


Shared requirements in PDF Subset standards

PDF/A-4 and PDF/X-6 upcoming dated revisions have been harmonized a lot.
What is different, what is identical?



PDF/UA-2
Works well with PDF/A.
Defines detailed requirements for semantic tagging, syntax, and structure in PDFs to ensure accessibility, supporting screen readers and other assistive technologies.



PDF/VT-3
Based on PDF/X.
Industry standard, designed to handle static and variable content efficiently.



GWG 2022
Based on PDF/X.
GWG 2022 defines 34 specification sets for different print products and methods, with additional production-specific requirements (e.g. image resolution, line width).



Processing Steps
Works well with PDF/X.
Metadata associated with layers identifying page objects for production steps other than print, mostly in post print production, e.g. cutting.



Print Product Metadata
Works well with PDF/X.
Provides standardized metadata for pages, e.g. for folding or record information for variable data print.

	<div>Shared requirements PDF/A and PDF/X</div>	<div>PDF/X ISO 15930-9:202X specific requirements</div>	<div>PDF/A ISO 19005-4:202X specific requirements</div>
Implicit	PDF can be rendered Valid structures for fonts, ICC profiles, images, Content Streams		
General structure	File header and file trailer syntax Limits to common data structures, such as string, stream, filter, name and indirect objects in general No encryption Requirements for Permissions and Version info Referenced resources need to be present, unreferenced resources are ignored		
Color	Colorimetrically defined colors Output Intents for PDF/X & PDF/A No external Output Intent ICC profiles (except PDF/X-6p) Spot colors are permitted Alternate color for spot colors need to conform to the same rules	More specific: Output device colors or colorimetrically defined, in both cases prepared for the identified characterized printing condition (Output Intent)	
Images	No OPI Syntax for inline images Requirements on JPEG2000 images	Alternate images permitted under certain circumstances	Alternate images not permitted
ExtGState	No resolution dependent halftone instructions BlackPointCompensation needs to be defined	TransferFunction only if required in PDF	
Fonts	Detailed encoding requirements for all supported font types (Type 1, TrueType, Type 3 and CID (Type 0 and Type 2)) All fonts for rendered text have to be embedded, subsets are permitted No references to notdef glyphs For Type 0 fonts CIDSystemInfo entries need to be compatible Requirements for CMaps in CID fonts Glyph width definitions for all rendered glyphs need to be consistent For Unicode Private Use Area text an Actual Text needs to be present Unicode recommended but not required (should)		
Transparency	Output Intent ICC profile shall be used for rendering if needed Blend color space same as color requirements Only blend modes defined in ISO32000-2		
Annotations	Appearances follow the same rules as all graphics Only annotations types defined in ISO32000-2	No PrinterMark nor TrapNet annotations	No Sound, Screen and Movie annotations File attachment (annotations) need to comply with PDF/A
Forms	No NeedAppearances entry No XFA forms		
Actions	Launch, Sound, Movie, ResetForm, ImportData, Hide, Rendition and Trans are not permitted Named actions other than NextPage, PrevPage, FirstPage, and LastPage are not permitted JavaScript permitted but processor requirements apply	SetOCGState and GoTo3DView are not permitted	
OCG	Various Provisions on internal structure	May be used to specify print variants	
XObj	No OPI No referenced XObjects		
Other	No AlternatePresentations No PresSteps entries	No Viewer preferences Requirements on page geometry boxes (print area, bleed area, slug area) Preseparated files shall not be used	
Metadata	Requirements on general syntax and prefixes Version and conformance identification specific to PDF/X & PDF/A Info metadata only if private data File identifier in document level metadata	Presence of xmp:CreateDate, xmp:ModifyDate and xmp:MetadataDate Trapping information required	
Conf. levels		PDF/X-6n (multicolor spaces) PDF/X-6p (referenced ICC profiles in Output Intents)	PDF/A-4e (3D, engineering) PDF/A-4f (arbitrary embedded file formats)

