDF/VT file requirements 7
6.3 PDF/VT-1 and PDF/VT-2 file identification 7
6.4 Architecture 8
6.5 Document part hierarchy 9
6.6 Document part metadata (DPM) 11
6.7 Recurring graphical object definitions 12
Annex A (normative) Use of multipart MIME for streamed generation of PDF/VT data 16
Annex B (informative) PDF/X conformance summary 18
Annex C (informative) Example DPart structure 19
Annex D (normative) XML representation of the document part hierarchy 26
Annex E (normative) Naming conventions for DPM keys 31
Annex F (normative) Determining XObject equivalence 32
Bibliography 36

© ISO 2010 – All rights reserved

Documents
Document Sharing Hub
Full document details: BS ISO 16612-2:2010

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 16612-2 was prepared by Technical Committee ISO/TC 130, *Graphic technology.*

ISO 16612 consists of the following parts, under the general title *Graphic technology — Variable data exchange*:

— *Part 1: Using PPML 2.1 and PDF 1.4 (PPML/VDX-2005)*

— *Part 2: Using PDF/X-4 and PDF/X-5 (PDF/VT-1 and PDF/VT-2)*

© ISO 2010 – All rights reserved
Documents
Document Sharing Hub
Full document details: BS ISO 16612-2:2010

Introduction

This part of ISO 16612 defines the PDF/VT document format which specifies methods for the use of the Portable Document Format (PDF) for the definition and exchange of all content elements and supporting metadata necessary for printing tasks involving variable or transactional document content. It allows the specification of document structure, document layout, content data, and interaction of graphical elements in a graphics model that supports transparency.

PDF/VT is designed to enable variable document printing (VDP) in a variety of environments from desktop printers to digital production presses. This includes hybrid workflows involving both conventional and digital printing.

This part of ISO 16612 defines three conformance levels as follows.

— PDF/VT-1 for a complete single-file exchange. PDF/VT-1 requires all resources necessary for proper interpretation of the PDF data to be included within the conforming PDF file.

— PDF/VT-2 for multi-file exchange. PDF/VT-2 enables a conforming file to refer to an external ICC profile file and additional content defined in external PDF/X conforming files for use as page content.

— PDF/VT-2s for streamed delivery. PDF/VT-2s allows for processing (streaming) of multiple compound entities representing graphical content before the entire PDF/VT instance has been generated. A PDF/VT-2s stream is a MIME package that contains a sequence of one or more PDF/VT files and supporting resources.

The present trend towards the separation of variable document content creation from the details of print production workflow and printing device dependencies is evolving rapidly. The job definition format (JDF) job ticket specification being developed by the International Cooperation for the Integration of Processes in Prepress, Press, and Postpress Organization (CIP4) provides one means of specifying a print product and corresponding production process in a way that is independent of any particular graphical content format.

PDF/VT is intended to be workflow-architecture-neutral. PDF/VT has no provision for encoding workflow or device-specific control information. The aspects of device control, resource, and production management are outside the scope of this part of ISO 16612. In a production environment, PDF/VT relies on the use of JDF, or similar job ticket formats, to define a print product and the corresponding production requirements. The primary focus of PDF/VT is on the exchange of content between businesses or within an integrated environment that produces variable document printing.

Graphics design applications continue to evolve with greater capability and increased sophistication of the graphical content and design effects based on a graphics model that supports transparency. This graphics model is required to support features such as drop shadows and colour blending effects that are associated with the interaction of transparent content objects. These capabilities are used in the creation of one-to-one customer communication print applications including direct marketing documents, transactional documents, and trans-promotional documents.

This part of ISO 16612, referred to as PDF/VT, includes support for the PDF 1.6 imaging model which includes support for transparency. It builds on the PDF/X-4 and PDF/X-5 standards (defined in ISO 15930-7 and ISO 15930-8), which, in turn, reference PDF 1.6. Like ISO 16612-1, this part of ISO 16612 guarantees portability of conforming VDP content and metadata across conforming digital printing systems. It is focused on defining the content data and metadata necessary to support efficient workflow manipulation and processing based on the use of JDF or similar job ticket formats. More specifically, the job ticket is expected to define the production requirements and draw upon PDF/VT for its content and metadata resources.

Documents
Document Sharing Hub

© ISO 2010 – All rights reserved

Full document details: BS ISO 16612-2:2010

This approach supports the fundamental requirements of portability, device and workflow independence and guaranteed communication of the intended colour reproduction. The native constructs within PDF allow products to provide functionality equivalent to that of PPML workflows as used in ISO 16612-1. This part of ISO 16612 uses a single homogeneous format while adding support for a graphics model that supports transparency, including support for interacting transparent objects.

This part of ISO 16612 is based on PDF/X-4 and PDF/X-5 allowing users to continue to use, and solution vendors to build on, existing PDF-based workflow tools and job-ticket-based VDP workflow architecture similar to PPML/VDX, with the added capability of the full graphics model of PDF 1.6.

PDF/VT supports the use of graphical object definitions as a method of specifying graphical content data only once in a PDF/VT file independent of the number of times it is referenced in the file. This approach serves to reduce the file size of a PDF/VT instance and allows implementers of conforming readers to employ various processing optimization strategies. Within the context of PDF/X-4, these graphical objects are specified as image, form and transparency group **XObject**s. Use of PDF/X-5g and PDF/X-5pg allows for the use of reference **XObject**s where the **XObject's** content stream is that of a page of a referenced PDF file.

While strongly recommended, there is nothing in this part of ISO 16612 that enforces the creation of PDF/VT files that make efficient use of **XObject**s.

XObjects referenced multiple times from various content streams can be tagged with hint information that aids the conforming reader in its determination of **XObject** reuse. These hints include an explicit lifetime scope to indicate the context within which the **XObject** is known to be referenced multiple times, such as within the current file, across multiple files of a PDF/VT instance or across PDF/VT instances. An **XObject** can also be tagged with an identifier to assist a conforming reader in the identification and management of such recurring definitions, such as in the case where it is known to occur across multiple PDF/VT files.

An **XObject** can also be identified as an encapsulated **XObject** if its definition has a limited and well-defined interaction with the current graphic state when invoked. This explicit hint serves to assist a conforming reader in its optimization strategy.

This part of ISO 16612 enables an exchange of content where no additional technical information is required to be communicated between sender and receiver for the purpose of describing the appearance of page content.

Application notes for this part of ISO 16612 are available to provide assistance to developers and users of applications designed to conform to this part of ISO 16612 and can be found at http://www.npes.org/Standards/toolspdfvt.html.

A reader conforming to this part of ISO 16612 is not required to support documents conforming to ISO 16612-1, which is based on the use of PDF and PPML.

© ISO 2010 – All rights reserved
Documents
Document Sharing Hub
Full document details: BS ISO 16612-2:2010

Graphic technology — Variable data exchange —

Part 2:
Using PDF/X-4 and PDF/X-5 (PDF/VT-1 and PDF/VT-2)

1 Scope

This part of ISO 16612 defines the PDF/VT document format and methods to enable reliable document exchange for variable data and transactional (VT) printing. It uses the Portable Document Format (PDF) Version 1.6, as restricted by PDF/X-4 and PDF/X-5, for the representation of such documents. It allows the specification of document structure and layout, content data, and interaction of graphical objects in a graphics model that supports transparency and both device-dependent and device-independent colour spaces. All elements are either included or provision is made for unique identification of externally supplied graphical content or ICC profiles.

PDF/VT is designed to enable variable data and transactional printing in a variety of environments from desktop printers to digital production presses. This includes hybrid workflows involving both conventional and digital printing.

This part of ISO 16612 does not provide for the specification and encoding of production and device control information but is constructed to enable its use with the CIP4 Job Document Format (JDF) or similar job ticket formats.

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 15930-7, *Graphic technology — Prepress digital data exchange using PDF — Part 7: Complete exchange of printing data (PDF/X-4) and partial exchange of printing data with external profile reference (PDF/X-4p) using PDF 1.6*

ISO 15930-8, *Graphic technology — Prepress digital data exchange using PDF — Part 8: Partial exchange of printing data using PDF 1.6 (PDF/X-5)*

Adobe PDF Reference, fifth edition, version 1.6., Adobe Systems Incorporated (ISBN 0-321-30474-8). Available from <http://www.npes.org/standards/toolspdfx.html>

Errata for the PDF Reference, fifth edition, version 1.6 dated 4 October 2006, Adobe Systems Incorporated. Available from <http://www.npes.org/standards/toolspdfx.html>

Extensible Markup Language (XML) 1.0 (Second Edition), 6 October 2000, World Wide Web Consortium, Available from <http://www.w3.org>

PDF Blend Modes: Addendum, 23 January 2006, Adobe Systems Incorporated. Available from <http://www.npes.org/standards/toolspdfx.html>

© ISO 2010 – All rights reserved

Documents
Document Sharing Hub

Full document details: BS ISO 16612-2:2010

RFC 2045, *Multipurpose Internet Mail Extensions (MIME) Part One: Format of Internet Message Bodies*, November 1996. Available from <http://www.ietf.org/rfc/rfc2045.txt>

RFC 2046, *Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types*, November 1996. Available from <http://www.ietf.org/rfc/rfc2046.txt>

RFC 2047, *MIME (Multipurpose Internet Mail Extensions) Part Three: Message Header Extensions for Non-ASCII Text*, November 1996. Available from <http://www.ietf.org/rfc/rfc2047.txt>

RFC 2183, *Communicating Presentation Information in Internet Messages: The Content-Disposition Header Field*, August 1997. Available from <http://www.ietf.org/rfc/rfc2183.txt>

RFC 4122, *A Universally Unique IDentifier (UUID) URN Namespace*, July 2005. Available from <http://www.ietf.org/rfc/rfc4122.txt>

XML Path Language (XPath), version 1.0, WC3 Recommendation, 16 November 1999. Available from <http://www.w3.org/tr/xpath>

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

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

3.1.1
compound entity
unit of work with all text, graphics and image elements prepared for final print reproduction and that might represent a single page for printing, a portion of a page or a combination of pages

3.1.2
document
collection of related document parts

NOTE A document part can also be a document.

3.1.3
document part
set of related pages or related sets of pages, or both

EXAMPLE Chapter pages of a book or all sets of pages intended for a recipient.

3.1.4
document part hierarchy
hierarchical data structure that specifies the organization of document parts

3.1.5
document part metadata
DPM
metadata associated with a document part

3.1.6
editor
application that is both a reader and a writer capable of modifying a file

3.1.7
encapsulated XObject
XObject having a well-defined limited interaction with the current graphics state at the point of invocation

© ISO 2010 – All rights reserved
Documents
Document Sharing Hub
Full document details: BS ISO 16612-2:2010

3.1.8
environment context
set of reusable content

3.1.9
graphical object
graphical content definition comprising text, vector graphics, image data or some combination thereof

3.1.10
ICC
International Color Consortium
industry association formed to develop standardized mechanisms for colour management

3.1.11
ICC profile
set of colorimetric transforms prepared in accordance with ICC.1 or ISO 15076-1

3.1.12
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 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.

[ISO 19005-1:2005]

3.1.13
job definition
information that specifies the production requirements and workflow of a unit of work involving purposing PDF/VT content to one or more messaging channels

3.1.14
job ticket
electronic specification of print product or process control for print production, or both

3.1.15
PDF
Portable Document Format
file format defined in the *PDF Reference*

3.1.16
PDF/VT
document format and methods to enable reliable document exchange for variable data and transactional printing

3.1.17
PDF/VT chunk
conforming PDF/VT-1 file or PDF/VT-2 file set that is a member of a PDF/VT-2s stream

3.1.18
PDF/VT file
a conforming PDF/VT-1 or PDF/VT-2 file

3.1.19
PDF/VT file collection
one or more conforming PDF/VT-1 files or PDF/VT-2 file sets, or both

NOTE PDF/VT file collections can include files belonging to several PDF/VT instances.

Documents
Document Sharing Hub

© ISO 2010 – All rights reserved

Full document details: BS ISO 16612-2:2010

3.1.20
PDF/VT instance
PDF/VT-1 file, PDF/VT-2 file set or PDF/VT-2s stream

3.1.21
PDF/VT-2 file set
single conforming PDF/VT-2 file and all its referenced PDF files and external ICC profile files

3.1.22
PDF/X-4
conformance level defined in ISO 15930-7

3.1.23
PDF/X-4p
conformance level defined in ISO 15930-7

3.1.24
PDF/X-5
set of conformance levels defined in ISO 15930-8

3.1.25
PDF/X-5g
conformance level defined in ISO 15930-8

3.1.26
PDF/X-5pg
conformance level defined in ISO 15930-8

3.1.27
print element
element intended for final print reproduction

NOTE For more information, see ISO 15930-7.

3.1.28
print product
outcome of the processing of a document through a print manufacturing process.

EXAMPLE A perfect bound book or a postcard.

3.1.29
product part
part of a print product

EXAMPLE The cover part of a saddle-stitched booklet.

3.1.30
reader
software application that is able to read and appropriately process files

[ISO 15930-7]

3.1.31
recipient record
collection of information related to the pages intended for a single recipient

3.1.32
writer
software application that is able to write files

[ISO 15930-7]

© ISO 2010 – All rights reserved
Documents
Document Sharing Hub
Full document details: BS ISO 16612-2:2010

3.2 Abbreviated terms

CIP4 International Cooperation for the Integration of Processes in Prepress, Press, and Postpress Organization

DPM document part metadata

ICC International Color Consortium

JDF Job Definition Format as defined in the CIP4 JDF Specification

PDF Portable Document Format

4 Notations

PDF operators, PDF keywords, the names of keys in PDF dictionaries, and other predefined names are written in a bold sans serif font; for example, the key **Trapped**.

Operands of PDF operators or values of dictionary keys are written in an italic sans serif font; for example, the *False* value for the **Trapped** key.

The term “PDF/VT file” indicates requirements for files that comply with at least one of the conformance levels defined in this part of ISO 16612.

References to the “PDF Reference” are to the *Adobe PDF Reference*, fifth edition, Version 1.6, as modified by *Errata for the PDF Reference*, fifth edition, and by *PDF Blend Modes: Addendum*.

References to XML are to the Extensible Markup Language defined in *Extensible Markup Language (XML) 1.0 (Second Edition)*.

5 Conforming files and equipment

5.1 General

This part of ISO 16612 specifies the use of the PDF file format for the exchange of digital data representing the compound entities of one or more components intended for printing.

This part of ISO 16612, is based on ISO 15930, and defines three conformance levels based on ISO PDF/X standards as follows.

— *PDF/VT-1* requires all compound entities, metadata and resources used in representing graphical content to be defined within the PDF/VT-1 file as specified in PDF/X-4.

— *PDF/VT-2* allows one or more compound entities representing graphical content or ICC profiles required to render the file to be externally referenced according to the provisions specified in PDF/X-4p, PDF/X-5g and PDF/X-5pg.

— *PDF/VT-2s* allows for processing (streaming) of multiple compound entities representing graphical content before the entire PDF/VT instance has been generated.

PDF/VT conformance is identified in a PDF/VT file by use of the **pdfvtid:GTS_PDFVTVersion** property as specified in 6.3. Neither the version number in the header of a PDF file nor the value of the **Version** key in the **Catalog** of a PDF file shall be used in determining whether a file is in accordance with this part of ISO 16612.

A PDF/VT file shall conform to all requirements set out in Clause 6.

© ISO 2010 – All rights reserved

Documents
Document Sharing Hub
Full document details: BS ISO 16612-2:2010

5.2 PDF/VT-1 conformance

A PDF/VT-1 conforming writer is a software application that is able to write PDF/VT-1 files in accordance with the conformance requirements specified in Clause 6.

A PDF/VT-1 conforming reader is a software application or system that is able to read and appropriately process all PDF/VT-1 files in accordance with the conformance requirements specified in Clause 6.

5.3 PDF/VT-2 conformance

A PDF/VT-2 conforming writer is a software application that is able to write PDF/VT-2 files in accordance with the conformance requirements specified in Clause 6.

A PDF/VT-2 conforming reader is a software application or system that is able to read and appropriately process all PDF/VT-2 file sets in accordance with the conformance requirements for PDF/X-4, PDF/X-4p, PDF/X-5g and PDF/X-5pg as specified in Clause 6.

5.4 PDF/VT-2s conformance

A PDF/VT-2s conforming stream is a MIME package of type *application/pdf-vt-stream* containing one or more PDF/VT chunks in which those features necessary for streaming exchange shall adhere to the conformance requirements defined in Annex A.

A PDF/VT-2s conforming writer is a software application that is able to write PDF/VT-2s streams that are in accordance with the conformance requirements defined in A.2.

A PDF/VT-2s conforming reader is a software application or system that is able to read and appropriately process PDF/VT-2s streams in accordance with the conformance requirements defined in A.3.

5.5 All PDF/VT file conformance levels

All conforming interactive readers should present a user interface based on the tree structure of the document part hierarchy defined in 6.5.

All conforming readers shall read and appropriately process the **DPartRoot** dictionary and its **DPart** sub-dictionaries defined in 6.5.

A conforming editor shall be both a conforming reader and a conforming writer.

All conforming PDF/VT editors, when updating a PDF/VT file, shall write a new value for both the **pdfvtid:GTS_PDFVTModDate** and the **xmp:ModifyDate** properties.

To the extent that ISO 15930-7 and ISO 15930-8 and this part of ISO 16612 permit more than one rendering of a PDF/VT file, a conforming reader may use a job ticket or metadata information to further restrict the rendering of the file.

Annex B gives a summary of the permitted PDF/X conformance levels.

5.6 Validation of PDF/VT files

A PDF/VT-1 file can be validated individually against the requirements of this part of ISO 16612.

A PDF/VT-2 file can be validated in isolation against the requirements of this part of ISO 16612. In addition, a PDF/VT-2 file set can be validated. Successful validation of a PDF/VT-2 file in isolation should not be taken to imply that the use of that file within a file set would necessarily lead to a conforming file set.

Only a complete PDF/VT-2 file set can be completely validated against the requirements of this part of ISO 16612. Only a complete PDF/VT-2s stream including all of its referenced files can be completely validated against the requirements of this part of ISO 16612.

Annex B gives a summary of the permitted PDF/X conformance levels.

© ISO 2010 – All rights reserved
Documents
Document Sharing Hub
Full document details: BS ISO 16612-2:2010

6 Technical requirements

6.1 General

The PDF features that shall be required, prohibited or restricted are specified in 6.2 to 6.7. These features shall be used as prescribed in the *PDF Reference* and as further restricted by this part of ISO 16612.

6.2 PDF/VT file requirements

6.2.1 PDF/VT-1 file requirements

A PDF/VT-1 file shall conform to PDF/X-4 (but not PDF/X-4p) as defined in ISO 15930-7.

NOTE PDF/X-4p is not included because it permits a reference to an external ICC profile and the PDF/VT-1 conformance level is intended for single-file exchange only.

6.2.2 PDF/VT-2 file requirements

A PDF/VT-2 file shall conform to one of the following:

— PDF/X-5g as defined in ISO 15930-8;

— PDF/X-5pg as defined in ISO 15930-8;

— PDF/X-4p as defined in ISO 15930-7.

NOTE 1 Although PDF/X-5n is a PDF/X-5 conformance level, it is not included in PDF/VT-2 conformance due to the somewhat specialized nature of digital print workflows that make use of n-colorant data for exchange in variable document printing applications.

A PDF/VT-2 file shall not reference pages of a PDF/X-5g, PDF/X-5n or PDF/X-5pg conforming file or another PDF/VT-2 conforming file.

NOTE 2 This requirement means that only pages of PDF/X-1a, PDF/X-3, PDF/X-4, PDF/X-4p, PDF/VT-1 files and conforming ICC profile files can be referenced.

NOTE 3 The implication of only allowing a conforming PDF/VT-2 file to have an external reference to the noted file types is that the only secondary reference allowed from a referenced PDF file is to an ICC profile file.

If a referenced page is in a PDF/VT-1 conforming file, the file shall be interpreted as a PDF/X-4 file and its document part hierarchy and the *GTS_Scope* key within the referenced file shall be ignored by a conforming reader.

A conforming PDF/VT-2 file set shall be a conforming PDF/X-5 file set or PDF/X-4p file set.

6.3 PDF/VT-1 and PDF/VT-2 file identification

A PDF/VT-1 or PDF/VT-2 file shall be identified using the **pdfvtid:GTS_PDFVTVersion** property defined in Table 1. This property shall be present in the metadata stream associated with the **Metadata** key in the document's **Catalog** as required in ISO 15930-7.

The prefix **pdfvtid** with the namespace identifier *http://www.npes.org/pdfvt/ns/id/* shall always be used as shown in Table 1.

© ISO 2010 – All rights reserved

Documents
Document Sharing Hub
Full document details: BS ISO 16612-2:2010