ISO 32000-2:2017-07 (E)

Document management - Portable document format - Part 2: PDF 2.0

Contents

Page

Foreword vii

Introduction viii

1 Scope 1

2 Normative references 2

3 Terms and definitions 7

4 Notation 15
4.1 General 15
4.2 Established notations 15

5 Version designations 17

6 Conformance 18
6.1 General 18
6.2 Conforming PDF documents 18
6.3 PDF processors 18

7 Syntax 20
7.1 General 20
7.2 Lexical conventions 21
7.3 Objects 23
7.4 Filters 34
7.5 File structure 52
7.6 Encryption 70
7.7 Document structure 95
7.8 Content streams and resources 109
7.9 Common data structures 113
7.10 Functions 121
7.11 File specifications 130
7.12 Extensions dictionary 139

8 Graphics 142
8.1 General 142
8.2 Graphics objects 142
8.3 Coordinate systems 146
8.4 Graphics state 153
8.5 Path construction and painting 165
8.6 Colour spaces 173
8.7 Patterns 216
8.8 External objects 250
8.9 Images 251
8.10 Form XObjects 267
8.11 Optional content 273

9 Text 290
9.1 General 290
9.2 Organisation and use of fonts 290
9.3 Text state parameters and operators 297

9.4 Text objects 303
9.5 Introduction to font data structures 308
9.6 Simple fonts 309
9.7 Composite fonts 324
9.8 Font descriptors 340
9.9 Embedded font programs 348
9.10 Extraction of text content 352

10 Rendering 357
10.1 General 357
10.2 Raster output device native colour 358
10.3 CIE-Based colour to device colour 358
10.4 Conversions among device colour spaces 358
10.5 Transfer functions 361
10.6 Halftones 362
10.7 Scan conversion details 379
10.8 Rendering for separations 382

11 Transparency 384
11.1 General 384
11.2 Overview of transparency 384
11.3 Basic compositing computations 386
11.4 Transparency groups 399
11.5 Soft masks 411
11.6 Specifying transparency in PDF 412
11.7 Colour space and rendering issues 422

12 Interactive features 434
12.1 General 434
12.2 Viewer preferences 434
12.3 Document-level navigation 438
12.4 Page-level navigation 455
12.5 Annotations 462
12.6 Actions 502
12.7 Forms 524
12.8 Digital signatures 563
12.9 Measurement properties 591
12.10 Geospatial features 597
12.11 Document requirements 602

13 Multimedia features 610
13.1 General 610
13.2 Multimedia 610
13.3 Sounds 633
13.4 Movies 634
13.5 Alternate presentations 636
13.6 3D Artwork 638
13.7 Rich media 696

14 Document interchange 709
14.1 General 709
14.2 Procedure sets 709
14.3 Metadata 710
14.4 File identifiers 714
14.5 Page-piece dictionaries 715
14.6 Marked content 716
14.7 Logical structure 718
14.8 Tagged PDF 741
14.9 Repurposing and accessibility support 789
14.10 Web capture 795
14.11 Prepress support 807
14.12 Document parts 827

14.13 Associated files 831

Annex A (informative) Operator Summary 837

Annex B (informative) Operators in Type 4 Functions 841

Annex C (informative) Advice on maximising portability 843

Annex D (normative) Character sets and encodings 846

Annex E (normative) PDF Name Registry 870

Annex F (normative) Linearized PDF 872

Annex G (informative) Linearized PDF access strategies 894

Annex H (informative) Example PDF files 898

Annex I (normative) PDF versions and compatibility 928

Annex J (informative) XObject comparison 930

Annex K (normative) XFA forms 936

Annex L (normative) Parent-child relationships between standard structure elements 939

Annex M (informative) Standard structure elements in the default (PDF 1.7) namespace 958

Annex N (informative) Best practice for halftones 959

Annex O (normative) Fragment identifiers 962

Annex P (informative) An algorithm to determine the actual blending colour space of a transparency group 965

Annex Q (normative) Method for determining transparency on a page 967

Bibliography 969