C.1 PDF/A Test Suite

№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
11	no			The document contain incorrect file header and correct comment after file header.	2a 2b 2u 3a 3b 3u	%PDF1.8 %вгПУ	fail
12	pdfa2-6-1-2-bfo-t01-fail.pdf			PDF header has spaces after %PDF-1.n and before newline	2a 2b 2u 3a 3b 3u		fail
13	no	6.1.3 File trailer 6.1.3 File trailer 6.1.3 File trailer	The file trailer dictionary shall contain the ID keyword. The keyword Encrypt shall not be used in the trailer dictionary. No data shall follow the last end-of-file marker except a single optional end-of-line marker. The file trailer referred to is either the last trailer dictionary in a PDF file, as described in PDF Reference 3.4.4 and 3.4.5, or the first page trailer in a linearized PDF file, as described in PDF Reference F.2. In a linearized file the ID keyword shall be present in both the first page trailer and the last trailer dictionaries and the value of both instances of the keyword shall be identical. NOTE The explicit prohibition of the Encrypt keyword has the implicit effect of disallowing encryption and passwordprotected access permissions. ISO 19005-1:2005/Cor 2:2011 In a linearized PDF, if the ID keyword is present in both the first page trailer dictionary and the last trailer dictionary, the value to both instances of the ID keyword shall be identical. NOTE 1 PDF Reference, F.3.1 advises against having the ID keyword in the last trailer dictionary of a linearized PDF. This provision shall not apply where the value to the L key in the linearization dictionary does not match the actual length of the PDF. NOTE 2 This is based on the definition for the L entry in PDF Reference, Table F.1.	The document contains correct trailer.	1a 1b 2a 2b 2u 3a 3b 3u	trailer <</Size N /Root M 0 R /ID[<Time Creating><Time Updating>] >>	pass
14	isartor-6-1-3-t02-fail-a			Trailer dictionary contains Encrypt.	1a 1b 2a 2b 2u 3a 3b 3u	trailer << /Size N /ID [<Time Creating> <Time Updating>] /Root M 0 R /Encrypt Q 0 R >>	fail
15	isartor-6-1-3-t03-fail-a			Data after last EOF marker.	1a 1b 2a 2b 2u 3a 3b 3u	%EOF Invalid Data	fail
16	isartor-6-1-3-t01-fail-a			The trailer dictionary does not contain ID.	1a 1b 2a 2b 2u 3a 3b 3u	trailer << /Size N /Root M 0 R >>	fail
17	isartor-6-1-3-t04-fail-a			Linearized file: ID in 1st page and last trailer different.	1a 1b	trailer << /Size M /Prev R /Root Q 0 R /ID [<Time Creating 1><Time Updating 1>] >> ... trailer << /Size N /ID [<Time Creating 2><Time Updating 2>] >>	fail
18	no			Linearized file: ID in 1st page and last trailer different.	2a 2b 2u 3a 3b 3u		pass
19	Pardes13_Rez02			Linearized PDF: ID in first page and last trailer are different	1a 1b		unclear

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20	no			Linearized file: ID in 1st page is missing.	1a 1b	trailer << /Size M /Prev R /Root Q 0 R >> ... trailer << /Size N /ID [<Time Creating 2><Time Updating 2>] >>	fail
21	no			Linearized file: ID in 1st page is missing.	2a 2b 2u 3a 3b 3u		pass
22	no			Linearized file: ID in last trailer is missing.	1a 1b	trailer << /Size M /Prev R /Root Q 0 R /ID [<Time Creating 1><Time Updating 1>] >> ... trailer << /Size N >>	fail
23	no			Linearized file: ID in last trailer is missing.	2a 2b 2u 3a 3b 3u		pass
24	no			Trailer contains invalid ID, whose value isn't File Identifiers	2a 2b 2u 3a 3b 3u		fail
25	no	6.1.4 Cross reference table 6.1.4 Cross reference table 6.1.4 Cross reference table	In a cross reference subsection header the starting object number and the range shall be separated by a single SPACE character (20h). The xref keyword and the cross reference subsection header shall be separated by a single EOL marker. Any object whose offset is not referenced in the cross reference table shall be exempt from all requirements of this part of ISO 19005.	Subsection header: starting object number and range separated by a single space	1a 1b 2a 2b 2u 3a 3b 3u	xref 0 N	pass
26	isartor-6-1-4-t01-fail-a			Subsection header: starting object number and range not separated by a single space	1a 1b 2a 2b 2u 3a 3b 3u	xref 0 8	fail
27	isartor-6-1-4-t01-fail-a			Subsection header: starting object number and range not separated by a single space	2a 2b 2u 3a 3b 3u		pass

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28	isartor-6-1-4-t02-fail-a			xref' and cross reference subsection header not separated by a single EOL marker	1a 1b 2a 2b 2u 3a 3b 3u	xref 0 N	fail
29	no			xref' and cross reference subsection header separated by a single EOL marker	1a 1b 2a 2b 2u 3a 3b 3u		pass
30	no			Linearized file with 2 cross reference table: in first cross reference table - 'xref' and cross reference subsection header separated by a single EOL marker, in second cross reference table - 'xref' and cross reference subsection header not separated by a single EOL marker	1a 1b 2a 2b 2u 3a 3b 3u		fail
31	no			Linearized file with 2 cross reference table: starting object number and range not separated by a single space in first reference table	1a 1b		fail
32	no			Linearized file with 2 cross reference table: starting object number and range not separated by a single space in first reference table	2a 2b 2u 3a 3b 3u		pass
33	no			Linearized file with 2 cross reference table: starting object number and range separated by a single space in both reference table	1a 1b		pass
34	no			Linearized file with 2 cross reference table: starting object number and range not separated by a single space in first reference table	2a 2b 2u 3a 3b 3u		pass
35	no			Linearized file with 3 cross reference table: starting object number and range not separated by a single space in last reference table	1a 1b		fail
36	no			Linearized file with 2 cross reference table: starting object number and range not separated by a single space in first reference table	2a 2b 2u 3a 3b 3u		pass
37	no			Object, whose offset is not referenced in the cross reference table, has hexadecimal string, which contains an odd number of non-white-space characters, each in the range 0 to 9, A to F or a to f.	1a 1b 2a 2b 2u 3a 3b 3u		pass
38	no			Object, whose offset is not referenced in the cross reference table, contains content stream in which the value of Length does not match the number of bytes	1a 1b 2a 2b 2u 3a 3b 3u		pass
39	UCC	6.1.5 Document information dictionary 6.1.5 Document information dictionary 6.1.5 Document information dictionary	A document information dictionary may be defined in a conforming file. If defined, its elements shall be consistent with analogous XMP metadata properties as specified in 6.7.3. 6.7.3 A document information dictionary may appear within a conforming file. If it does appear, then all of its entries that have analogous properties in predefined XMP schemas, as defined by Table 1, shall also be embedded in the file in XMP form with equivalent values. Any document information dictionary entry not listed in Table 1 shall not be embedded using a predefined XMP schema property.	Document info entries must be mirrored in XMP, but not vice versa according to TechNote 0003	1a 1b		pass
40	stat_dis_30_fixed			Contains Trapped document info entry without corresponding XMP entry	1a 1b		pass
41	no			The values of the document information dictionary entries and their analogous XMP properties are equivalent.	1a 1b		pass
42	no			The document contain information dictionary without XMP metadata.	1a 1b		fail

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43	no			The values of the document information dictionary entries and their analogous XMP properties are not equivalent.	1a 1b		fail
44	no			The information dictionary contains values, which are listed in Table C1, and values, which are not included in the table. Document has XMP metadata with equivalent values for the records from the table C1.	1a 1b		pass
45	no			The information dictionary contains values, which are listed in Table C1, and values, which are not included in the table. Document has XMP metadata with equivalent values for all records from document information dictionary.	1a 1b		fail
46	no			Date recorded incorrectly in the document information dictionary.	1a 1b		fail
47	pdfa2-6-1-5-bfo-t01-pass.pdf			Info dictionary doesn't match XMP (relaxation in PDF/A-2)	2a 2b 2u		pass
48	PDFExportDialog2	6.1.6 String objects 6.1.6 String objects 6.1.6 String objects	Hexadecimal strings shall contain an even number of non-white-space characters, each in the range 0 to 9, A to F or a to f. ISO 19005-1:2005/Cor 2:2011 NOTE This provision ensures that the final digit of a hexadecimal string is never missing.	Hexadecimal string with whitespace characters (ambiguous in ISO 19005-1)	1a 1b 2a 2b 2u 3a 3b 3u		unclear
49	no			Document contains objects with correct hexadecimal strings	1a 1b 2a 2b 2u 3a 3b 3u	/Title <even number of non-white space characters, each in the range 0 to 9, A to F or a to f>	pass
50	no			Document contains objects with hexadecimal strings, in which are contained odd number of non-white-space characters.	1a 1b 2a 2b 2u 3a 3b 3u	/Title <odd number of non-white space characters, each in the range 0 to 9, A to F or a to f>	fail
51	no			Document contains objects with hexadecimal strings, in which are contained even number of non-whitespace characters. Some symbols are not in range 0 to 9, A to F or a to f.	1a 1b	/Title <even number of non-white space characters, some are not in the range 0 to 9, A to F or a to f>	fail
52	no			Document contains objects with hexadecimal strings, in which are contained odd number of non-white-space characters. One symbol is not in range 0 to 9, A to F or a to f.	1a 1b 2a 2b 2u 3a 3b 3u		fail
53				Document contains objects with hexadecimal strings, in which are contained even number of non-white-space characters. One symbol is not in range 0 to 9, A to F or a to f.	2a 2b 2u 3a 3b 3u		pass
54	no			Document contains objects with hexadecimal strings, in which are contained even number of non-white-space characters. One symbol is not in range 0 to 9, A to F or a to f.	1a 1b		fail

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55	isartor-6-1-6-t01-fail-a			Invalid hexadecimal strings used	1a 1b 2a 2b 2u 3a 3b 3u		fail
56	no	6.1.7 Stream objects 6.1.7.1 General 6.1.7.1 General	The stream keyword shall be followed either by a CARRIAGE RETURN (0Dh) and LINE FEED (0Ah) character sequence or by a single LINE FEED character. The endstream keyword shall be preceded by an EOL marker. The value of the Length key specified in the stream dictionary shall match the number of bytes in the file following the LINE FEED character after the stream keyword and preceding the EOL marker before the endstream keyword. NOTE 1 These requirements remove potential ambiguity regarding the ending of stream content. A stream object dictionary shall not contain the F, FFilter, or FDecodeParms keys. NOTE 2 These keys are used to point to document content external to the file. The explicit prohibition of these keys has the implicit effect of disallowing external content that can create external dependencies and complicate preservation efforts.	The document contains correct stream.	1a 1b 2a 2b 2u 3a 3b 3u	N 0 obj << /Length ... >> stream BT /F1 12 Tf 72 712 Td (A stream with an indirect length) Tj ET endstream endobj	pass
57	isartor-6-1-7-t03-fail-a			The value of Length does not match the number of bytes	1a 1b 2a 2b 2u 3a 3b 3u	N 0 obj << /Length 10 >> stream BT /F1 12 Tf 72 712 Td (A stream with an indirect length) Tj ET endstream endobj	fail
58	isartor-6-1-7-t01-fail-a			The 'stream' token is not followed by CR and LF or a single LF	1a 1b 2a 2b 2u 3a 3b 3u	N 0 obj << /Length 10 >> stream ... endstream endobj	fail
59	isartor-6-1-7-t02-fail-a			The 'endstream' token is not preceeded by EOL	1a 1b 2a 2b 2u 3a 3b 3u	N 0 obj << /Length 10 >> stream ... endstream endobj	fail
60	isartor-6-1-7-t04-fail-a			Stream with F used	1a 1b 2a 2b 2u 3a 3b 3u	... /F << /FS /URL /F (http : / / www . myserver . mycorp . com / images / exttest . jpg) >> stream endstream endobj	fail
61	isartor-6-1-7-t04-fail-b			Stream with F used; Stream with FFilter used	1a 1b 2a 2b 2u 3a 3b 3u	... /F << /FS /URL /F (http : / / www . myserver . mycorp . com / images / exttest . jpg) >> /FFilter /DCTDecode >> stream endstream endobj	fail
62	isartor-6-1-7-t04-fail-c			Stream with F used; Stream with FFilter used; Stream with FDecodeParms used	1a 1b 2a 2b 2u 3a 3b 3u		fail

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63	nesrin			Stream in object 6 has wrong length	1a 1b 2a 2b 2u 3a 3b 3u		fail
64	nesrin			endstream in object 6 not preceeded by EOL marker	1a 1b 2a 2b 2u 3a 3b 3u		fail
65	vwdb_95			endstream keyword not properly separated	1a 1b 2a 2b 2u 3a 3b 3u		fail
66	literat			Syntax problems in streams	1a 1b 2a 2b 2u 3a 3b 3u		fail
67	bug1771			1.Indirect object "endobj" keyword not followed after EOL 2.Indirect object "endobj" keyword not preceded by an EOL 3.stream dictionary has improperly length entry	1a 1b 2a 2b 2u 3a 3b 3u		fail
68	no	6.1.8 Indirect objects 6.1.9 Indirect objects 6.1.9 Indirect objects	The object number and generation number shall be separated by a single white-space character. The generation number and obj keyword shall be separated by a single white-space character. The object number and endobj keyword shall each be preceded by an EOL marker. The obj and endobj keywords shall each be followed by an EOL marker.	Indirect objects don't have any problem.	1a 1b 2a 2b 2u 3a 3b 3u		pass
69	isartor-6-1-8-t01-fail-a			Object number and generation number not separated by single white-space	1a 1b 2a 2b 2u 3a 3b 3u		fail
70	isartor-6-1-8-t02-fail-a			Generation number and 'obj' not separated by single white-space	1a 1b 2a 2b 2u 3a 3b 3u		fail
71	isartor-6-1-8-t03-fail-a			Object number not preceded by EOL marker	1a 1b 2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
72	isartor-6-1-8-t06-fail-a			endobj' not followed by EOL marker	1a 1b 2a 2b 2u 3a 3b 3u		fail
73	isartor-6-1-8-t05-fail-a			obj' not followed by EOL marker	1a 1b 2a 2b 2u 3a 3b 3u		fail
74	nesrin			endobj in objects 2 and 8 not preceeded by EOL marker	1a 1b 2a 2b 2u 3a 3b 3u		fail
75	no	6.1.10 Filters 6.1.7.2 Filters 6.1.7.2 Filters	The LZWDecode filter shall not be permitted. NOTE The use of the LZW compression algorithm has been subject to intellectual property constraints.	LZWDecode compression is not used in document.	1a 1b 2a 2b 2u 3a 3b 3u		pass
76	no			LZWDecode compression used for content stream, which contains text.	1a 1b 2a 2b 2u 3a 3b 3u	1 0 obj << /Length 534 /Filter [/ASCII85Decode /LZWDecode] >> stream ... endstream endobj	fail
77	isartor-6-1-10-t01-fail-a			LZW compression used for image XObject	1a 1b 2a 2b 2u 3a 3b 3u		fail
78	isartor-6-1-10-t01-fail-b			LZW compression used for inline image	1a 1b 2a 2b 2u 3a 3b 3u		fail
79	isartor-6-1-10-t01-fail-c			LZW compression used in thumbnail	1a 1b 2a 2b 2u 3a 3b 3u		fail
80	pdfa2-6-1-7-2-bfo-t01-fail.pdf			Non-standard filter on stream	2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
81	no			The Crypt filter used and value of Name key is not Identify	2a 2b 2u 3a 3b 3u		pass
82	no			The Crypt filter used and value of Name key is Identify	2a 2b 2u 3a 3b 3u		fail
83	no			In the conforming file used filter, which is not listed in ISO:32000-1: 2008	2a 2b 2u 3a 3b 3u	Filter, that are listed in PDF specification: ASCIIHexDecode ASCII85Decode LZWDecode FlateDecode RunLengthDecode CCITTFaxDecode JBIG2Decode DCTDecode JPXDecode Crypt	fail
84	isartor-6-1-11-t01-fail-a	6.1.11 Embedded files 6.8 Embedded files	A file specification dictionary, as defined in PDF 3.10.2, shall not contain the EF key. A file's name dictionary, as defined in PDF Reference 3.6.3, shall not contain the EmbeddedFiles key. NOTE These keys are used to encapsulate files containing arbitrary content within a PDF file. The explicit prohibition of these keys has the implicit effect of disallowing embedded files that can create external dependencies and complicate preservation efforts.	EmbeddedFiles shall not be used	1a 1b		fail
85	isartor-6-1-11-t02-fail-a			EmbeddedFiles shall not be used; EF dictionary shall not be used	1a 1b		fail
86	no			Document doesn't contain embedded files.	1a 1b		pass
87	isartor-6-1-12-t01-fail-a	6.1.12 Implementation limits 6.1.13 Implementation limits 6.1.13 Implementation limits	A conforming file shall not violate any of the architectural limits specified in PDF Reference Table C.1. NOTE By complying with these limits, a conforming file is compatible with the widest possible range of readers.	Array contains more than 8191 elements	1a 1b		fail
88	isartor-6-1-12-t01-fail-b			Name with more than 127 bytes	1a 1b 2a 2b 2u 3a 3b 3u		fail
89	isartor-6-1-12-t01-fail-c			Integer value in content stream larger than 2^31-1	1a 1b 2a 2b 2u 3a 3b 3u		fail
90	isartor-6-1-12-t01-fail-d			integer value in dictionary larger than 2^31-1	1a 1b 2a 2b 2u 3a 3b 3u		fail
91	ide_diss_p1			Dictionary contains more than 4095 entries	1a 1b 2a 2b 2u 3a 3b 3u		fail

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92	pardes14_Jid02_reduced			Name object longer than 127 bytes	1a 1b 2a 2b 2u 3a 3b 3u		fail
93	no			Integer value is less than -2^31	1a 1b 2a 2b 2u 3a 3b 3u		fail
94	no			Number of significant decimal digits of precision in fractional part (approximate) larger than 5	1a 1b 2a 2b 2u 3a 3b 3u		fail
95	no			Length of string in content stream more than 32.767 (in bytes)	1a 1b 2a 2b 2u 3a 3b 3u		fail
96	no			Length of name more than 127	1a 1b 2a 2b 2u 3a 3b 3u		fail
97	no			Number of indirect objects in PDF file more than 8.388.607	1a 1b 2a 2b 2u 3a 3b 3u		fail
98	no			Depth of graphics state nesting by q and Q operators more than 28	1a 1b 2a 2b 2u 3a 3b 3u		fail
99	no			Number of colorants or tint components in a DeviceNcolor space more than 32	1a 1b 2a 2b 2u 3a 3b 3u		fail
100	no			Length of string in content stream more than 32.767 and legth of name more than 127	1a 1b 2a 2b 2u 3a 3b 3u		fail

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101	no			A conforming file not violate any of the architectural limits	1a 1b 2a 2b 2u 3a 3b 3u		pass
102	pdfa2-6-1-13-bfo-t01-fail.pdf			More than 28 q/Q nests	2a 2b 2u 3a 3b 3u		fail
103	pdfa2-6-1-13-bfo-t02-fail.pdf			Art box dimensions < 3	2a 2b 2u 3a 3b 3u		fail
104	pdfa2-6-1-13-bfo-t03-fail.pdf			Media box dimensions > 14400	2a 2b 2u 3a 3b 3u		fail
105	pdfa2-6-1-13-bfo-t04-fail.pdf			Real number over maximum IEEE754 and PDF/A limit (in content stream)	2a 2b 2u 3a 3b 3u		fail
106	pdfa2-6-1-13-bfo-t05-fail.pdf			Real number under minimum PDF/A limit (in structure)	2a 2b 2u 3a 3b 3u		fail
107	pdfa2-6-1-13-bfo-t06-pass.pdf			Real number over IEEE754 limit but under PDF/A limit (in content stream)	2a 2b 2u 3a 3b 3u		pass
108	pdfa2-6-1-13-bfo-t07-pass.pdf			Real number at minimum PDF/A limit (in content stream)	2a 2b 2u 3a 3b 3u		pass
109	pdfa2-6-1-13-bfo-t08-pass.pdf			Real number under maximum IEEE754 and PDF/A limit (in content stream)	2a 2b 2u 3a 3b 3u		pass
110	pdfa2-6-1-13-bfo-t09-fail.pdf			Real number under minimim PDF/A limit (in content stream)	2a 2b 2u 3a 3b 3u		fail
111	pdfa2-6-1-13-bfo-t10-fail.pdf			Name that is not valid UTF-8 (as a key in a Dictionary)	2a 2b 2u 3a 3b 3u		fail
112	pdfa2-6-1-13-bfo-t11-fail.pdf			Name that is not valid UTF-8 (as a value)	2a 2b 2u 3a 3b 3u		fail

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113	isartor-6-1-13-t01-fail-a	6.1.13 Optional content 6.9 Optional content 6.9 Optional content	The document catalog dictionary shall not contain a key with the name OCProperties. NOTE The explicit prohibition of the OCProperties key, which is allowed in PDF 1.5 [19], has the implicit effect of disallowing optional content that generates alternative renderings of a document.	Optional content (layers) not allowed	1a 1b		fail
114	pdfa2-6-9-bfo-t01-fail.pdf			Optional content configuration dictionary has no name	2a 2b 2u 3a 3b 3u		fail
115	pdfa2-6-9-bfo-t02-fail.pdf			Optional content configuration dictionary has the AS key	2a 2b 2u 3a 3b 3u		fail
116	pdfa2-6-9-bfo-t03-fail.pdf			Optional content has groups with duplicate names	2a 2b 2u 3a 3b 3u		fail
117	pdfa2-6-9-bfo-t04-fail.pdf			Optional content configuration dictionary specifies Order that doesn't list every OCG in the file	2a 2b 2u 3a 3b 3u		fail
118	no			Optional content configuration dictionary has unique amongst all optional content configuration dictionaries name.	2a 2b 2u 3a 3b 3u		pass
119	no			The document catalog dictionary does not contain a key with the name OCProperties.	1a 1b		pass
120	isartor-6-2-2-t01-fail-a	6.2.2 Output intent 6.2.3 Output intent 6.2.3 Output intent	A conforming file may specify the colour characteristics of the device on which it is intended to be rendered by using a PDF/A-1 OutputIntent. A PDF/A-1 OutputIntent is an OutputIntent dictionary, as defined by PDF Reference 9.10.4, that is included in the file's OutputIntents array and has GTS_PDFA1 as the value of its S key and a valid ICC profile stream as the value its DestOutputProfile key. If a file's OutputIntents array contains more than one entry, then all entries that contain a DestOutputProfile key shall have as the value of that key the same indirect object, which shall be a valid ICC profile stream.	Device-specific color space used (DeviceRGB), but no GTS_PDFA1 OutputIntent (GTS_PDFX)	1a 1b 2a 2b 2u 3a 3b 3u		fail
121	isartor-6-2-2-t02-fail-a			Output Intent has invalid ICC profile stream	1a 1b 2a 2b 2u 3a 3b 3u		fail
122	isartor-6-2-2-t02-fail-b			output intent uses unsupported ICC profile version	1a 1b 2a 2b 2u 3a 3b 3u		fail
123	isartor-6-2-2-t03-fail-a			Multiple different output intent profiles used	1a 1b 2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
124	modules_acrobat9			Wrong /N 4 entry for sRGB OutputIntent page	1a 1b 2a 2b 2u 3a 3b 3u		fail
125	no			Output Intent uses valid ICC profile	1a 1b 2a 2b 2u 3a 3b 3u		pass
126	no			Device-specific space used (DeviceRGB) and value of /S is GTS_PDFA1	1a 1b 2a 2b 2u 3a 3b 3u		pass
127	no			The profile stream that is the value of the DestOutputProfile is output profile (Device Class = “prtr”)	2a 2b 2u 3a 3b 3u		pass
128	no			The profile stream that is the value of the DestOutputProfile key shall is monitor profile (Device Class = “mntr”).	2a 2b 2u 3a 3b 3u		pass
129	no			The profile stream is the value of the DestOutputProfile is not the following output profiles: DeviceClass="ptr" DeviceClass="mntr"	2a 2b 2u 3a 3b 3u		fail
130	no			The profiles have a colour space other than “GRAY”, “RGB”, or “CMYK”.	2a 2b 2u 3a 3b 3u		fail
131	no			The profiles have a colour space the value of which is one of the following “GRAY”, “RGB”, or “CMYK”.	2a 2b 2u 3a 3b 3u		pass
132	no	6.2.3.2 ICCBased colour spaces 6.2.4.2 ICCBased colour spaces 6.2.4.2 ICCBased colour spaces	All ICCBased colour spaces shall be embedded as ICC profile streams as described in PDF Reference 4.5. A conforming reader shall render ICCBased colour spaces as specified by the ICC specification, and shall not use the Alternate colour space specified in an ICC profile stream dictionary.	ICCBased colour spaces embedded as ICC profile streams.	1a 1b 2a 2b 2u 3a 3b 3u	N 0 obj [/ICCBased M 0 R] endobj M 0 obj << /N 3 /Alternate /DeviceRGB /Length 1605 /Filter /ASCIIHexDecode >> stream ... endstream endobj	pass

C.1 PDF/A Test Suite

№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
133	no			Required N key is missing in the profile ICC.	1a 1b 2a 2b 2u 3a 3b 3u	N 0 obj [/ICCBased M 0 R] endobj M 0 obj << /Alternate /DeviceRGB /Length 1605 /Filter /ASCIIHexDecode >> stream ... endstream endobj	fail
134	no			ICC specification version does not correspond PDF version.	1a 1b 2a 2b 2u 3a 3b 3u	%PDF-1.7 ... Used ICC.1:2001-12 (ICC specification version for PDF-1.5)	fail
135	no			Overprint mode (OPM) isl not one (1) and ICCBased CMYK colour space is used and overprinting for stroke is set to true.	2a 2b 2u 3a 3b 3u		pass
136	no			Overprint mode (OPM) isl not one (1) and ICCBased CMYK colour space is used and overprinting for fill is set to true.	2a 2b 2u 3a 3b 3u		pass
137	no			Overprint mode (OPM) isl not one (1) and ICCBased CMYK colour space is used and overprinting for fill and stroke is set to true.	2a 2b 2u 3a 3b 3u		pass
138	no			Overprint mode (OPM) isl one (1) and ICCBased CMYK colour space is used and overprinting for fill and stroke is set to true.	2a 2b 2u 3a 3b 3u		fail
139	isartor-6-2-3-3-t01-fail-a	6.2.3.3 Uncalibrated colour spaces 6.2.4.3 Uncalibrated colour spaces 6.2.4.3 Uncalibrated colour spaces	A conforming file may use either the DeviceRGB or DeviceCMYK colour space but shall not use both. If an uncalibrated colour space is used in a file then that file shall contain a PDF/A-1 OutputIntent, as defined in 6.2.2. DeviceRGB may be used only if the file has a PDF/A-1 OutputIntent that uses an RGB colour space. DeviceCMYK may be used only if the file has a PDF/A-1 OutputIntent that uses a CMYK colour space. When rendering a DeviceGray colour specification in a file whose OutputIntent is an RGB profile, a conforming reader shall convert the DeviceGray colour specification to RGB by the method described in PDF Reference 6.2.1. When rendering a DeviceGray colour specification in a file whose OutputIntent is a CMYK profile, a conforming reader shall convert the DeviceGray colour specification to DeviceCMYK by the method described in PDF Reference 6.2.2. When rendering colours specified in a device-dependent colour space a conforming reader shall use the file's PDF/A-1 OutputIntent dictionary, as defined in 6.2.2, as the source colour space.	Device-specific color space used in path (DeviceCMYK), but OutputIntent not CMYK	1a 1b 2a 2b 2u 3a 3b 3u		fail
140	isartor-6-2-3-3-t02-fail-a			Device-specific color space used in path (DeviceRGB), but no OutputIntent	1a 1b 2a 2b 2u 3a 3b 3u		fail
141	isartor-6-2-3-3-t02-fail-b			Device-specific color space used in path (DeviceRGB), but OutputIntent not RGB	1a 1b 2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
142	isartor-6-2-3-3-t02-fail-c			Device-specific color space used in image (DeviceRGB), but no OutputIntent	1a 1b 2a 2b 2u 3a 3b 3u		fail
143	isartor-6-2-3-3-t02-fail-d			Device-specific color space used in image (DeviceRGB), but OutputIntent not RGB	1a 1b 2a 2b 2u 3a 3b 3u		fail
144	isartor-6-2-3-3-t02-fail-e			Device-specific color space used in inline image (DeviceRGB), but no OutputInt-ent	1a 1b 2a 2b 2u 3a 3b 3u		fail
145	isartor-6-2-3-3-t02-fail-f			Device-specific color space used in pattern (DeviceRGB), but no OutputIntent	1a 1b 2a 2b 2u 3a 3b 3u		fail
146	isartor-6-2-3-3-t02-fail-g			Device-specific color space used in shading (DeviceRGB), but no OutputInten	1a 1b 2a 2b 2u 3a 3b 3u		fail
147	isartor-6-2-3-3-t03-fail-a			Device-specific color space used in path (DeviceCMYK), but no OutputIntent	1a 1b 2a 2b 2u 3a 3b 3u		fail
148	isartor-6-2-3-3-t03-fail-b			Device-specific color space used in path (DeviceCMYK), but OutputIntent not CMYK	1a 1b 2a 2b 2u 3a 3b 3u		fail
149	isartor-6-2-3-3-t03-fail-c			Device-specific color space used in image (DeviceCMYK), but no OutputIntent	1a 1b 2a 2b 2u 3a 3b 3u		fail
150	isartor-6-2-3-3-t03-fail-b			Device-specific color space used in path (DeviceCMYK), but OutputIntent not CMYK	1a 1b 2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
151	isartor-6-2-3-3-t03-fail-c			Device-specific color space used in image (DeviceCMYK), but no OutputIntent	1a 1b 2a 2b 2u 3a 3b 3u		fail
152	isartor-6-2-3-3-t03-fail-d			Device-specific color space used in image (DeviceCMYK), but OutputIntent not CMYK	1a 1b 2a 2b 2u 3a 3b 3u		fail
153	isartor-6-2-3-3-t03-fail-e			Device-specific color space used in inline image (DeviceCMYK), but no OutputIntent	1a 1b 2a 2b 2u 3a 3b 3u		fail
154	isartor-6-2-3-3-t04-fail-a			Device-specific color space used in path (DeviceGray), but no OutputIntent	1a 1b 2a 2b 2u 3a 3b 3u		fail
155	isartor-6-2-3-3-t04-fail-b			Device-specific color space used in image (DeviceGray), but no OutputIntent	1a 1b 2a 2b 2u 3a 3b 3u		fail
156	isartor-6-2-3-3-t04-fail-c			Device-specific color space used in inline image (DeviceGray), but no OutputIntent	1a 1b 2a 2b 2u 3a 3b 3u		fail
157	isartor-6-2-3-3-t04-fail-d			Device-specific color space used in path (Default fill color), but no OutputIntent	1a 1b 2a 2b 2u 3a 3b 3u		fail
158	isartor-6-2-3-3-t05-fail-a			Device-specific color space used in image (Indexed DeviceRGB), but no OutputIntent	1a 1b 2a 2b 2u 3a 3b 3u		fail
159	isartor-6-2-3-3-t05-fail-b			Device-specific color space used in inline image (Indexed DeviceRGB), but no OutputIntent	1a 1b 2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
160	Funktionale_Varietaeten			CMYK color used with RGB output intent	1a 1b 2a 2b 2u 3a 3b 3u		fail
161	no			Device-specific color space used in path DeviceRGB and DeviceCMYK color spaces	1a 1b 2a 2b 2u 3a 3b 3u		fail
162	no			Device-specific color space used in path (DeviceRGB), but in OutputIntent used CMYK colorspace	1a 1b 2a 2b 2u 3a 3b 3u		fail
163	no			Device-specific color space used in path (DeviceCMYK), but in OutputIntent used RGB colorspace	1a 1b 2a 2b 2u 3a 3b 3u		fail
164	no			Device-specific color space used in path (DeviceRGB) and in document has OutputIntent, which use RGB color space.	1a 1b 2a 2b 2u 3a 3b 3u		pass
165	no			Device-specific color space used in path (DeviceCMYK) and in document has OutputIntent, which use CMYK color space.	1a 1b 2a 2b 2u 3a 3b 3u		pass
166	no			Device-specific color space used in image (DeviceCMYK) and in document has OutputIntent, which use CMYK color space.	1a 1b 2a 2b 2u 3a 3b 3u		pass
167	no			Device-specific color space used in inline image (DeviceCMYK) and in document has OutputIntent, which use CMYK color space.	1a 1b 2a 2b 2u 3a 3b 3u		pass
168	no			Device-specific color space used in image (DeviceRGB) and in document has OutputIntent, which use RGB color space.	1a 1b 2a 2b 2u 3a 3b 3u		pass

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
169	no			Device-specific color space used in inline image (DeviceRGB) and in document has OutputIntent, which use RGB color space.	1a 1b 2a 2b 2u 3a 3b 3u		pass
170	isartor-6-2-3-4-t01-fail-a	6.2.3.4 Separation and DeviceN colour spaces 6.2.4.4 Separation and DeviceN colour spaces 6.2.4.4 Separation and DeviceN colour spaces	A conforming reader shall obey the following rules when rendering colour spaces based on DeviceN or Separation colour spaces. _ If the named colourants in the colour space are all from the list Cyan, Magenta, Yellow, Black, the file has an OutputIntent, and that OutputIntent is a CMYK profile, then the colourants shall be treated as components of the colour space specified by the PDF/A-1 OutputIntent dictionary, as defined in 6.2.2, and the alternate colour space shall not be used. _ If the output device does not support the Separation colour space or DeviceN colourants, the Alternate colour space shall be used.	Device-specific color space used in alternate color space (DeviceN, DeviceCMYK), but no OutputIntent	1a 1b 2a 2b 2u 3a 3b 3u		fail
171	isartor-6-2-3-4-t01-fail-b		The Alternate colour space of a Separation or DeviceN colour space shall obey all restrictions on colour spaces specified in 6.2.3.2 and 6.2.3.3.	Device-specific color space used in alternate color space (Separation,DeviceCMYK), but no OutputIntent	1a 1b 2a 2b 2u 3a 3b 3u		fail
172	no			Device-specific color space used in OutputIntent (DeviceN, DeviceCMYK)	1a 1b 2a 2b 2u 3a 3b 3u		pass
173	no			Device-specific color space used in OutputIntent (Separation,DeviceCMYK)	1a 1b 2a 2b 2u 3a 3b 3u		pass
174	no			Spot color used in DeviceN and the Colorants dictionary is present	2a 2b 2u 3a 3b 3u		pass
175	no			Spot color used in NChannel and the Colorants dictionary is present	2a 2b 2u 3a 3b 3u		pass
176	no			Spot color used in DeviceN and the Colorants dictionary is not present	2a 2b 2u 3a 3b 3u		fail
177	no			Spot color used in NChannel and the Colorants dictionary is not present	2a 2b 2u 3a 3b 3u		fail
178	no			The PDF document contains two Separation arrays with same name and tintTransform / alternateSpace are different for these Separation arrays.	2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
179	no			The PDF document contains two Separation arrays with same name and tintTransform is identical for these arrays, but alternateSpace is different.	2a 2b 2u 3a 3b 3u		fail
180	no			The PDF document contains two Separation arrays, which have same name and tintTransform / alternateSpace are identical for these Separation arrays.	2a 2b 2u 3a 3b 3u		pass
181	isartor-6-2-4-t01-fail-a	6.2.4 Images 6.2.8.1 General 6.2.8.1 General	An Image dictionary shall not contain the Alternates key or the OPI key. If an Image dictionary contains the Interpolate key, its value shall be false. Use of the Intent key shall conform to the rules given in 6.2.9.	Image with alternate image used	1a 1b 2a 2b 2u 3a 3b 3u		fail
182	isartor-6-2-4-t02-fail-a			Image with OPI used	1a 1b 2a 2b 2u 3a 3b 3u		fail
183	isartor-6-2-4-t03-fail-a			Image with interpolation used	1a 1b 2a 2b 2u 3a 3b 3u		fail
184	isartor-6-2-4-t04-fail-a			Image with bad intent used	1a 1b 2a 2b 2u 3a 3b 3u		fail
185	no			The Alternate and OPI keys are not contained in image dictionary.	1a 1b 2a 2b 2u 3a 3b 3u		pass
186	no			Image dictionary contains the Interpolate key, which has false as the value.	1a 1b 2a 2b 2u 3a 3b 3u		pass
187	no			Image dictionary contains the Interpolate key, which has the value other than false.	1a 1b 2a 2b 2u 3a 3b 3u		fail
188	no			Inline image contain I key, which has false as value	2a 2b 2u 3a 3b 3u		pass

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
189	no			Inline image contain I key, which has value other than false	2a 2b 2u 3a 3b 3u		fail
190	isartor-6-2-5-t01-fail-a	6.2.5 Form XObjects 6.2.9.1 Form XObjects 6.2.9.1 Form XObjects	A form XObject dictionary shall not contain any of the following: _ the OPI key; _ the Subtype2 key with a value of PS; _ the PS key. NOTE In earlier versions of PDF the Subtype2 key with a value of PS and the PS key were used to define arbitrary executable PostScript code streams, which have the potential to interfere with reliable and predictable rendering.	XObject with OPI used	1a 1b 2a 2b 2u 3a 3b 3u		fail
191	no			XObject with Subtype2 key, which have PS as value	1a 1b 2a 2b 2u 3a 3b 3u		fail
192	no			XObject with Subtype key, which have PS as value (PostScript XObjects)	1a 1b 2a 2b 2u 3a 3b 3u		fail
193	no			XObject without OPI and PS keys	1a 1b 2a 2b 2u 3a 3b 3u	N 0 obj << /Type /XObject /Subtype /Form /FormType 1 /BBox [0 0 1000 1000] /Matrix [1 0 0 1 0 0] /Resources << /ProcSet [/PDF] >> /Length 58 >> stream 0 0 m 0 1000 l 1000 1000 l 1000 0 l f endstream endobj	pass
194	isartor-6-2-6-t01-fail-a	6.2.6 Reference XObjects 6.2.9.2 Reference XObjects 6.2.9.2 Reference XObjects	A conforming file shall not contain any reference XObjects. NOTE Reference XObjects refer to arbitrary document content in external PDF files, creating external dependencies that complicate preservation efforts.	Reference XObject used	1a 1b 2a 2b 2u 3a 3b 3u		fail
195	no			Reference XObject not used	1a 1b 2a 2b 2u 3a 3b 3u		pass
196	isartor-6-2-7-t01-fail-a	6.2.7 PostScript XObjects 6.2.9.3 PostScript XObjects 6.2.9.3 PostScript XObjects	A conforming file shall not contain any PostScript XObjects. NOTE PostScript XObjects contain arbitrary executable PostScript code streams that have the potential to interfere with reliable and predictable rendering.	PostScript XObject used	1a 1b 2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
197	isartor-6-2-7-t02-fail-a			PostScript XObject used with Subtype2	1a 1b 2a 2b 2u 3a 3b 3u		fail
198	no			PostScript XObject not used	1a 1b 2a 2b 2u 3a 3b 3u		pass
199	isartor-6-2-8-t01-fail-a	6.2.8 Extended graphics state 6.2.5 Extended graphics state 6.2.5 Extended graphics state	An ExtGState dictionary shall not contain the TR key. An ExtGState dictionary shall not contain the TR2 key with a value other than Default. A conforming reader may ignore any instance of the HT key in an ExtGState dictionary. Use of the RI key shall conform to the rules of 6.2.9.	Transfer curve (TR array) used	1a 1b 2a 2b 2u 3a 3b 3u		fail
200	isartor-6-2-8-t01-fail-b			Transfer curve (TR function) used	1a 1b 2a 2b 2u 3a 3b 3u		fail
201	isartor-6-2-8-t01-fail-c			Transfer curve (TR Identity) used	1a 1b 2a 2b 2u 3a 3b 3u		fail
202	isartor-6-2-8-t01-fail-d			Transfer curve (TR Default) used	1a 1b 2a 2b 2u 3a 3b 3u		fail
203	isartor-6-2-8-t02-fail-a			Transfer curve (TR2 array) other than Default used	1a 1b 2a 2b 2u 3a 3b 3u		fail
204	isartor-6-2-8-t02-fail-b			Transfer curve (TR2 function) other than Default used	1a 1b 2a 2b 2u 3a 3b 3u		fail
205	isartor-6-2-8-t02-fail-c			Transfer curve (TR2 Identity) other than Default used	1a 1b 2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
206	no			ExtGState dictionary contain TR2 key with Default value.	1a 1b 2a 2b 2u 3a 3b 3u		pass
207	no			ExtGState dictionary not contains TR and TR2 keys.	1a 1b 2a 2b 2u 3a 3b 3u		pass
208	no			ExtGState dictionary contain HTP keys	2a 2b 2u 3a 3b 3u		fail
209	no			ExtGState dictionary contain HTP and TR2 with a value other than Default	2a 2b 2u 3a 3b 3u		fail
210	no			Halftones in a conforming file contain a HalftoneName key	2a 2b 2u 3a 3b 3u		fail
211	no			ExtGState dictionary contain HTP and TR keys	2a 2b 2u 3a 3b 3u		fail
212	isartor-6-2-9-t01-fail-a	6.2.9 Rendering intents 6.2.6 Rendering intents 6.2.6 Rendering intents	Where a rendering intent is specified, its value shall be one of the four values defined in PDF Reference RelativeColorimetric, AbsoluteColorimetric, Perceptual or Saturation. NOTE The default rendering intent is RelativeColorimetric.	Undefined rendering intent used	1a 1b 2a 2b 2u 3a 3b 3u		fail
213	laschewsky_1			Invalid RenderingIntent RelativeColormetric	1a 1b 2a 2b 2u 3a 3b 3u		fail
214	no			RelativeColormetric rendering intent used	1a 1b 2a 2b 2u 3a 3b 3u		pass
215	no			AbsoluteColorimetric rendering intent used	1a 1b 2a 2b 2u 3a 3b 3u		pass

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
216	no			Perceptual rendering intent used	1a 1b 2a 2b 2u 3a 3b 3u		pass
217	no			RelativeColorimetric rendering intent used	1a 1b 2a 2b 2u 3a 3b 3u		pass
218	isartor-6-2-10-t01-fail-a	6.2.10 Content streams 6.2.2 Content streams 6.2.2 Content streams	A content stream shall not contain any operators not defined in PDF Reference even if such operators are bracketed by the BX/EX compatibility operators. Use of the ri operator shall conform to the rules of 6.2.9. NOTE 1 Content streams are used for page descriptions, e.g. the Contents stream of a page object or the stream of a form XObject, as well as for the appearance stream of annotations, including form fields or Widget annotations. NOTE 2 In earlier versions of the PDF format a PostScript operator PS was defined. As this operator is not defined in PDF Reference its use is implicitly prohibited by 6.2.10. ISO 19005-1:2005/Cor 2:2011 Any named resource present in a resources dictionary, but whose name is not referenced from the associated content stream, is not used for rendering and therefore shall be exempt from all requirements of this part of ISO 19005.	Operators not defined in PDF Reference used on page content stream	1a 1b 2a 2b 2u 3a 3b 3u		fail
219	isartor-6-2-10-t01-fail-b			Operators not defined in PDF Reference used on page content stream (with BX/EX)	1a 1b 2a 2b 2u 3a 3b 3u		fail
220	isartor-6-2-10-t01-fail-c			Operators not defined in PDF Reference used on annotation/form field appearance stream	1a 1b 2a 2b 2u 3a 3b 3u		fail
221	no			Operators not defined in PDF Reference used on a form XObject content stream	1a 1b 2a 2b 2u 3a 3b 3u		fail
222	no			Operators defined in PDF Reference used on the following content stream: - page - page (with BX/EX) - annotation - form XObject	1a 1b 2a 2b 2u 3a 3b 3u		pass
223	no			Content stream has references to image and font, which are defined in Resource dictionary	2a 2b 2u 3a 3b 3u		pass
224	no			Content stream has references to image and font, which are not all defined in Resource dictionary	2a 2b 2u 3a 3b 3u		fail
225	no			The Resource dictionary contains named font, which is not used for rendering and name of this font is not referenced from the associated content stream. This named fonts contains not all width of glyph.	2a 2b 2u 3a 3b 3u		pass

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
226	isartor-6-3-2-t01-fail-a	6.3.2 Font types 6.2.11.2 Font types 6.2.11.2 Font types	All fonts used in a conforming file shall conform to the font specifications defined in PDF Reference 5.5. For the purposes of this part of ISO 19005, multiple master fonts shall be considered a special case of Type 1 fonts; any requirement explicitly stated with regard to Type 1 fonts shall be implicitly required with regard to multiple master fonts. NOTE It is the responsibility of the writer to ensure the conformance of all fonts. This part of ISO 19005 does not prescribe the manner in which font conformance is determined.	Embedded TrueType font 'Arial' is damaged	1a 1b 2a 2b 2u 3a 3b 3u		fail
227	isartor-6-3-2-t01-fail-b			Embedded PostScript Type 1 font 'LuciduxSans-Oblique' is damaged	1a 1b 2a 2b 2u 3a 3b 3u		fail
228	isartor-6-3-2-t01-fail-c			Embedded CID font 'Arial' is damaged	1a 1b 2a 2b 2u 3a 3b 3u		fail
229	apogee			Missing glyphs in embedded TrueType font Helvetica	1a 1b 2a 2b 2u 3a 3b 3u		fail
230	no			The conforming file contains embedded CID font, which conforms to the font specification	1a 1b 2a 2b 2u 3a 3b 3u		pass
231	no			The conforming file contains embedded Type 3 font, which conforms to the font specification	1a 1b 2a 2b 2u 3a 3b 3u		pass
232	no			The conforming file contains embedded MMType 1 font, which conforms to the font specification	1a 1b 2a 2b 2u 3a 3b 3u		pass
233	no			The conforming file contains embedded PostScript Type font, which conforms to the font specification	1a 1b 2a 2b 2u 3a 3b 3u		pass
234	no			The conforming file contains embedded font, which conforms to the font specification	1a 1b 2a 2b 2u 3a 3b 3u		pass

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
235	no			The conforming file contains embedded font, which does not conform to the font specification (Subtype entry has invalid value)	1a 1b 2a 2b 2u 3a 3b 3u		fail
236	no			The conforming file contains embedded font, which does not conform to the font specification (FirstChar entry is missing)	1a 1b 2a 2b 2u 3a 3b 3u		fail
237	no			The conforming file contains embedded font, which does not conform to the font specification (LastChar entry is missing)	1a 1b 2a 2b 2u 3a 3b 3u		fail
238	no			The conforming file contains embedded non-standart Type1 font without one of the following entries in font dictionary: - BaseFont - FirstChar - LastChar - Widths	1a 1b 2a 2b 2u 3a 3b 3u		fail
239	no			The conforming file contains embedded non-standart Type3 font without one of the following entries in font dictionary: - FontBBox - FontMatrix - CharProcs - Encoding - FirstChar - LastChar - Widths	1a 1b 2a 2b 2u 3a 3b 3u		fail
240	no			The conforming file contains embedded font, which does not conform to the font specification (Widths entry is missing)	1a 1b 2a 2b 2u 3a 3b 3u		fail
241	isartor-6-3-3-1-t01-fail-a	6.3.3.1 General 6.2.11.3.1 General 6.2.11.3.1 General	For any given composite (Type 0) font referenced within a conforming file, the CIDSystemInfo entries of its CIDFont and CMap dictionaries shall be compatible, as described in PDF Reference 5.6.2; in other words, the Registry and Ordering strings of the CIDSystemInfo dictionaries for that font shall be identical, unless the value of the CMap dictionary UserCMap key is Identity-H or Identity-V. ISO 19005-1:2005/Cor 2:2011 “unless the value of the Encoding key in the font dictionary is Identity-H or Identity-V”	Incompatible CIDSystemInfo entries (different Registry)	1a 1b 2a 2b 2u 3a 3b 3u		fail
242	isartor-6-3-3-1-t01-fail-b			Incompatible CIDSystemInfo entries (different Ordering)	1a 1b 2a 2b 2u 3a 3b 3u		fail
243	no			Compatible CIDSystemInfo entries	1a 1b 2a 2b 2u 3a 3b 3u		pass

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
244	no			The Registry and Ordering strings in both CIDSystemInfo dictionaries is identical, and the value of the Supplement key in the CIDSystemInfo dictionary of the CIDFont is greater than the Supplement key in the CIDSystemInfo dictionary of the CMap.	2a 2b 2u 3a 3b 3u		pass
245	no			Otherwise, the corresponding Registry and Ordering strings in both CIDSystemInfo dictionaries is identical, and the value of the Supplement key in the CIDSystemInfo dictionary of the CIDFont is equal to the Supplement key in the CIDSystemInfo dictionary of the CMap.	2a 2b 2u 3a 3b 3u		pass
246	no			Otherwise, the corresponding Registry and Ordering strings in both CIDSystemInfo dictionaries is not identical, and the value of the Supplement key in the CIDSystemInfo dictionary of the CIDFont is equal to the Supplement key in the CIDSystemInfo dictionary of the CMap.	2a 2b 2u 3a 3b 3u		fail
247	no			The Registry and Ordering strings in both CIDSystemInfo dictionaries is not identical, and the value of the Supplement key in the CIDSystemInfo dictionary of the CIDFont is greater than the Supplement key in the CIDSystemInfo dictionary of the CMap.	2a 2b 2u 3a 3b 3u		fail
248	no			The Registry and Ordering strings in both CIDSystemInfo dictionaries is not identical, and the value of the Supplement key in the CIDSystemInfo dictionary of the CIDFont is not greater and not equal than the Supplement key in the CIDSystemInfo dictionary of the CMap.	2a 2b 2u 3a 3b 3u		fail
249	isartor-6-3-3-2-t01-fail-a	6.3.3.2 CIDFonts 6.2.11.3.2 CIDFonts 6.2.11.3.2 CIDFonts	For all Type 2 CIDFonts, the CIDFont dictionary shall contain a CIDToGIDMap entry that shall be a stream mapping from CIDs to glyph indices or the name Identity, as described in PDF Reference Table 5.13. ISO 19005-1:2005/Cor 2:2011 “For all embedded Type 2 CIDFonts that are used for rendering”	Type 2 CIDFont without CIDToGIDMap	1a 1b 2a 2b 2u 3a 3b 3u		fail
250	no			Type 2 CIDFont dictionary cointain CIDToGIDMap entry, that is a stream	1a 1b 2a 2b 2u 3a 3b 3u		pass
251	no			Type 2 CIDFont dictionary cointain CIDToGIDMap entry, that is a name Identity	1a 1b 2a 2b 2u 3a 3b 3u		pass
252	no			Type 2 CIDFont not embedded and CIDFont dictionary not contain a CIDToGIDMap entry	1a 1b 2a 2b 2u 3a 3b 3u		pass
253	no			Type 2 CIDFont embedded, but no used for rendering, and CIDFont dictionary not contain a CIDToGIDMap entry	1a 1b 2a 2b 2u 3a 3b 3u		pass

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
254	isartor-6-3-3-3-t01-fail-a	6.3.3.3 CMaps 6.2.11.3.3 CMaps 6.2.11.3.3 CMaps	All CMaps used within a conforming file, except Identity-H and Identity-V, shall be embedded in that file as described in PDF Reference 5.6.4. For those CMaps that are embedded, the integer value of the WMode entry in the CMap dictionary shall be identical to the WMode value in the embedded CMap stream.	CMap not embedded	1a 1b 2a 2b 2u 3a 3b 3u		fail
255	isartor-6-3-3-3-t02-fail-a			Inconsistent WMode in embedded CMap dict and stream	1a 1b 2a 2b 2u 3a 3b 3u		fail
256	no			CMap embedded as stream object and WMode in CMap dictionary and in the stream object is equal.	1a 1b 2a 2b 2u 3a 3b 3u		pass
257	isartor-6-3-4-t01-fail-a	6.3.4 Embedded font programs 6.2.11.4.1 General 6.2.11.4.1 General	The font programs for all fonts used within a conforming file shall be embedded within that file, as defined in PDF Reference 5.8, except when the fonts are used exclusively with text rendering mode 3. A font is considered to be used if any of its glyphs are referenced in any of the following contexts: _ the Contents stream of a page object; _ the stream of a Form XObject; _ the appearance stream of an annotation, including form fields; _ the content stream of a Type 3 font glyph; _ the stream of a tiling pattern. Only fonts that are legally embeddable in a file for unlimited, universal rendering shall be used. All conforming readers shall use the embedded fonts, rather than other locally resident, substituted or simulated fonts, for rendering. NOTE 1 As discussed in PDF Reference 5.2.5, text rendering mode 3 specifies that glyphs are not stroked, filled or used as a clipping boundary. A font referenced for use solely in this mode is therefore not rendered and is thus exempt from the embedding requirement. NOTE 2 There is no exemption from the requirements of 6.3.4 for the 14 standard Type 1 fonts. Type 3 fonts are exempt from the requirements of 6.3.4 because the manner in which Type 3 fonts are defined ensures that they are always embedded within PDF files, although the mechanism used to embed them differs from that of PDF Reference 5.8. NOTE 3 The requirements for font program metadata are described in 6.7.10. NOTE 4 As stated in 6.3.5, font subsets are acceptable as long as the embedded font programs provide glyph definitions for all characters referenced within the file. Embedding the font programs allows any conforming reader to reproduce correctly all glyphs in the manner in which they were originally published without reference to possibly ephemeral external resources. NOTE 5 This part of ISO 19005 precludes the embedding of fonts whose legality depends upon special agreement with the font copyright holder. Such an allowance places unacceptable burdens on an archive to verify the existence, validity and longevity of such claims.	TrueType font 'Arial' not embedded	1a 1b 2a 2b 2u 3a 3b 3u		fail
258	isartor-6-3-4-t01-fail-b			PostScript Type 1 font 'LuciduxSans-Oblique' not embedded	1a 1b 2a 2b 2u 3a 3b 3u		fail
259	isartor-6-3-4-t01-fail-c			CID font 'KozMinPro-Regular-Acro' not embedded	1a 1b 2a 2b 2u 3a 3b 3u		fail
260	isartor-6-3-4-t01-fail-d			Standard Type 1 font 'Helvetica' not embedded	1a 1b 2a 2b 2u 3a 3b 3u		fail
261	isartor-6-3-4-t01-fail-e			Font 'Arial' for Form XObject not embedded	1a 1b 2a 2b 2u 3a 3b 3u		fail
262	isartor-6-3-4-t01-fail-f			Font 'ZapfDingbats' for field not embedded	1a 1b 2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
263	isartor-6-3-4-t01-fail-g			Font 'Helvetica' for Type 3 font glyph not embedded	1a 1b 2a 2b 2u 3a 3b 3u		fail
264	isartor-6-3-4-t01-fail-h			Font 'Arial' for tiling pattern not embedded	1a 1b 2a 2b 2u 3a 3b 3u		fail
265	UCC			All fonts are only used for invisible text and therefore dont fall under PDF/A rules	1a 1b 2a 2b 2u 3a 3b 3u		pass
266	hopf1971			Most fonts are only used for invisible text and therefore dont require embedding or other PDF/A treatment	1a 1b 2a 2b 2u 3a 3b 3u		pass
267	laschewsky_1			Most fonts are only used for invisible text and therefore dont require embedding or other PDF/A treatment	1a 1b 2a 2b 2u 3a 3b 3u		pass
268	laschewsky_2			Most fonts are only used for invisible text and therefore dont require embedding or other PDF/A treatment	1a 1b 2a 2b 2u 3a 3b 3u		pass
269	no			TrueType font 'Deutsch Gothic' embedded	1a 1b 2a 2b 2u 3a 3b 3u		pass
270	no			Text with rendering mode 2 used in conforming file and font programs not embedded.	1a 1b 2a 2b 2u 3a 3b 3u		fail
271	no			Text with rendering mode 2 used in conforming file and font programs is embedded within that file.	1a 1b 2a 2b 2u 3a 3b 3u		pass

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
272	no			Type 1 font embedded in the conforming file via /FontFile key	1a 1b 2a 2b 2u 3a 3b 3u		pass
273	no			True Type font embedded in the conforming file via /FontFile2 key	1a 1b 2a 2b 2u 3a 3b 3u		pass
274	no			Compact Type 1 embedded in the conforming file.	1a 1b 2a 2b 2u 3a 3b 3u		pass
275	no			OpenType font embedded in the conforming file via /FontFile3 key	1a 1b 2a 2b 2u 3a 3b 3u		pass
276	no			Type 0 CIDFont embedded in the conforming file via /FontFile3 key	1a 1b 2a 2b 2u 3a 3b 3u		pass
277	no			Type 0 CIDFont embedded in the conforming file via /FontFile3 key, but font stream dictionary not contains Subtype entry	1a 1b 2a 2b 2u 3a 3b 3u		fail
278	no			Type 1 font embedded in the conforming file and font stream dictionary contains the following keys: - Length1 - Length2 - Length3	1a 1b 2a 2b 2u 3a 3b 3u	N 0 obj << /Filter /ASCII85Decode /Length ... /Length1 ... /Length2 ... /Length3 ... >> stream … Omitted data … endstream endobj	pass
279	no			Type 1 font embedded in the conforming file and font stream dictionary contains the following keys: - Length1 - Length2	1a 1b 2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
280	no			Type 1 font with metadata stream embedded in the conforming file.	1a 1b 2a 2b 2u 3a 3b 3u		pass
281	isartor-6-3-5-t01-fail-a	6.3.5 Font subsets 6.2.11.4.2 Subset embedding 6.2.11.4.2 Subset embedding	As stated in 6.3.4, embedded font programs shall define all font glyphs referenced for rendering with a conforming file. Type 0 CIDFont and Type 1 and TrueType font subsets, as described in PDF Reference 5.5.3, may be used as long as the embedded font programs define all appropriate glyphs. For all Type 1 font subsets referenced within a conforming file, the font descriptor dictionary shall include a CharSet string listing the character names defined in the font subset, as described in PDF Reference Table 5.18. For all CIDFont subsets referenced within a conforming file, the font descriptor dictionary shall include a CIDSet stream identifying which CIDs are present in the embedded CIDFont file, as described in PDF Reference Table 5.20. NOTE The use of font subsets allows a potentially substantial reduction in the size of conforming files.	Embedded CIDType0 font program does not define all font glyphs	1a 1b		fail
282	isartor-6-3-5-t01-fail-b			Embedded CIDType2 font program does not define all font glyphs	1a 1b		fail
283	isartor-6-3-5-t01-fail-c			Embedded Type 1 font program does not define all font glyphs	1a 1b 2a 2b 2u 3a 3b 3u		fail
284	isartor-6-3-5-t01-fail-d			Embedded TrueType font program does not define all font glyphs	1a 1b		fail
285	isartor-6-3-5-t02-fail-a			For the Type 1 font subset, the font descriptor dictionary does not include a CharSet string	1a 1b		fail
286	no			For the Type 1 font subset, the font descriptor dictionary does not include a CharSet string	2a		pass
287	isartor-6-3-5-t03-fail-a			For the CID font subset, the font descriptor dictionary does not include a CIDSet stream	1a 1b		fail
288	no			For the CID font subset, the font descriptor dictionary does not include a CIDSet stream	2a 2b 2u 3a 3b 3u		pass
289	Funktionale_Varietaeten			CIDset missing	1a 1b		fail
290	Funktionale_Varietaeten			CharSet missing	1a 1b		fail
291	validierung_von_pdfa			PDFA font does not have CharSet entry	1a 1b		fail
292	no			For the CID font subset, the font descriptor dictionary include a CID stream.	1a 1b 2a 2b 2u 3a 3b 3u		pass
293	no			In embedded CID fonts are defined all font glyphs.	1a 1b 2a 2b 2u 3a 3b 3u		pass
294	no			Embedded TrueType font program is define all font glyphs	1a 1b		pass
295	no			Embedded Type 1 font program is define all font glyphs	1a 1b 2a 2b 2u 3a 3b 3u		pass
296	no			If the FontDescriptor dictionary of an embedded Type 1 font contains a CharSet string, then it list the character names of not all glyphs present in the font program.	2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
297	isartor-6-3-6-t01-fail-a	6.3.6 Font metrics 6.2.11.5 Font metrics 6.2.11.5 Font metrics	For every font embedded in a conforming file, the glyph width information stored in the Widths entry of the font dictionary and in the embedded font program shall be consistent. NOTE This requirement is necessary to ensure predictable font rendering, regardless of whether a given reader uses the metrics in the Widths entry or those in the font program. ISO 19005-1:2005/Cor 2:2011 For every font embedded in a conforming file and used for rendering, the glyph width information in the font dictionary and in the embedded font program shall be consistent. NOTE This requirement is necessary to ensure predictable font rendering, regardless of whether a given reader uses the metrics in the font dictionary or those in the font program.	Widths in embedded PostScript Type 1 font inconsistent with /Widths	1a 1b 2a 2b 2u 3a 3b 3u		fail
298	isartor-6-3-6-t01-fail-b			Widths in embedded TrueType font inconsistent with /Widths	1a 1b 2a 2b 2u 3a 3b 3u		fail
299	isartor-6-3-6-t01-fail-c			Widths in embedded CID font inconsistent with /Widths	1a 1b 2a 2b 2u 3a 3b 3u		fail
300	Garamond			Font uses MissingWidth in FontDescriptor to augment the Widths array; this should be clarified in ISO 19005-1	1a 1b 2a 2b 2u 3a 3b 3u		pass
301	no			Widths in embedded PostScript Type 1 font consistent with /Widths	1a 1b 2a 2b 2u 3a 3b 3u		pass
302	no			Widths in embedded TrueType font consistent with /Widths	1a 1b 2a 2b 2u 3a 3b 3u		pass
303	no			Widths in embedded CID font consistent with /Widths	1a 1b 2a 2b 2u 3a 3b 3u		pass
304	no			In embedded font, which not used for rendering, the glyph width information in the font dictionary and in the embedded font program are not consistent.	1a 1b 2a 2b 2u 3a 3b 3u		pass
305	isartor-6-3-7-t01-fail-a	6.3.7 Character encodings 6.2.11.6 Character encodings 6.2.11.6 Character encodings	All non-symbolic TrueType fonts shall specify MacRomanEncoding or WinAnsiEncoding as the value of the Encoding entry in the font dictionary. All symbolic TrueType fonts shall not specify an Encoding entry in the font dictionary, and their font programs' "cmap" tables shall contain exactly one encoding. NOTE This requirement makes normative the suggested guidelines described in PDF Reference 5.5.5. ISO 19005-1:2005/Cor 2:2011	Non-symbolic TrueType 'Arial' must use MacRoman or WinAnsi encoding	1a 1b 2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
306	isartor-6-3-7-t02-fail-a			Symbolic TrueType font 'Wingdings' must not specify encoding	1a 1b 2a 2b 2u 3a 3b 3u		fail
307	isartor-6-3-7-t03-fail-a			Symbolic TrueType font does not have exactly one entry in cmap table	1a 1b 2a 2b 2u 3a 3b 3u		fail
308	pdfa2-6-2-11-6-bfo-t01-pass.			Non-symbolic TrueType with Differences array but glyph is in ASGL (relaxation in PDF/A-2)	2a 2b 2u 3a 3b 3u		pass
309	pdfa2-6-2-11-6-bfo-t02-fail.pd			Non-symbolic TrueType with Differences array but glyph is not in ASGL	2a 2b 2u 3a 3b 3u		fail
310	no			Symbolic TrueType font use "cmap" table, which contain one encoding	1a 1b 2a 2b 2u 3a 3b 3u		pass
311	no			Symbolic TrueType font use MacRoman encoding in font dictionary	1a 1b 2a 2b 2u 3a 3b 3u		fail
312	no			Non-symbolic TrueType font use MacRoman and WinAnsi encodings	1a 1b 2a 2b 2u 3a 3b 3u		fail
313	no			Non-symbolic TrueType font, that used for rendering, not contain non-symbolic cmap entry	2a 2b 2u 3a 3b 3u		fail
314	no			Non-symbolic TrueType font, that not used for rendering, not contain non-symbolic cmap entry	2a 2b 2u 3a 3b 3u		pass
315	no			Symbolic TrueType fonts not contain an Encoding entry in the font dictionary and the “cmap” table in the embedded font program contain the Microsoft Symbol (3,0 – Platform ID=3, Encoding ID=0) encoding.	2a 2b 2u 3a 3b 3u		pass

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
316	no			Symbolic TrueType fonts contain an Encoding entry in the font dictionary and the “cmap” table in the embedded font program contain the Microsoft Symbol (3,0 – Platform ID=3, Encoding ID=0) encoding.	2a 2b 2u 3a 3b 3u		fail
317	no			Non-symbolic TrueType font use WinAnsi encoding	1a 1b		pass
318	no			Non-symbolic TrueType font use MacRoman encoding	1a 1b		pass
319	no			Value of the Encoding entry is a dictionary and this dictionary contain Differences entry	1a 1b		fail
320	no	6.3.8 Unicode character maps	6.3.8 is applicable only for files meeting Level A conformance. For Level B conformance the requirements of 6.3.8 can be ignored. The font dictionary shall include a ToUnicode entry whose value is a CMap stream object that maps character codes to Unicode values [22], as described in PDF Reference 5.9, unless the font meets any of the following three conditions: _ fonts that use the predefined encodings MacRomanEncoding, MacExpertEncoding or WinAnsiEncoding, or that use the predefined Identity-H or Identity-V CMaps; _ Type 1 fonts whose character names are taken from the Adobe standard Latin character set or the set of named characters in the Symbol font, as defined in PDF Reference Appendix D; _ Type 0 fonts whose descendant CIDFont uses the Adobe-GB1, Adobe-CNS1, Adobe-Japan1 or Adobe-Korea1 character collections. NOTE Unicode mapping allows the retrieval of semantic properties about every character referenced in the file. ISO 19005-1:2005/Cor 2:2011 Ignore the following text : “or that use the predefined Identity-H or Identity-V CMaps”	The font dictionary include ToUnicode entry (font that use MacRomanEncoding)	1a		pass
321	no			The font dictionary include ToUnicode entry (font that use MacExpertEncoding)	1a		pass
322	no			The font dictionary include ToUnicode entry (font that use WinAnsiEncoding)	1a		pass
323	no			The font dictionary include ToUnicode entry (font that use Identity-H CMaps)	1a		pass
324	no			The font dictionary include ToUnicode entry (font that use Identity-V CMaps)	1a		pass
325	no			The font dictionary include ToUnicode entry (Type 1 font whose character name are taken from the Adobe standart Latin charcter set)	1a		pass
326	no			The font dictionary include ToUnicode entry (Type 1 font whose character name are taken from the Symbol charcter set)	1a		pass
327	no			The font dictionary include ToUnicode entry (Type 0 fonts whose descendant CIDFont uses the Adobe-GB1)	1a		pass
328	no			The font dictionary include ToUnicode entry (Type 0 fonts whose descendant CIDFont uses the Adobe-CNS1)	1a		pass
329	no			The font dictionary include ToUnicode entry (Type 0 fonts whose descendant CIDFont uses the Adobe-Japan1)	1a		pass
330	no			The font dictionary include ToUnicode entry (Type 0 fonts whose descendant CIDFont uses the Adobe-Korea1)	1a		pass
331	no			The font dictionary not included ToUnicode entry (font that use MacRomanEncoding)	1a		fail
332	no			The font dictionary not included ToUnicode entry (Type 1 font whose character name are taken from the Symbol charcter set)	1a		fail
333	no			The font dictionary not included ToUnicode entry (Type 1 font whose character name are taken from the Adobe standart Latin charcter set)	1a		fail
334	no			The font dictionary not included ToUnicode entry (Type 0 fonts whose descendant CIDFont uses the Adobe-CNS1 \/ Adobe-GB1 \/ Adobe-Japan1 \/ Adobe-Korea1)	1a		fail
335	isartor-6-4-t01-fail-a	6.4 Transparency 6.2.10 Transparency 6.2.10 Transparency	If an SMask key appears in an ExtGState or XObject dictionary, its value shall be None. A Group object with an S key with a value of Transparency shall not be included in a form XObject. The following keys, if present in an ExtGState object, shall have the values shown: _ BM Normal or Compatible _ CA 1.0 _ ca 1.0 NOTE These provisions prohibit the use of transparency within a conforming file. The visual effect of partially transparent graphics can be achieved using techniques other than the use of the PDF Reference transparency keys, including pre-rendered data or flattened vector objects. The use of such techniques does not prevent a file from being PDF/A-1 conformant. ISO 19005-1:2005/Cor 2:2011 If an SMask key appears in an ExtGState dictionary, its value shall be None. An XObject dictionary shall not contain the SMask key. A Group object with an S key with a value of Transparency shall not be included in a form XObject. A Group object with an S key with a value of Transparency shall not be included in a page dictionary.	Transparency used (ExtGState with soft mask)	1a 1b		fail
336	isartor-6-4-t01-fail-b			Transparency used (Image with soft mask)	1a 1b		fail
337	isartor-6-4-t02-fail-a			Transparency used (Form XObject with transparency group)	1a 1b		fail
338	isartor-6-4-t03-fail-a			Transparency used (Blend mode=multiply)	1a 1b		fail
339	no			Transparency used (Blend mode=multiply)	2a 2b 2u 3a 3b 3u		pass
340	isartor-6-4-t04-fail-a			Transparency used (CA=0.75)	1a 1b		fail
341	isartor-6-4-t05-fail-a			Transparency used (ca=0.75)	1a 1b		fail
342	validierung_von_pdfa			Pages contain Group dictionary with transparency group (not prohibited in PDF/A-1, although the PDF/A Application Notes say it should)	1a 1b		fail
343	pdfa_article_v11			Pages contain Group dictionary with transparency group. This is not prohibited in PDF/A-1, although the PDF/A Application Notes say it should	1a 1b		unclear
344	no			Transparency used (ExtGState with soft mask, which has None as the value)	1a 1b		pass
345	no			Transparency used (Image with soft mask, which has None as the value)	1a 1b		pass
346	no			Transparency used (Form XObject without transparency group)	1a 1b		pass
347	no			Transparency used (Blend mode=normal \/ compatible)	1a 1b		pass
348	no			Transparency used (CA=1)	1a 1b		pass

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
349	no			Transparency used (ca=1)	1a 1b		pass
350	no			Not all Page objects that contain transparency include the Group key and the attribute dictionary that forms the value of that Group key icnlude a CS entry whose value be used as the default blending mode.	2a 2b 2u 3a 3b 3u		fail
351	no			In conforming file used blend modes that are not specified in ISO-32000-1:2008.	2a 2b 2u 3a 3b 3u		fail
352	no			In conforming file used blend modes that are specified in ISO-32000-1:2008.	2a 2b 2u 3a 3b 3u		pass
353	isartor-6-5-2-t01-fail-a	6.5.2 Annotation types 6.3.1 Annotation types 6.3.1 Annotation types	Annotation types not defined in PDF Reference shall not be permitted. Additionally, the FileAttachment, Sound and Movie types shall not be permitted. NOTE Support for multimedia content is outside the scope of this part of ISO 19005.	Prohibited annotation type '3D'	1a 1b 2a 2b 2u 3a 3b 3u		fail
354	isartor-6-5-2-t01-fail-b			Prohibited annotation type 'Caret'	1a 1b 2a 2b 2u 3a 3b 3u		fail
355	isartor-6-5-2-t01-fail-c			Prohibited annotation type 'custom annotation'	1a 1b 2a 2b 2u 3a 3b 3u		fail
356	isartor-6-5-2-t01-fail-d			Prohibited annotation type 'Watermark'	1a 1b 2a 2b 2u 3a 3b 3u		fail
357	isartor-6-5-2-t01-fail-e			Prohibited annotation type 'Polygon'	1a 1b 2a 2b 2u 3a 3b 3u		fail
358	isartor-6-5-2-t01-fail-f			Prohibited annotation type 'PolyLine'	1a 1b 2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
359	isartor-6-5-2-t01-fail-g			Prohibited annotation type 'Screen'	1a 1b 2a 2b 2u 3a 3b 3u		fail
360	isartor-6-5-2-t01-fail-h			Prohibited annotation type 'Redact'	1a 1b 2a 2b 2u 3a 3b 3u		fail
361	isartor-6-5-2-t02-fail-a			Prohibited annotation type 'FileAttachment'	1a 1b 2a 2b 2u 3a 3b 3u		fail
362	isartor-6-5-2-t02-fail-b			Prohibited annotation type 'Movie'	1a 1b 2a 2b 2u 3a 3b 3u		fail
363	isartor-6-5-2-t02-fail-c			Prohibited annotation type 'Sound'	1a 1b 2a 2b 2u 3a 3b 3u		fail
364	no			Incorrect annotation type	1a 1b 2a 2b 2u 3a 3b 3u		fail
365	no			Annotation type "Text"	1a 1b 2a 2b 2u 3a 3b 3u		pass
366	no			Annotation type "Link"	1a 1b 2a 2b 2u 3a 3b 3u		pass
367	no			Annotation type "FreeText"	1a 1b 2a 2b 2u 3a 3b 3u		pass

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
368	no			Annotation type "Line"	1a 1b 2a 2b 2u 3a 3b 3u		pass
369	no			Annotation type "Circle"	1a 1b 2a 2b 2u 3a 3b 3u		pass
370	no			Annotation type "Highlight"	1a 1b 2a 2b 2u 3a 3b 3u		pass
371	no			Annotation type "Underline"	1a 1b 2a 2b 2u 3a 3b 3u		pass
372	no			Annotation type "Squiggly"	1a 1b 2a 2b 2u 3a 3b 3u		pass
373	no			Annotation type "StrikeOut"	1a 1b 2a 2b 2u 3a 3b 3u		pass
374	no			Annotation type "3D" and "Text"	1a 1b 2a 2b 2u 3a 3b 3u		fail
375	no			Annotation type "Line" and "Sound"	1a 1b 2a 2b 2u 3a 3b 3u		fail
376	no			Annotation type "Movie" and "FileAttachement"	1a 1b 2a 2b 2u 3a 3b 3u		fail

C.1 PDF/A Test Suite

№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
377	no			Annotation type "Polygon" and "Text"	1a 1b 2a 2b 2u 3a 3b 3u		fail
378	no			Annotation types "Screen", "Line" and " Text"	1a 1b 2a 2b 2u 3a 3b 3u		fail
379	isartor-6-5-3-t01-fail-a	6.5.3 Annotation dictionaries 6.3.2 Annotation dictionaries 6.3.2 Annotation dictionaries	An annotation dictionary shall not contain the CA key with a value other than 1.0. An annotation dictionary shall contain the F key. The F key's Print flag bit shall be set to 1 and its Hidden, Invisible and NoView flag bits shall be set to 0. Text annotations should set the NoZoom and NoRotate flag bits of the F key to 1. NOTE 1 The restrictions on annotation flags prevent the use of annotations that are hidden or that are viewable but not printable. The NoZoom and NoRotate flags are permitted, which allows the use of annotation types that have the same behaviour as the commonly-used text annotation type. By definition, text annotations exhibit the NoZoom and NoRotate behaviour even if the flags are not set, as described in PDF Reference 8.4.5; explicitly setting these flags removes any potential ambiguity between the annotation dictionary settings and reader behaviour. An annotation dictionary shall not contain the C array or the IC array unless the colour space of the DestOutputProfile in the PDF/A-1 OutputIntent dictionary, defined in 6.2.2, is RGB. NOTE 2 These provisions ensure that the device colour spaces used in annotations by mechanisms other than an appearance stream are indirectly defined by means of the PDF/A-1 OutputIntent. If an annotation dictionary contains the AP key, the appearance dictionary that it defines as its value shall contain only the N key, whose value shall be a stream defining the appearance of the annotation. NOTE 3 All of the provisions of 6.5.3 apply to all annotation types, including the Widget type used for form fields. ISO 19005-1:2005/Cor 2:2011 For all annotation dictionaries containing an AP key, the appearance dictionary that it defines as its value shall contain only the N key. If an annotation dictionary's Subtype key has a value of Widget and its FT key has a value of Btn, the value of the N key shall be an appearance subdictionary; otherwise the value of the N key shall be an appearance stream.	CA entry has value other than 1.0	1a 1b		fail
380	isartor-6-5-3-t02-fail-a			F key missing	1a 1b 2a 2b 2u 3a 3b 3u		fail
381	isartor-6-5-3-t02-fail-b			F has Print flag not set	1a 1b 2a 2b 2u 3a 3b 3u		fail
382	isartor-6-5-3-t02-fail-c			F entry has Hidden flag set	1a 1b 2a 2b 2u 3a 3b 3u		fail
383	isartor-6-5-3-t02-fail-d			F entry has Invisible flag set	1a 1b 2a 2b 2u 3a 3b 3u		fail
384	isartor-6-5-3-t02-fail-e			F entry has NoView flag set	1a 1b 2a 2b 2u 3a 3b 3u		fail
385	isartor-6-5-3-t03-fail-a			C entry present but no OutputIntent present	1a 1b		fail
386	isartor-6-5-3-t03-fail-b			C entry present but OutputIntent has non-RGB destination profile	1a 1b		fail
387	isartor-6-5-3-t03-fail-c			IC entry present but no OutputIntent present	1a 1b		fail
388	isartor-6-5-3-t03-fail-d			IC entry present and OutputIntent has non-RGB destination profile	1a 1b		fail
389	isartor-6-5-3-t04-fail-a			AP has entries other than the N entry	1a 1b		fail
390	isartor-6-5-3-t04-fail-b			AP has entries but no N entry	1a 1b		fail
391	isartor-6-5-3-t04-fail-c			AP has no N entry	1a 1b		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
392	isartor-6-5-3-t04-fail-d			AP has an N entry whose value is not a stream	1a 1b		fail
393	pdfa2-6-3-2-bfo-t01-pass.pdf			Popup annotation has no F key (relaxation in PDF/A-2)	2a 2b 2u 3a 3b 3u		pass
394	pdfa2-6-3-2-bfo-t02-fail.pdf			Annotation has ToggleNoView flag set	2a 2b 2u 3a 3b 3u		fail
395	no			CA entry has value 1.0	1a 1b		pass
396	no			CA entry has value other than 1.0 and F has Hidden flag set.	1a 1b		fail
397	no			F key print flag set to 1 and Hidden, Invisible and NoView flag bits set to 0	1a 1b		pass
398	no			NoZoom and NoRotate flag bits have 1 as the value in Text annotations.	1a 1b		pass
399	isartor-6-6-1-t04-fail-i	6.6.1 General 6.5.1 General 6.5.1 General	The Launch, Sound, Movie, ResetForm, ImportData and JavaScript actions shall not be permitted. Additionally, the deprecated set-state and no-op actions shall not be permitted. Named actions other than NextPage, PrevPage, FirstPage, and LastPage shall not be permitted. In response to each of the four allowed named actions, conforming interactive readers shall perform the appropriate action described in PDF Reference Table 8.45. Interactive form fields shall not perform actions of any type. NOTE 1 Support for multimedia content is outside the scope of this part of ISO 19005. The ResetForm action changes the rendered appearance of a form. The ImportData action imports form data from an external file. JavaScript actions permit an arbitrary executable code that has the potential to interfere with reliable and predictable rendering. NOTE 2 Additional requirements for interactive form fields are specified in 6.9. ISO 19005-1:2005/Cor 2:2011 The Hide action shall not be permitted.	Named action other than predefined not allowed for page	1a 1b 2a 2b 2u 3a 3b 3u		fail
400	isartor-6-6-1-t01-fail-a			Launch action not allowed in annotation	1a 1b 2a 2b 2u 3a 3b 3u		fail
401	isartor-6-6-1-t01-fail-b			Sound action not allowed in annotation	1a 1b 2a 2b 2u 3a 3b 3u		fail
402	isartor-6-6-1-t01-fail-c			Movie action not allowed in annotation	1a 1b 2a 2b 2u 3a 3b 3u		fail
403	isartor-6-6-1-t01-fail-d			ResetForm action not allowed in annotation	1a 1b 2a 2b 2u 3a 3b 3u		fail
404	isartor-6-6-1-t01-fail-e			ImportData action not allowed in annotation	1a 1b 2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
405	isartor-6-6-1-t01-fail-f			JavaScript action not allowed in annotation	1a 1b 2a 2b 2u 3a 3b 3u		fail
406	isartor-6-6-1-t01-fail-g			SetState action not allowed in annotation	1a 1b 2a 2b 2u 3a 3b 3u		fail
407	isartor-6-6-1-t01-fail-h			NOP action not allowed in annotation	1a 1b 2a 2b 2u 3a 3b 3u		fail
408	isartor-6-6-1-t01-fail-i			Named action other than predefined not allowed in annotation	1a 1b 2a 2b 2u 3a 3b 3u		fail
409	isartor-6-6-1-t02-fail-a			Launch action not allowed in bookmark	1a 1b 2a 2b 2u 3a 3b 3u		fail
410	isartor-6-6-1-t02-fail-b			Sound action not allowed in bookmark	1a 1b 2a 2b 2u 3a 3b 3u		fail
411	isartor-6-6-1-t02-fail-c			Movie action not allowed in bookmark	1a 1b 2a 2b 2u 3a 3b 3u		fail
412	isartor-6-6-1-t02-fail-d			ResetForm action not allowed in bookmark	1a 1b 2a 2b 2u 3a 3b 3u		fail
413	isartor-6-6-1-t02-fail-e			ImportData action not allowed in bookmark	1a 1b 2a 2b 2u 3a 3b 3u		fail

C.1 PDF/A Test Suite

№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
414	isartor-6-6-1-t02-fail-f			JavaScript action not allowed in bookmark	1a 1b 2a 2b 2u 3a 3b 3u		fail
415	isartor-6-6-1-t02-fail-g			SetState action not allowed in bookmark	1a 1b 2a 2b 2u 3a 3b 3u		fail
416	isartor-6-6-1-t02-fail-h			NOP action not allowed in bookmark	1a 1b 2a 2b 2u 3a 3b 3u		fail
417	isartor-6-6-1-t02-fail-i			Named action other than predefined not allowed in bookmark	1a 1b 2a 2b 2u 3a 3b 3u		fail
418	isartor-6-6-1-t03-fail-a			Launch action not allowed in catalog	1a 1b 2a 2b 2u 3a 3b 3u		fail
419	isartor-6-6-1-t03-fail-b			Sound action not allowed in catalog	1a 1b 2a 2b 2u 3a 3b 3u		fail
420	isartor-6-6-1-t03-fail-c			Movie action not allowed in catalog	1a 1b 2a 2b 2u 3a 3b 3u		fail
421	isartor-6-6-1-t03-fail-d			ResetForm action not allowed in catalog	1a 1b 2a 2b 2u 3a 3b 3u		fail
422	isartor-6-6-1-t03-fail-e			ImportData action not allowed in catalog	1a 1b 2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
423	isartor-6-6-1-t03-fail-f			JavaScript action not allowed in catalog	1a 1b 2a 2b 2u 3a 3b 3u		fail
424	isartor-6-6-1-t03-fail-g			SetState action not allowed in catalog	1a 1b 2a 2b 2u 3a 3b 3u		fail
425	isartor-6-6-1-t03-fail-h			NOP action not allowed in catalog	1a 1b 2a 2b 2u 3a 3b 3u		fail
426	isartor-6-6-1-t03-fail-i			Named action other than predefined not allowed in catalog	1a 1b 2a 2b 2u 3a 3b 3u		fail
427	isartor-6-6-1-t04-fail-a			Launch action not allowed for page	1a 1b 2a 2b 2u 3a 3b 3u		fail
428	isartor-6-6-1-t04-fail-b			Sound action not allowed for page	1a 1b 2a 2b 2u 3a 3b 3u		fail
429	isartor-6-6-1-t04-fail-c			Movie action not allowed for page	1a 1b 2a 2b 2u 3a 3b 3u		fail
430	isartor-6-6-1-t04-fail-d			ResetForm action not allowed for page	1a 1b 2a 2b 2u 3a 3b 3u		fail
431	isartor-6-6-1-t04-fail-e			ImportData action not allowed for page	1a 1b 2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
432	isartor-6-6-1-t04-fail-f			JavaScript action not allowed for page	1a 1b 2a 2b 2u 3a 3b 3u		fail
433	isartor-6-6-1-t04-fail-g			SetState action not allowed for page	1a 1b 2a 2b 2u 3a 3b 3u		fail
434	isartor-6-6-1-t04-fail-h			NOP action not allowed for page	1a 1b 2a 2b 2u 3a 3b 3u		fail
435	no			Named Action is used (NextPage)	1a 1b 2a 2b 2u 3a 3b 3u		pass
436	no			Named Action is used (PrevPage)	1a 1b 2a 2b 2u 3a 3b 3u		pass
437	no			Named Action is used (FirstPage)	1a 1b 2a 2b 2u 3a 3b 3u		pass
438	no			Named Action is used (LastPage)	1a 1b 2a 2b 2u 3a 3b 3u		pass
439	no			Unresolved Actions are used (Sound and JavaScript)	1a 1b 2a 2b 2u 3a 3b 3u		fail
440	no			Unresolved Actions are used (Movie and Launch)	1a 1b 2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
441	no			SetOCGState action not allowed in annotation	2a 2b 2u 3a 3b 3u		fail
442	no			Rendition action not allowed in annotation	2a 2b 2u 3a 3b 3u		fail
443	no			Trans action not allowed in annotation	2a 2b 2u 3a 3b 3u		fail
444	no			GoTo3DView action not allowed in annotation	2a 2b 2u 3a 3b 3u		fail
445	no			SetOCGState action not allowed in bookmark	2a 2b 2u 3a 3b 3u		fail
446	no			Rendition action not allowed in bookmark	2a 2b 2u 3a 3b 3u		fail
447	no			Trans action not allowed in bookmark	2a 2b 2u 3a 3b 3u		fail
448	no			GoTo3DView action not allowed in bookmark	2a 2b 2u 3a 3b 3u		fail
449	no			SetOCGState action not allowed for page	2a 2b 2u 3a 3b 3u		fail
450	no			Rendition action not allowed for page	2a 2b 2u 3a 3b 3u		fail
451	no			Trans action not allowed for page	2a 2b 2u 3a 3b 3u		fail
452	no			GoTo3DView action not allowed for page	2a 2b 2u 3a 3b 3u		fail

C.1 PDF/A Test Suite

№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
453	isartor-6-6-2-t01-fail-a	6.6.2 Trigger events 6.5.2 Trigger events 6.5.2 Trigger events	A Widget annotation dictionary or Field dictionary shall not include an AA entry for an additional-actions dictionary. The document catalog dictionary shall not include an AA entry for an additional-actions dictionary. NOTE These additional-actions dictionaries define arbitrary JavaScript actions. The explicit prohibition of the AA entry has the implicit effect of disallowing JavaScript actions that can create external dependencies and complicate preservation efforts.	Catalog must not contain AA action	1a 1b 2a 2b 2u 3a 3b 3u		fail
454	no			Widget annotation dictionary contain AA action	1a 1b 2a 2b 2u 3a 3b 3u		fail
455	no			Field dictionary contain AA action	1a 1b 2a 2b 2u 3a 3b 3u		fail
456	no			Widget annotation dictionary not contain AA action	1a 1b 2a 2b 2u 3a 3b 3u		pass
457	no			Field dictionary not contain AA action	1a 1b 2a 2b 2u 3a 3b 3u		pass
458	isartor-6-7-2-t01-fail-a	6.7.2 Properties 6.6.2.1 General (6.6.2.3.1 General) 6.6.2.1 General (6.6.2.3.1 General)	The document catalog dictionary of a conforming file shall contain the Metadata key. The metadata stream that forms the value of that key shall conform to XMP Specification. All metadata properties embedded in a file shall be in XMP form except for document information dictionary entries that have no XMP analogues, as defined in 6.7.3. Properties specified in XMP form shall use either the predefined schemas defined in XMP Specification 4, or extension schemas that comply with XMP Specification 4, and 6.7.8. Metadata object stream dictionaries shall not contain the Filter key. NOTE 1 The explicit prohibition of the Filter key has the implicit effect of preserving the contents of XMP metadata streams as plain text that is visible to non-PDF aware tools. NOTE 2 An extension schema is any XMP schema that is not defined in XMP Specification. ISO 19005-1:2005/Cor 2:2011 The document catalog dictionary of a conforming file shall contain the Metadata key. The metadata stream that forms the value of that key shall conform to XMP Specification. All document-level metadata properties embedded in a file shall be in XMP form except for document information dictionary entries that have no XMP analogues, as defined in 6.7.3. Properties specified in XMP form shall use either the predefined schemas defined in XMP Specification, or the propertyxmpMM:InstanceID as defined in this subclause, or extension schemas that comply with XMP Specification, and 6.7.8, or the extension schemas defined in this part of ISO 19005. NOTE 1 xmpMM:InstanceID is specifically mentioned here as it is not documented in the XMP Specification but is in common use by various PDF/A conforming writers. Within the XMP Media Management Schema, as defined in XMP Specification, having a namespace ofhttp://ns.adobe.com/xap/1.0/mm/ and a preferred prefix of xmpMM, the field xmpMM:InstanceID shall be defined as follows: Property - xmpMM:InstanceID	Metadata key missing in catalog	1a 1b 2a 2b 2u 3a 3b 3u		fail
459	isartor-6-7-2-t02-fail-a			Invalid XMP metadata	1a 1b		fail
460	isartor-6-7-2-t02-fail-b			Unknown property 'xmp:Title' in predefined schema	1a 1b 2a 2b 2u 3a 3b 3u		fail
461	isartor-6-7-2-t02-fail-c			Wrong value type for predefined property 'dc:description'	1a 1b 2a 2b 2u 3a 3b 3u		fail
462	isartor-6-7-2-t03-fail-a			Metadata dictionary uses stream filter	1a 1b		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
463	2001_28			Wrong value type for XMP property dc:creator (should be Seq)	1a 1b 2a 2b 2u 3a 3b 3u		fail
464	rolfs_diss_A1b			Wrong value type for dc:creator (should be Seq, but uses Bag)	1a 1b 2a 2b 2u 3a 3b 3u		fail
465	terminanschreiben			Wrong value type for XMP property xmp:Identifier (should be Bag) /	1a 1b 2a 2b 2u 3a 3b 3u		fail
466	stat_dis_30_fixed			Contains XMP 2005 property xmpMM:InstanceID (not allowed in ISO 19005-1, but should be ignored per TechNote 0008)	1a 1b		pass
467	good0001			Simple XMP using only predefined properties	1a 1b 2a 2b 2u 3a 3b 3u		pass
468	bug1771			XMP property is predefined but is not used in accordance with definition (An XMP Metadata property is used that is defined in the XMP specification of January 2004. However, the property is not used in accordance with its definition in the XMP specification)	1a 1b		fail
469	good0002			XMP contains rarely used XMP 2004 properties including tiff:Model and tiff:PlanarConfiguration.	1a 1b		pass
470	good0015			Many properties from the predefined XMP schemas	1a 1b 2a 2b 2u 3a 3b 3u		pass
471	good0016			Not all XMP data types are precisely defined in XMP 2004	1a 1b		unclear
472	no			XMP contain unknown property (other than dc:Author)	1a 1b 2a 2b 2u 3a 3b 3u	xmp:Author	fail
473	no			XMP contain unknown property (other than pdf:Keywords)	1a 1b 2a 2b 2u 3a 3b 3u		fail
474	no			XMP contain unknown property (other than xmp:CreatorTool)	1a 1b 2a 2b 2u 3a 3b 3u		fail

C.1 PDF/A Test Suite

№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
475	no			XMP contain unknown property (other than pdf:Producer)	1a 1b 2a 2b 2u 3a 3b 3u		fail
476	no			XMP contain unknown property (other than xmp:CreateDate)	1a 1b 2a 2b 2u 3a 3b 3u		fail
477	no			XMP contain unknown property (other than xmp:ModifyDate)	1a 1b 2a 2b 2u 3a 3b 3u		fail
478	no			The conforming file contain correct XMP with properties from predefined schemas	1a 1b 2a 2b 2u 3a 3b 3u	List of predefined XMP schemas: Schema name and description - namespace URI -preferred namespace prefix Dublin Core schema http://purl.org/dc/elements/1.1/ dc XMP Basic schema http://ns.adobe.com/xap/1.0/ xmp XMP Rights Management schema http://ns.adobe.com/xap/1.0/rights/ xmpRights XMP Media Management schema http://ns.adobe.com/xap/1.0/mm/ xmpMM XMP Basic Job Ticket schema http://ns.adobe.com/xap/1.0/bj xmpBJ XMP Paged-Text schema http://ns.adobe.com/xap/1.0/t/pg/ xmpTPg Adobe PDF schema http://ns.adobe.com/pdf/1.3/ pdf Photoshop schema http://ns.adobe.com/photoshop/1.0/ photoshop EXIF schema for TIFF properties http://ns.adobe.com/tiff/1.0/ tiff EXIF schema for EXIF-specific properties http://ns.adobe.com/exif/1.0/ exif	pass
479	no			The conforming file contain XMP with properties from predefined schemas, which are not allowed in PDF/A-1	1a 1b 2a 2b 2u 3a 3b 3u	Dublin Core Schema xmp:Author xmp:Description xmp:Label1 xmp:Rating1 xmp:Title	fail
480	no			The conforming file contains XMP with properties from predefined schemas, which are not allowed in PDF/A-1	1a 1b 2a 2b 2u 3a 3b 3u	XMP Rights Management Schema xmpRights:Copyright	fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
481	no			The conforming file contains XMP with properties from predefined schemas, which are recommended in PDF/A-1	1a 1b 2a 2b 2u 3a 3b 3u	XMP Media Management Schema xmpMM:DocumentID xmpMM:RenditionClass xmpMM:VersionID	pass
482	no			The conforming file contains XMP with properties from predefined schemas, which are not allowed in PDF/A-1	1a 1b 2a 2b 2u 3a 3b 3u	XMP Paged-Text Schema xmpTPg:Colorants xmpTPg:Fonts xmpTPg:PlateNames	fail
483	no			The conforming file contains XMP with properties from predefined schemas, which are not allowed in PDF/A-1	1a 1b 2a 2b 2u 3a 3b 3u	Adobe PDF Schema pdf:Author pdf:BaseURL pdf:CreationDate pdf:Creator pdf:ModDate pdf:Subject pdf:Title pdf:Trapped	fail
484	no			The conforming file contains XMP with properties from predefined schemas, which are not allowed in PDF/A-1	1a 1b 2a 2b 2u 3a 3b 3u	Photoshop schema photoshop:Author photoshop:Copyright photoshop:History photoshop:Title	fail
485	no			The conforming file contains XMP with properties from predefined schemas (EXIF Schema for TIFF Properties), which are allowed and recommended in PDF/A-1	1a 1b 2a 2b 2u 3a 3b 3u	Instead of tiff:Artist used dc:creator Instead of tiff:ImageDescription used dc:description Instead of tiff:Software used xmp:CreatorTool	pass
486	no			Subtype key is missing.	2a 2b 2u 3a 3b 3u		fail
487	no			Subtype key have value other than XML.	2a 2b 2u 3a 3b 3u		fail
488	isartor-6-7-3-t01-fail-a	6.7.3 Document information dictionary 6.6.3 Document information dictionary 6.6.3 Document information dictionary	NOTE: Part of test cases is located at 6.1.5 A document information dictionary may appear within a conforming file. If it does appear, then all of its entries that have analogous properties in predefined XMP schemas, as defined by Table 1, shall also be embedded in the file in XMP form with equivalent values. Any document information dictionary entry not listed in Table 1 shall not be embedded using a predefined XMP schema property. NOTE 1 Since a document information dictionary is allowed within a conforming file, it is possible for a single file to be both PDF/A-1 (ISO 19005-1) and PDF/X (ISO 15930-4 and ISO 15930-6 [11]) conformant. NOTE: Table "Crosswalk between document information dictionary and XMP properties" is located in "ISO_19005-1.pdf" The value of the document information dictionary entries and their analogous XMP properties shall be equivalent. For properties that map from the PDF text string type to the XMP Text type, value equivalence shall be on a character-by-character basis, independent of encoding, comparing the numeric ISO/IEC 10646-1 code points for the characters. EXAMPLE 1 The document information dictionary entry: /Author (Peter, Paul and Mary) is equivalent to the XMP property: <dc:creator> <rdf:Seq>	Document information entry 'Title' not synchronized with XMP	1a 1b	"Not synchronized": 1.Document information dictionary and XMP have different value 2.Document information dictionary has empty field (e.g. "Author") and XMP has any value in appropriate filed. 3. Document information dictionary has any value and XMP has empty appropriate field. 4.Document information dictionary has field with decomposed character (e.g. 'o' (U+006F U+0308)) and XMP has appropriate field with composed character (e.g. 'o' (U+00F6)).	fail
489	isartor-6-7-3-t01-fail-b			Document information entry 'Subject' not synchronized with XMP	1a 1b		fail
490	isartor-6-7-3-t01-fail-c			Document information entry 'CreationDate' not synchronized with XMP	1a 1b		fail
491	empty_word			Creation and modification dates not properly synchronized between document info and XMP	1a 1b		fail
492	UCC			dc:title is empty in XMP and missing in document info; similar for other keys	1a 1b		pass

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
493	no			Document information entry 'Author' not synchronized with XMP	1a 1b		fail
494	no			Document information entry 'Keywords' not synchronized with XMP	1a 1b		fail
495	no			Document information entry 'Creator' not synchronized with XMP	1a 1b		fail
496	no			Document information entry 'Producer' not synchronized with XMP	1a 1b		fail
497	no			Document information entry 'ModDate' not synchronized with XMP	1a 1b		fail
498	no			Document information entrys 'ModDate' and "Author" not synchronized with XMP	1a 1b		fail
499	no			Document information entrys 'Producer' and 'Keywords' not synchronized with XMP	1a 1b		fail
500	no			Document information entrys 'Creator' and 'Subject' not synchronized with XMP	1a 1b		fail
501	no			Document information entrys 'Author', 'CreationDate' and 'Subject' not synchronized with XMP	1a 1b		fail
502	no			Document information entrys 'Producer', 'Creator' and 'Keywords' not synchronized with XMP	1a 1b		fail
503		6.7.4 Normalization	All XMP schemas should define the normalization rules that are applicable for their properties. For all metadata properties defined in schemas that do provide normalization rules, the property values shall be entered, saved and retained in the normalized fashion defined by those schemas to facilitate interchange and support consistent interpretation of metadata by conforming readers.				
504	isartor-6-7-5-t01-fail-a	6.7.5 XMP header 6.6.2.1 General 6.6.2.1 General	The bytes and the encoding attributes shall not be used in the header of an XMP packet. NOTE Both the bytes and encoding attributes are deprecated in XMP Specification.	bytes' attribute not allowed in XMP metadata	1a 1b 2a 2b 2u 3a 3b 3u		fail
505	isartor-6-7-5-t02-fail-a			encoding' attribute not allowed in XMP metadata	1a 1b 2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
506	no			In the header of an XMP packet not used the bytes and encoding attributes	1a 1b 2a 2b 2u 3a 3b 3u		pass
507		6.7.6 File identifiers 6.6.5 File identifiers 6.6.5 File identifiers	A conforming file should have one or more metadata properties to characterize, categorize and otherwise identify the file. This part of ISO 19005 does not mandate any specific identification scheme. Identifiers may be externally based, such as an International Standard Book Number (ISBN)[4] or a Digital Object Identifier (DOI), or internally based, such as a Globally Unique Identifier/Universally Unique Identifier (GUID/UUID) or another designation assigned during workflow operations. Identifiers may be included through use of the xmp:Identifier property; use of the xmpMM:DocumentID, xmpMM:VersionID and xmpMM:RenditionClass properties; or use of properties from an extension schema. Any identification system may be used so long as the properties comply with XMP requirements and this part of ISO 19005. If a conforming file is changed in any way, even if only by the addition of an xmpMM:History entry as described in 6.7.7, then the changing identifier part of the file trailer dictionary ID key should be modified as described in PDF Reference 9.3. NOTE The XML namespace URI for the xmp prefix is <http://ns.adobe.com/xap/1.0/>; the namespace URI for the xmpMM prefix is <http://ns.adobe.com/xap/1.0/mm/>.		1a 1b		
508		6.7.7 File provenance information 6.6.6 File provenance information	In order to describe all high-level user actions taken to create, transform or otherwise instantiate a conforming file, each of those actions should be recorded in the xmpMM:History property. For each action that is recorded: _ the action, parameters and when fields shall be specified; _ the softwareAgent field should be specified; _ the instanceID field shall not be specified. NOTE 1 The XML namespace URI for the prefix xmpMM is <http://ns.adobe.com/xap/1.0/mm/>. NOTE 2 Applications with specific auditing requirements may need to record additional types of action or additional details about actions beyond those defined by predefined XMP schemas. Examples of additional types of action include those that change the appearance of the document, such as downsampling or font substitution. Examples of additional details include the identity of the human agent that instigated or performed the action or the environment in which the action occurred. In cases where original sources such as paper, microform or electronic files are transformed into conforming files, xmpMM:History should describe all high-level processing (e.g. transformed from PDF 1.4 to PDF/A-1); alterations to file content or functionality (e.g. embedded JavaScript and audio objects were not retained); handling of pre-existing metadata (e.g. all document information dictionary values converted to XMP); and any other significant aspects of the transformation process. For all conforming files, whether created natively or by conversion from sources such as paper, microform, or other electronic formats, xmpMM:History should describe all subsequent high-level workflow processes (e.g.descriptions of activities and handoffs); citations to policies governing file handling (e.g. titles of official directives under which files are collected, processed, and used); names and versions of software tools; any other matters that are needed to indicate the context of the file's creation and use. In cases where XMP metadata properties have been changed or deleted as a file moves through its life cycle, xmpMM:History should describe those changes by including entries whose parameters fields specify the name of the properties and their previous values. This recommendation applies to all metadata properties except the xmpMM:History itself. If a metadata property has been deleted, the action field of its entry in xmpMM:History shall be pdfa:deleted.		1a 1b		
509	isartor-6-7-8-t02-fail-g	6.7.8 Extension schemas 6.6.2.3.2 Extension schemas (6.6.2.3.3 Extension schema container schemas)	All extension schemas used in a conforming file shall have their descriptions embedded within that file in the metadata stream defined by 6.7.2. These descriptions shall be specified using the PDF/A extension schema description schema defined in this clause. NOTE 1 An extension schema is any XMP schema that is not defined in XMP Specification. The extension schema description schema defined in Table 2 uses the namespace URI <http://www.aiim.org/pdfa/ns/schema>. The required schema namespace prefix is pdfaSchema. NOTE 2 According to the W3C XML Namespace recommendation [18], namespace URI's are for identification purposes only and are not required to be actionable links. None of the namespace URI's defined for XMP extension schemas in this part of ISO 19005 is an actionable link. Attempting to dereference or follow any of these links will not result in a valid web page. NOTE: Table 2 'PDF/A extension schema description schema' located in ISO_19005-1 The Property type defined in Table 3 is an XMP structure containing the description of a schema property.	Description of custom value type 'mailaddress' missing in PDF/A ValueType	1a 1b 2a 2b 2u 3a 3b 3u		fail
510	isartor-6-7-8-t01-fail-a	6.6.2.3.2 Extension schemas (6.6.2.3.3 Extension schema container schemas)		Extension schema doesn't have description embedded	1a 1b 2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
511	isartor-6-7-8-t02-fail-a			Wrong namespace prefix for extension schema container schema	1a 1b 2a 2b 2u 3a 3b 3u		fail
512	isartor-6-7-8-t02-fail-b			Wrong namespace URI for 'pdfaSchema' value type	1a 1b 2a 2b 2u 3a 3b 3u		fail
513	isartor-6-7-8-t02-fail-c			Wrong value type for 'pdfaExtension:schemas'	1a 1b 2a 2b 2u 3a 3b 3u		fail
514	isartor-6-7-8-t02-fail-d			pdfaSchema:property missing in extension schema description	1a 1b 2a 2b 2u 3a 3b 3u		fail
515	isartor-6-7-8-t02-fail-e			Required property 'valueType' missing in PDF/A Schema Value Type	1a 1b 2a 2b 2u 3a 3b 3u		fail
516	isartor-6-7-8-t02-fail-f			Required property 'description' missing in PDF/A Property Value Type	1a 1b 2a 2b 2u 3a 3b 3u		fail
517	isartor-6-7-8-t02-fail-h			Required property 'namespaceURI' missing in PDF/A Property Value Type	1a 1b 2a 2b 2u 3a 3b 3u		fail
518	isartor-6-7-8-t02-fail-i			Required property 'valueType' missing in PDF/A Field Value Type	1a 1b 2a 2b 2u 3a 3b 3u		fail
519	isartor-6-7-8-t02-fail-j			Description of custom value type 'CT' missing in PDF/A Field Value Type	1a 1b 2a 2b 2u 3a 3b 3u		fail
520	isartor-6-7-8-t02-fail-j			Custom type with fields is used with simple value type	1a 1b		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
521	Funktionale_Varietaeten			Non XMP properties without extension schema description	1a 1b		fail
522	paper56			Uses "xap" prefix instead of the more common "xmp" for the XMP Basic Schema	1a 1b		fail
523	vwdb_95			XMP extension schema description missing for pdfx schema	1a 1b		fail
524	rolfs_diss_A1b			XMP extension schema description missing for cc:license (http://creativecommons.org/ns#)	1a 1b		fail
525	good0000			PDF/A XMP with extension schema and custom type, schema before metadata	1a 1b		pass
526	good0003			XMP sample using custom namespaces	1a 1b 2a 2b 2u 3a 3b 3u		pass
527	good0004			XMP with extension schema, schema before metadata	1a 1b		pass
528	good0005			XMP with extension schema and custom type, schema before metadata	1a 1b		pass
529	good0006			XMP with extension schema, metadata before schema	1a 1b		pass
530	good0007			XMP with extension schema and custom type, metadata before schema	1a 1b		pass
531	good0009			XMP sample using custom namespaces	1a 1b 2a 2b 2u 3a 3b 3u		pass
532	good0010			XMP schema description describing the Lufthansa archive	1a 1b		pass
533	good0011			XMP schema description describing a test schema with many standard XMP types	1a 1b		pass
534	good0012			XMP with extension schema that extends a predefined schema	1a 1b 2a 2b 2u 3a 3b 3u		pass
535	good0013			Profiforms PDF/A XMP with extension schema	1a 1b 2a 2b 2u 3a 3b 3u		pass
536	no			PDF/A extension schema description schema has invalid data in some properties	1a 1b 2a 2b 2u 3a 3b 3u	NOTE: These properties will contain invalid data. pdfaSchema:schema - Text pdfaSchema:namespace - URI pdfaSchema:prefix - Text pdfaSchema:property - seq Property pdfaSchema:valueType - seq ValueType	fail
537	no			PDF/A property type schema has invalid data in some properties	1a 1b 2a 2b 2u 3a 3b 3u	pdfaProperty:name - Text pdfaProperty:valueType - Open Choice of Text pdfaProperty:category - Closed Choice of Text pdfaProperty:description - Text	fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
538	no			PPDF/A value type schema description schema has invalid data in some properties	1a 1b 2a 2b 2u 3a 3b 3u	pdfaType:type - Text pdfaType:namespaceURI - URI pdfaType:prefix - Text pdfaType:description - Text pdfaType:field - seq Field	fail
539	no			PDF/A field schema description schema has invalid data in some properties	1a 1b 2a 2b 2u 3a 3b 3u	pdfaField:name - Text pdfaField:valueType - Open Choice of Text pdfaField:description - Text	fail
540	no			The conforming file contain correct extension shema in XMP	1a 1b 2a 2b 2u 3a 3b 3u		pass
541	no			The conforming file contain schemas, which must not be used in PDF/A-1	1a 1b	List of extension XMP schemas: schema name and description - namespace URI - preferred namespace prefix Camera Raw Schema1 http://ns.adobe.com/camera-rawsettings/1.0/ crs EXIF Schema for Additional EXIF Properties1 http://ns.adobe.com/exif/1.0/aux/ aux IPTC Core2 http://iptc.org/std/Iptc4xmpCore/1.0/xmlns/ Iptc4xmpCore PDF/E Identification extension schema http://www.aiim.org/pdfe/ns/id/ pdfe PDF Extension schema http://ns.adobe.com/pdfx/1.3/ pdfx PDF/X Identification extension schema http://www.npes.org/pdfx/ns/id/ pdfxid XMP Dynamic Media Schema1 http://ns.adobe.com/xmp/1.0/DynamicMedia / xmpDM XMP Support Schema3 http://ns.adobe.com/xap/1.0/s/ xapS	fail
542	isartor-6-7-9-t01-fail-a	6.7.9 Validation 6.6.2.1 General 6.6.2.1 General	All content of all XMP packets shall be well-formed as defined by Extensible Markup Language (XML) 1.0 (Third Edition), 2.1, and RDF/XML Syntax Specification (Revised), 7. If possible, at the time a writer creates or resaves a conforming file all of the content of that file's XMP packets should be validated.	Malformed XMP document metadata	1a 1b 2a 2b 2u 3a 3b 3u		fail
543	no			Wellformed XMP document metadata	1a 1b 2a 2b 2u 3a 3b 3u		pass
544	no			XMP document metadata contain malformed RDF metadate	1a 1b 2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
545	isartor-6-7-11-t01-fail-a	6.7.11 Version and conformance level identification 6.6.4 Version and conformance level identification 6.6.4 Version and conformance level identification	The PDF/A version and conformance level of a file shall be specified using the PDF/A Identification extension schema defined in this subclause. The Identification schema defined in Table 6 uses the namespace URI <http://www.aiim.org/pdfa/ns/id>. The required schema namespace prefix is pdfaid. NOTE: Table 6 'PDF/A identification schema' located in ISO_19005-1 The value of pdfaid:part shall be the part number of ISO 19005 to which the file conforms. If the file conforms to a version of ISO 19005 that is defined by an amendment to a part, then the value of pdfaid:amd shall be the amendment number and year, separated by a colon. A Level A conforming file shall specify the value of pdfaid:conformance as A. A Level B conforming file shall specify the value of pdfaid:conformance as B. The values of the pdfaid:part, pdfaid:amd, and pdfaid:conformance properties do not by themselves determine conformance with a part of ISO 19005. The actual determination of conformance shall be performed as specified in Clause 5. ISO 19005-1:2005/Cor 2:2011 Renumber the existing Table 7, PDF/A identification schema, as Table 8.	Missing PDF/A identifier	1a 1b 2a 2b 2u 3a 3b 3u		fail
546	isartor-6-7-11-t01-fail-b			Invalid PDF/A identifier namespace	1a 1b 2a 2b 2u 3a 3b 3u		fail
547	isartor-6-7-11-t01-fail-c			Invalid PDF/A conformance level	1a 1b 2a 2b 2u 3a 3b 3u		fail
548	isartor-6-7-11-t01-fail-d			Invalid PDF/A part number	1a 1b 2a 2b 2u 3a 3b 3u		fail
549	literat			Uses wrong namespace for PDF/A identification	1a 1b 2a 2b 2u 3a 3b 3u		fail
550	UCC			XMP pdfaid properties as attributes instead of the more common element syntax	1a 1b 2a 2b 2u 3a 3b 3u		pass
551	no			The conforming file has correct PDF/A identifier	1a 1b 2a 2b 2u 3a 3b 3u	<rdf:Description rdf:about="" xmlns:pdfaid="http://www.aiim.org/pdfa/ns/id /" > <pdfaid:part>1</pdfaid:part> <pdfaid:conformance>B</pdfaid:conformanc e> </rdf:Description>	pass
552	no			The conforming file has correct PDF/A identifier	1a 1b 2a 2b 2u 3a 3b 3u	<rdf:Description rdf:about="" xmlns:pdfaid="http://www.aiim.org/pdfa/ns/id /" pdfaid:part="1" pdfaid:conformance="B" />	pass
553	no			The namespace prefix is incorrect	1a 1b 2a 2b 2u 3a 3b 3u	List of the property, which indicate that the file is a PDF/A - 1 document: pdfaid:amd pdfaid:conformance pdfaid:part	fail
554	no	6.8.2.2 Mark information dictionary 6.7.2.2 Mark information	The document catalog dictionary shall include a MarkInfo dictionary whose sole entry, Marked, shall have a value of true.	The conforming file include a MarkInfo dictionary whose sole entry Marked have a value if true.	1a 2a 3a		pass

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
555	no			The conforming file include a MarkInfo dictionary whose sole entry Marked have a value if false.	1a 2a 3a		fail
556	no			The conforming file include a MarkInfo dictionary with the following keys: - Marked (have a value of true) - UserProperties - Suspects	1a 2a 3a		fail
557	no			The conforming file include a MarkInfo dictionary with the following keys: - Marked (have a value of false) - UserProperties	1a 2a 3a		fail
558	no			The conforming file include a MarkInfo dictionary with the following keys: - Suspects - UserProperties	1a 2a 3a		fail
559	no	6.8.3.2 Word breaks 6.7.3.2 Word boundaries 6.7.3.2 Word boundaries	For languages and script systems that normally use space characters to indicate word breaks, the following additional restriction shall apply: Within show strings, word breaks shall be explicitly indicated by the presence of one or more space characters between all of the individual words in the show string. If a word ends at a show string boundary, one or more space characters shall be inserted at the end of the show string. Note that a single word may span two or more show strings; word breaks are indicated only by the explicit presence of one or more space characters, not by the boundaries of a show string. For the purposes of indicating word breaks, a sequence of two or more consecutive space characters is semantically equivalent to a single spacing character.	Space character is mising	1a 2a 3a	(Hello) TJ ... (World!) TJ	fail
560	no			Space character indicates word breaks	1a 2a 3a	... (Hello World!) TJ	pass
561	no			Space character is mising	1a 2a 3a	(Good Morning) TJ ... (World!) TJ	fail
562	no	6.8.3.3 Structure hierarchy 6.7.3.3 Structure hierarchy 6.7.3.3 Structure hierarchy	The logical structure of the conforming file shall be described by a structure hierarchy rooted in the StructTreeRoot entry of the document catalog dictionary, as described in PDF Reference 9.6. Each structure element dictionary in the structure hierarchy shall have a Type entry with the name value of StructElem. Writers of conforming files should attempt to capture a document's logical structure hierarchy to the finest granularity possible, making use of the standard structure types for grouping elements, block-level structure elements, paragraph-like elements, list elements, table elements, inline-level structure elements, link elements and illustration elements, as defined in PDF Reference 9.7.4, to the fullest extent possible. NOTE The explicit description of a document's logical structure will prove valuable to future efforts to recover the document's full semantic value for the purposes of rendering or migration to other data formats. ISO 19005-1:2005/Cor 2:2011 Each structure element dictionary in the structure hierarchy should have a Type entry with the name value of StructElem.	StructTreeRoot entry not included in the conforming file	1a 2a 3a		fail
563	no			StructTreeRoot entry included in the conforming file, but not all objects have a appropriate key	1a 2a 3a		fail
564	no			The conforming file has invalid logical structure	1a 2a 3a		fail
565	no			The conforming file has correct logical structure, which described by a structure hierarchy rooted in the StructTreeRoot entry	1a 2a 3a		pass
566	no			Some structure element dictionary in the structure hierarchy dont have a Type entry with name value of StructElem	1a 2a 3a		fail
567	no	6.8.3.4 Structure types 6.7.3.4 Structure types 6.7.3.4 Structure types	The definition of block-level structuring elements should follow the strongly structured paradigm as described in PDF Reference 9.7.4. (14.7.3 PDF specification 2008) All non-standard structure types shall be mapped to the nearest functionally equivalent standard type, as defined in PDF Reference 9.7.4, in the role map dictionary of the structure tree root. This mapping may be indirect; within the role map a non-standard type can map directly to another non-standard type, but eventually the mapping must terminate at a standard type.	The conforming file has paragraph, which defined as BLSE	1a 2a 3a		pass
568	no			The conforming file has list item, which defined as BLSE	1a 2a 3a		pass
569	no			The conforming file has heading, which defined as BLSE	1a 2a 3a		pass
570	no			The conforming file has footnote, which defined as BLSE	1a 2a 3a		pass
571	no			The conforming file has list item, which not defined as BLSE	1a 2a 3a		fail
572	no			The conforming file has heading, which not defined as BLSE	1a 2a 3a		fail
573	no			The conforming file has footnote, which not defined as BLSE	1a 2a 3a		fail
574	no			The conforming file has table, which not defined as BLSE	1a 2a 3a		fail
575	no			The conforming file has table, which defined as BLSE	1a 2a 3a		pass

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
576	no			The conforming file has table and paragraph, that are defined as BLSE	1a 2a 3a		pass
577	no			The conforming file has heading and paragraph, that are defined as BLSE	1a 2a 3a		pass
578	no			The conforming file contains non-standart structure types, that are mapped to the nearest functionaly equvivalent standart type	1a 2a 3a		pass
579	no			The conforming file contains non-standart structure types, that are not mapped to the nearest functionaly equvivalent standart type	1a 2a 3a		fail
580	no	6.8.4 Natural language specification 6.7.4 Natural language specification 6.7.4 Natural language specification	The default natural language for all text in a file should be specified by the Lang entry in the document catalog dictionary. All textual content within a file which differs from the default language should be indicated by use of a Lang property attached to a marked-content sequence, or by a Lang entry in a structure element dictionary, as described in PDF Reference 9.8.1. (10.8.1 PDF Reference version 1.7) If the Lang entry is present in the document catalog dictionary or in a structure element dictionary or property list, its value shall be a language identifier as defined by RFC 1766, Tags for the Identification of Languages, as described in PDF Reference 9.8.1. All text strings encoded in Unicode whose language is not the default natural language for the file or not the natural language defined by the innermost enclosing structure element or marked-content sequence should indicate their language using the internal escape sequence described in PDF Reference 3.8.1. NOTE The distinction between words foreign to a language and foreign words incorporated by common usage into a language is problematic. The intent of these requirements is to allow for future unambiguous semantic interpretation of textual content. NOTE (from PDF Reference version 1.7) An escape sequence may appear anywhere in a Unicode text string to indicate the language in which subsequent text is written, which is useful when the language cannot be determined from the character codes used in the text. The escape sequence consists of the following elements, in order: 1.The Unicode value U+001B (that is, the byte sequence 0 followed by 27). 2.A 2-character ISO 639 language code—for example, en for English or ja for Japanese. Character in this context means byte (as in ASCII character), not Unicode character. 3.(Optional) A 2-character ISO 3166 country code—for example, US for the United States or JP for Japan. 4.The Unicode value U+001B. The complete list of codes defined by ISO 639 and ISO 3166 can be obtained from the International Organization for Standardization (see the Bibliography).	The conforming file contains Lang entry with correct value in the document catalog dictionary	1a 2a 3a	1 0 obj << /Type /Catalog ... /Lang (en-US) ... >> endobj	pass
581	no			Textual content within a file which differs from the default language indicated by use of a Lang property in a structure element dictionary	1a 2a 3a		pass
582	no			Lang entry with incorrect value is present in catalog dictionary	1a 2a 3a		fail
583	no			Lang entry with incorrect value is present in structure element dictionary	1a 2a 3a		fail
584	no			Lang entry with incorrect value is present in property list	1a 2a 3a		fail
585		6.8.6 Non-textual annotations 6.7.6 Non-textual annotations 6.7.6 Non-textual annotations	For annotation types that do not display text, the Contents key of an annotation dictionary should be specified with an alternative description of the annotation's contents in human-readable form.		1a 2a 3a		
586		6.8.7 Replacement text 6.7.7 Replacement text 6.7.7 Replacement text	All textual structure elements that are represented in a non-standard manner, e.g., custom characters or inline graphics, should supply replacement text using the ActualText entry in the structure element dictionary, as described in PDF Reference 9.8.3. NOTE Replacement text provides textual equivalents that aid in the proper interpretation of otherwise opaque, unusual representations of textual components.		1a 2a 3a		
587	isartor-6-9-t01-fail-a	6.9 Interactive Forms 6.4.1 General 6.4.1 General	The intent of the requirements of this subclause is to ensure that there is no ambiguity about the rendering of form fields. A conforming reader shall not use form fields to change the rendered representation of the page or the content of the file at any time. A Widget annotation dictionary or Field dictionary shall not contain the A or AA keys. The NeedAppearances flag of the interactive form dictionary shall either not be present or shall be false. Every form field shall have an appearance dictionary associated with the field's data. A conforming reader shall render the field according to the appearance dictionary without regard to the form data. NOTE Requiring an appearance dictionary ensures the reliable rendering of the form.	NeedAppearances entry for form fields must be false	1a 1b 2a 2b 2u 3a 3b 3u		fail
588	isartor-6-9-t02-fail-a			Form field must not contain /A actions	1a 1b 2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
589	isartor-6-9-t02-fail-b			Form field must not contain /AA actions	1a 1b 2a 2b 2u 3a 3b 3u		fail
590	no			NeedAppearances entry for form fields has value false	1a 1b 2a 2b 2u 3a 3b 3u		pass
591	no			Form field not contain /A and /AA actions	1a 1b 2a 2b 2u 3a 3b 3u		pass
592	no			NeedAppearances entry for form fields has value false and form field contain /A entry	1a 1b 2a 2b 2u 3a 3b 3u		fail
593	no			NeedAppearances entry for form fields has value false and form field contain /AA entry	1a 1b 2a 2b 2u 3a 3b 3u		fail
594	no			NeedAppearances entry for form fields has value true and form field contain /AA entry	1a 1b 2a 2b 2u 3a 3b 3u		fail
595	no			NeedAppearances entry for form fields has value true and form field contain /A entry	1a 1b 2a 2b 2u 3a 3b 3u		fail
596	**ISO 19005-2, ISO 19005-3**						
597	no	6.1.8 Name objects 6.1.5 Name objects	Font names, names of colourants in Separation and DeviceN colour spaces, and structure type names, after expansion of character sequences escaped with a NUMBER SIGN (23h), if any, shall be valid UTF-8 character sequences. These requirements make normative the recommendations set out in ISO 32000-1:2008, 7.3.5. All other name objects should adhere to these same restrictions.	The conforming document contains correct name objects.	2a 2b 2u 3a 3b 3u		pass
598	no			Font names contains invalid UTF-8 character sequnces after NUMBER SIGN	2a 2b 2u 3a 3b 3u	/Ar#иал	fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
599	no			Names of colourants contains invalid UTF-8 character sequnces after NUMBER SIGN	2a 2b 2u 3a 3b 3u		fail
600	no			Structure type names contains invalid UTF-8 character sequnces after NUMBER SIGN	2a 2b 2u 3a 3b 3u		fail
601	no	6.1.10 Inline image dictionaries 6.1.10 Inline image dictionaries	The value of the F key in the Inline Image dictionary shall not be LZW, LZWDecode, Crypt, a value not listed in ISO 32000-1:2008, Table 6, or an array containing any such value.	The value of the F key in the Inline Image dictionary is LZW	2a 2b 2u 3a 3b 3u		fail
602	no			The value of the F key in the Inline Image dictionary is LZWDecode	2a 2b 2u 3a 3b 3u		fail
603	no			The value of the F key in the Inline Image dictionary is Crypt	2a 2b 2u 3a 3b 3u		fail
604	no			The value of the F key in the two Inline Image dictionarys is LZW and Crypt	2a 2b 2u 3a 3b 3u		fail
605	no			The value of the F key in the Inline Image dictionary not listed in ISO 32000-1:2008, Table 6	2a 2b 2u 3a 3b 3u		fail
606	no			The value of the F key in the Inline Image dictionary listed in ISO 32000-1:2008, Table 6	2a 2b 2u 3a 3b 3u		pass
607	no			The value of the F key in the Inline Image dictionary is array, which containing forbidden value	2a 2b 2u 3a 3b 3u		fail
608	no			The value of the F key in the Inline Image dictionary is array, which containing allowed value	2a 2b 2u 3a 3b 3u		pass
609	no	6.1.12 Permissions 6.1.12 Permissions	No keys other than UR3 and DocMDP shall be present in a permissions dictionary (ISO 32000-1:2008, 12.8.4,Table 258). If DocMDP is present, then the Signature References dictionary (ISO 32000-1:2008, 12.8.1,Table 253) shall not contain the keys DigestLocation, DigestMethod, and DigestValue. NOTE These restrictions are present to ensure that functionality such as obsolete versions of the “User Rights” dictionary do not appear in a document conforming to this part of ISO 19005.	In a permissions dictionary present the custom keys (other than UR3 and DocMDP)	2a 2b 2u 3a 3b 3u		fail
610	no			In a permissions dictionary present the DocMDP key and the Signature References dictionary not contain the followings keys: -DigestLocation -DigestMethod -DigestValue	2a 2b 2u 3a 3b 3u		pass

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
611	no			In a permissions dictionary present the DocMDP key and the Signature References dictionary contain one of the followings keys: -DigestLocation -DigestMethod -DigestValue	2a 2b 2u 3a 3b 3u		fail
612		6.2.1 General 6.2.1 General	Restrictions that shall be placed on both conforming files and readers with respect to the graphical elements described in ISO 32000-1:2008, 7.8 are described in 6.2.2 to 6.2.11. A conforming reader shall render these graphical elements onto their respective PDF pages according to the rendering requirements of ISO 32000-1 as modified by this part of ISO 19005. A conforming interactive reader may put additional user interface elements around, above or below the graphical elements of the page. These user interface elements may be a presentation of other PDF objects (such as bookmarks or page thumbnails) or they may represent non-PDF objects. In all cases, the user interface elements and their contents shall not be required to conform to the requirements of 6.2.2 to 6.2.11.		2a 2b 2u 3a 3b 3u		
613		6.2.4.1 General 6.2.4.1 General	All colours shall be specified in a device-independent manner, either directly by the use of device-independent colour spaces, or indirectly by the means of the DestOutputProfile in the PDF/A OutputIntent. A conforming file may use any colour space specified in ISO 32000-1, except as restricted in 6.2.4.2 to 6.2.4.5. NOTE Specifying colour in a device independent manner as described within 6.2.4 enables predictable colour rendering based on a colorimetric definition and without reliance on heuristic assumptions or on information external to the conforming file. It also provides a mechanism whereby a colorimetric definition can be associated with device-dependent colour data.		2a 2b 2u 3a 3b 3u		
614	no	6.2.8.3 JPEG2000 6.2.8.3 JPEG2000	JPEG2000 compression shall be used as specified in ISO 32000-1:2008. Only the JPX baseline set of features, as restricted or extended by ISO 32000-1:2008 and this subclause, shall be used. NOTE 1 The JPX baseline set of features is defined in ISO/IEC 15444-2:2004, M.9.2. The number of colour channels in the JPEG2000 data shall be 1, 3 or 4. If the number of colour space specifications in the JPEG2000 data is greater than 1, there shall be exactly one colour space specification that has the value 0x01 in the APPROX field. If the specified colour space specification uses an ICC profile, then that profile shall conform to the requirements of ISO 32000-1:2008, 8.6.5.5. NOTE 2 The value 0x01 in the APPROX field identifies the colour space with the best colour fidelity available. The value of the METH entry in its ‘colr’ box shall be 0x01, 0x02 or 0x03. A conforming reader shall use only that colour space and shall ignore all other colour space specifications. JPEG2000 enumerated colour space 19 (CIEJab) shall not be used. JPEG2000 enumerated colour space 12 (CMYK), which is part of JPX but not JPX baseline, may be used. Where the JPEG2000 image effectively uses DeviceGray, DeviceRGB or DeviceCMYK, whether through the ColorSpace entry in the Image XObject or in the absence thereof through the colour space definition in the JPEG2000 data, the provisions of 6.2.4.3 shall apply. NOTE 3 s-YCC and es-YCC — the two YCC flavours allowed in baseline JPX — are just alternative representations of sRGB and esRGB. Details can be found in ISO 15444-2. NOTE 4 ISO 32000-1 states that a ColorSpace entry in an Image XObject containing JPEG2000-compressed data overrides any colour space defined within the JPEG2000 data stream itself. It further requires that the number of colour channels in the JPEG2000 data has to match the number of components in the colour space defined in the ColorSpace entry of the Image XObject; the PDF producer has to ensure that the samples are consistent with the colour space used. The bit-depth of the JPEG2000 data shall have a value in the range 1 to 38. All colour channels in the JPEG2000 data shall have the same bit-depth. Images compressed using the JPEG2000 compression method shall be created and read as described in ISO/IEC 15444-2:2004. NOTE 5 This section is based on ISO 15930-7:2010, 6.27 (PDF/X-4). Having it included in this part of ISO 19005 ensures the use of a well-defined subset of the complete ISO 15444-2 specification that is consistent with other International Standards. In addition, this section provides for a subset of JPEG2000 that is also aligned with ISO 24517-1 (PDF/E-1).	JPXDecode used for image XObject.	2a 2b 2u 3a 3b 3u		pass
615	no			JPXDecode used for inline image.	2a 2b 2u 3a 3b 3u		fail
616	no			The number of colour channels in the JPEG2000 data is 1, 3 or 4	2a 2b 2u 3a 3b 3u		pass
617	no			The number of colour channels in the JPEG2000 data is other than 1, 3 or 4	2a 2b 2u 3a 3b 3u		fail
618	no			Specified colour space specification uses an ICC profile and N key in ICC profile stream has value 1,3 or 4.	2a 2b 2u 3a 3b 3u		pass
619	no			Specified colour space specification uses an ICC profile and N key in ICC profile stream has value other than 1,3 or 4.	2a 2b 2u 3a 3b 3u		fail
620	no			The value of the METH entry in its ‘colr’ box is 0x01, 0x02 or 0x03.	2a 2b 2u 3a 3b 3u		pass
621	no			The value of the METH entry in its ‘colr’ box is other rhan 0x01, 0x02 or 0x03.	2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
622	no			JPEG2000 enumerated colour space 19 (CIEJab) used.	2a 2b 2u 3a 3b 3u		fail
623	no			The bit-depth of the JPEG2000 data have a value in the range 1 to 38.	2a 2b 2u 3a 3b 3u		pass
624	no			The bit-depth of the JPEG2000 data have a value out the range 1 to 38.	2a 2b 2u 3a 3b 3u		fail
625	no			The bith-depth of the JPEG2000 data have value 5 and all colour channels in the JPEG2000 data shall have the same bit-depth.	2a 2b 2u 3a 3b 3u		pass
626	no			The bith-depth of the JPEG2000 data have value 5 and all colour channels in the JPEG2000 data shall have the other bit-depth.	2a 2b 2u 3a 3b 3u		fail
627	no			The specified colour space specification uses an ICC profile. The key N in ICC profile is missing.	2a 2b 2u 3a 3b 3u		fail
628	no			The specified colour space specification uses an correct ICC profile.	2a 2b 2u 3a 3b 3u		pass
629	no			The specified colour space specification uses an ICC profile. The key N has value other than 1,3 or 4.	2a 2b 2u 3a 3b 3u		fail
630	no			The JPEG2000 uses DeviceRGB, but not OutputIntent	2a 2b 2u 3a 3b 3u		fail
631	no			The JPEG2000 uses DeviceCMYK, but not OutputIntent	2a 2b 2u 3a 3b 3u		fail
632	no			The JPEG2000 uses DeviceGRAY, but not OutputIntent	2a 2b 2u 3a 3b 3u		fail
633	no			The JPEG2000 contain BitsPerComponent	2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
634	no			The number of colour space specifications in the JPEG2000 data is greater than 1 and appropriate colour space specification has the value 0x01 in the APPROX field.	2a 2b 2u 3a 3b 3u		pass
635	no			The number of colour space specifications in the JPEG2000 data is greater than 1 and appropriate colour space specification has the value other than 0x01 in the APPROX field.	2a 2b 2u 3a 3b 3u		fail
636	no			The number of colour channels in the JPEG2000 data has to match the number of components in the colour space defined in the ColorSpace entry of the Image XObject	2a 2b 2u 3a 3b 3u		pass
637	no			The number of colour channels in the JPEG2000 data has to match the number of components in the colour space defined in the ColorSpace entry of the Image XObject	2a 2b 2u 3a 3b 3u		fail
638		6.2.11.1 General 6.2.11.1 General	The intent of the requirements given in 6.2.11.2 to 6.2.11.8 is to ensure that the future rendering of the textual content of a conforming file matches, on a glyph by glyph basis, the static appearance of the file as originally created and, when possible, to allow the recovery of semantic properties for each character of the textual content. Unless a requirement specifically states that it shall only apply to text that would be rendered by a conforming reader, they shall apply to any font including those used exclusively with text rendering mode 3. NOTE A font referenced solely in text rendering mode 3 (ISO 32000-1:2008, 9.3.6) is not rendered and is thus exempt from the requirements that impact the visual representation of the glyphs of a font.				
639	no	6.2.11.7.2 Level A and Level U conformance 6.2.11.7.2 Level A and Level U conformance	The font dictionary of all fonts, regardless of their rendering mode usage, shall include a ToUnicode entry whose value is a CMap stream object that maps character codes for at least all referenced glyphs to Unicode values, as described in ISO 32000-1:2008, 9.10.3, unless the font falls under at least one of the following four categories: fonts that use the predefined encodings MacRomanEncoding, MacExpertEncoding or WinAnsiEncoding; Type 1 and Type 3 fonts where the glyph names of the glyphs referenced are all contained in the Adobe Glyph List or the set of named characters in the Symbol font, as defined in ISO 32000-1:2008, Annex D; Type 0 fonts whose descendant CIDFont uses the Adobe-GB1, Adobe-CNS1, Adobe-Japan1 or Adobe-Korea1 character collections; non-symbolic TrueType fonts. NOTE 1 Unicode mapping allows the retrieval of semantic properties about every character referenced in the file. The Unicode values specified in the ToUnicode CMap shall all be greater than zero (0), but not equal to either U+FEFF or U+FFFE. NOTE 2 This requirement ensures that the values in the ToUnicode CMap will be useful values and not simply placeholders.	The font dictionary of all fonts include a ToUnicode entry whose value is a CMap stream object that maps character codes for at least all referenced glyphs to Unicode values. Fonts, that used in document, have the predefined encodings (MacRomanEncoding, MacExpertEncoding,WinAnsiEncoding)	2a 2u 3a 3u		fail
640	no			The font dictionary of all fonts include a ToUnicode entry whose value is a CMap stream object that maps character codes for at least all referenced glyphs to Unicode values. In conforming file used Type1 or Type3 where the glyphs name of the referenced are all contained in the Adobe Glyph List.	2a 2u 3a 3u		fail
641	no			The font dictionary of all fonts include a ToUnicode entry whose value is a CMap stream object that maps character codes for at least all referenced glyphs to Unicode values. In conforming file used Type1 or Type3 where the glyphs name of the referenced are the set of named characters in the Symbol font.	2a 2u 3a 3u		fail
642	no			The font dictionary of all fonts include a ToUnicode entry whose value is a CMap stream object that maps character codes for at least all referenced glyphs to Unicode values. In conforming file used Type0 fonts whose descent CIDFont uses the Adobe-Gb1, Adobe-CNS1, Adobe-Japan1 or Adobe-Korea1 character collections.	2a 2u 3a 3u		fail
643	no			The font dictionary of all fonts include a ToUnicode entry whose value is a CMap stream object that maps character codes for at least all referenced glyphs to Unicode values. In conforming file used non-symbolic True-Type fonts.	2a 2u 3a 3u		fail
644	no			The font dictionary of all fonts include a ToUnicode entry whose value is a CMap stream object that maps character codes for at least all referenced glyphs to Unicode values. In conforming file used fonts, that not falls under at least one of the four categories.	2a 2u 3a 3u		pass
645	no			Not all Unicode values specified in the ToUnicode CMap are greater than zero (0).	2a 2u 3a 3u		fail
646	no			The Unicode values specified in the ToUnicode CMap are be greater than zero (0) and some of these values are equal to U+FEFF.	2a 2u 3a 3u		fail
647	no			The Unicode values specified in the ToUnicode CMap are be greater than zero (0) and some of these values are equal to U+FFFE.	2a 2u 3a 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
648	no			The Unicode values specified in the ToUnicode CMap are be greater than zero (0) and these values are not equal to U+FEFF or U+FFFE.	2a 2u 3a 3u		fail
649	no	6.2.11.7.3 Level A conformance 6.2.11.7.3 Level A conformance	For Level A conformance only, for any character, regardless of its rendering mode, that is mapped to a code or codes in the Unicode Private Use Area (PUA), an ActualText entry as described in ISO 32000-1:2008,14.9.4 shall be present for this character or a sequence of characters of which such a character is a part.	ActualText entry is present for character, that is mapped to a code in Unicode Pdrivate Use Area	2a 2u 3a 3u		pass
650	no			ActualText entry is present for character, that is mapped to a codes in Unicode Private Use Area.	2a 2u 3a 3u		pass
651	no			ActualText entry is present not for all characters,which are mapped to a codes in Unicode Private Use Area.	2a 2u 3a 3u		fail
652	no			ActualText entry is present not for all characters, which are mapped to a codes.	2a 2u 3a 3u		fail
653	no	6.2.11.8 Use of .notdef glyph 6.2.11.8 Use of .notdef glyph	A PDF/A-2 compliant document shall not contain a reference to the .notdef glyph from any of the text showing operators, regardless of text rendering mode, in any content stream. NOTE Since the .notdef glyph does not have any semantic value, this requirement is made to avoid any ambiguity which might result from its use.	A PDF/A-2 compliant document contain a reference to the .notdef glyph from " Tj " the text showing operators in content stream.	2a 2b 2u 3a 3b 3u		fail
654	no			A PDF/A-2 compliant document contain a reference to the .notdef glyph from " ' " the text showing operators in content stream.	2a 2b 2u 3a 3b 3u		fail
655	no			A PDF/A-2 compliant document contain a reference to the .notdef glyph from "TJ" the text showing operators in content stream.	2a 2b 2u 3a 3b 3u		fail
656	no			A PDF/A-2 compliant document contain a reference to the .notdef glyph from " " " the text showing operators in content stream.	2a 2b 2u 3a 3b 3u		fail
657	no			A PDF/A-2 compliant document not contain a reference to the .notdef glyph from any of the text showing operators in content stream.	2a 2b 2u 3a 3b 3u		pass
658	pdfa2-6-3-3-bfo-t01-fail.pdf	6.3.3 Annotation appearances 6.3.3 Annotation appearances	Every annotation (including those whose Subtype value is Widget, as used for form fields), except for the two cases listed below, shall have at least one appearance dictionary: annotations where the value of the Rect key consists of an array where value 1 is equal to value 3 and value 2 is equal to value 4; annotations whose Subtype value is Popup or Link. A conforming reader shall render the appearance dictionary without regard to any other keys and values in the annotation dictionary and shall ignore the values of the C, IC, Border, BS, BE, CA, H, DA, Q, DS, LE, LL,LLE, and Sy keys. NOTE 1 Requiring an appearance dictionary for each annotation ensures the reliable rendering of the annotations. For all annotation dictionaries containing an AP key, the appearance dictionary that it defines as its value shall contain only the N key. If an annotation dictionary's Subtype key has a value of Widget and its FT key has a value of Btn, the value of the N key shall be an appearance subdictionary, otherwise the value of the N key shall be an appearance stream. NOTE 2 In accordance with the requirements of ISO 32000-1:2008, 12.7.4.2.3 and 12.7.4.2.4, a	Pushbutton has an AP stream (contentious fail)	2a 2b 2u 3a 3b 3u		fail
659	pdfa2-6-3-3-bfo-t02-pass.pdf			Pushbutton has an AP dictionary (contentious pass)	2a 2b 2u 3a 3b 3u		pass
660	no			Annotation, whose Subtype value is Popup, have one appearance dictionary.	2a 2b 2u 3a 3b 3u		fail

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661	no			Annotation, whose Subtype value is Link, have one appearance dictionary.	2a 2b 2u 3a 3b 3u		fail
662	no			Annotation, where the value of the Rect key consists of an array where value 1 is equal to value 3 and value 2 is equal to value 4, have one appearance dictionary.	2a 2b 2u 3a 3b 3u		fail
663	no			Annotation have appearance dictionary.	2a 2b 2u 3a 3b 3u		pass
664	no			Annotation dictionary's Subtype key has a value of Widget and its FT key has a value of Btn.The value of the N key is appearance subdictionary.	2a 2b 2u 3a 3b 3u		pass
665	no			Annotation dictionary's Subtype key has a value of Widget and its FT key has a value other than Btn. The value of the N key is appearance stream.	2a 2b 2u 3a 3b 3u		pass
666	no			Annotation dictionary's Subtype key has a value of Widget and its FT key has a value of Btn.The value of the N key is appearance stream.	2a 2b 2u 3a 3b 3u		fail
667	no			Annotation dictionary's Subtype key has a value of Widget and its FT key has a value other than Btn. The value of the N key is appearance dictionary.	2a 2b 2u 3a 3b 3u		fail
668	pdfa2-6-4-2-bfo-t01-fail.pdf	6.4.2 XFA forms 6.4.2 XFA forms	The document's interactive form dictionary that forms the value of the AcroForm key in the document's Catalog of a PDF/A-2 file, if present, shall not contain the XFA key. In addition, a document's Catalog shall not contain the NeedsRendering key. NOTE 1 This prohibits the use of XML-based XFA forms. NOTE 2 In order to enable the preservation of the data from an XFA form in a PDF/A compliant document, provisions for moving that data from the XFA key to another part of the PDF format are described in Annex D.	Document Catalog has "NeedsRendering" key	2a 2b 2u 3a 3b 3u		fail
669	no			Interactive form dictionary present in document Catalog and not contain XFA and NeedsRendering keys	2a 2b 2u 3a 3b 3u		pass
670	no			Document Catalog contain XFA key	2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
671	no	6.4.3 Digital signatures 6.4.3 Digital signatures	As permitted by ISO 32000-1:2008, 12.8.1, a PDF/A-2 conforming file may contain document, certifying or user rights signatures. Such signatures shall be specified in the PDF through the use of signature fields in accordance with ISO 32000-1:2008, 12.7.4.5. All annotations associated with signature fields shall meet the requirements of 6.3.2 and 6.3.3 of this part of ISO 19005. When generating signature appearances and any other PDF objects as part of the signing process, a conforming reader shall ensure that it does not invalidate compliance with this part of ISO 19005, specifically concerning any content added to the widget's appearance. Additional requirements for the use of digital signatures in a PDF/A conforming file can be found in Annex B.	In the document present Field dictionaries with FT key, that have Sig as value, and with V key, that is a signature dictionary containing the signature and specifying various attributes of the signature field	2a 2b 2u 3a 3b 3u		pass
672	no			In the document present Field dictionaries with FT key, that have Sig as value, and with V key, that is a signature dictionary not containing the signature and not specifying various attributes of the signature field	2a 2b 2u 3a 3b 3u		fail
673	no			Rect annotation, that is associated with signature fields, give the position of the field on page	2a 2b 2u 3a 3b 3u		pass
674	no			Rect annotation, that is associated with signature fields, don't give the position of the field on page	2a 2b 2u 3a 3b 3u		fail
675	no			Signature fields that are not intended to be visible have an annotation rectangle that has zero height and width	2a 2b 2u 3a 3b 3u		pass
676	no			Signature fields that are not intended to be visible have an annotation rectangle that has height and width other than zero	2a 2b 2u 3a 3b 3u		fail
677	no			Annotations dictionary represent the annotation, that is associated with signature fields, and CA entry in this dictionary has value other than 1.0	2a 2b 2u 3a 3b 3u		fail
678	no			Annotations dictionary represent the annotation that is associated with signature fields, and F key missing in this dictionary	2a 2b 2u 3a 3b 3u		fail
679	no			Annotations dictionary represent the annotation, that is associated with signature fields, and F entry has Print flag not set	2a 2b 2u 3a 3b 3u		fail
680	no			Annotations dictionary represent the annotation, that is associated with signature fields, and F entry has Hidden flag set	2a 2b 2u 3a 3b 3u		fail
681	no			Annotations dictionary represent the annotation, that is associated with signature fields, and F key has Invisible flag set	2a 2b 2u 3a 3b 3u		fail
682	no			Annotations dictionary represent the annotation, that is associated with signature fields, and F key has NoView flag set	2a 2b 2u 3a 3b 3u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
683	no			Annotations dictionary represent the annotation, that is associated with signature fields, and F key has ToogleNoView flag set	2a 2b 2u 3a 3b 3u		fail
684	no			Annotations dictionary represent the annotation, that is associated with signature fields, and Subtype key has a value of Widget and its FT key has a value of Btn.The value of the N key is appearance subdictionary	2a 2b 2u 3a 3b 3u		pass
685	no			Annotations dictionary represent the annotation, that is associated with signature fields, and Subtype key has a value of Widget and its FT key has a value other than Btn. The value of the N key is appearance stream	2a 2b 2u 3a 3b 3u		pass
686	no			Annotations dictionary represent the annotation, that is associated with signature fields, and Subtype key has a value of Widget and its FT key has a value of Btn.The value of the N key is appearance stream	2a 2b 2u 3a 3b 3u		fail
687	no			Annotations dictionary represent the annotation, that is associated with signature fields, and Subtype key has a value of Widget and its FT key has a value other than Btn. The value of the N key is appearance dictionary	2a 2b 2u 3a 3b 3u		fail
688	no			The PDF Signature (a DER-encoded PKCS#7 binary data object) shall be placed into the Contents entry of the signature dictionary	2a 2b 2u 3a 3b 3u		pass
689	no			The PKCS#7 object is not conform to the PKCS#7 specification in RFC 2315. (not include the signer's X.509 signing certificate)	2a 2b 2u 3a 3b 3u		fail
690		6.6.2.2 Namespaces and prefixes 6.6.2.2 Namespaces and prefixes	According to the W3C XML Namespace recommendation[16], namespace prefixes are shortcuts to namespace URIs. No significance is given to the prefix itself, except where a specific prefix is identified as required, any prefix can be used. The prefixes in Table 1 should be used for all properties using the namespaces identified by the URIs listed in that table. In addition, namespace URIs are for identification purposes only and are not required to be actionable links. None of the namespace URIs defined in this part of ISO 19005 is guaranteed to be an actionable link. Attempting to de-reference or follow any of these links might not result in a valid web page. Table 1 — Suggested mappings between namespace URIs and their prefixes is located in ISO_19005-2		2a 2b 2u 3a 3b 3u		
691		6.7.2.1 General 6.7.2.1 General	A Level A conforming file shall meet all of the requirements set forth for Tagged PDF in ISO 32000-1:2008, 14.8. NOTE Tagged PDF defines conventions for explicitly declaring and describing the logical structural aspects of document content.		2a 2b 2u 3a 3b 3u		
692	pdfa2-6-8-bfo-t01-pass.pdf	6.8 Embedded files 6.8 Embedded files	A file specification dictionary, as defined in ISO 32000-1:2008, 7.11.3, may contain the EF key, provided that the embedded file is compliant with either ISO 19005-1 or this part of ISO 19005. The file specification dictionary for an embedded file shall contain the F and UF keys and should contain the Desc key.	Valid embedded file (in EmbeddedFiles Name Tree)	2a 2b 2u		pass
693	pdfa2-6-8-bfo-t02-pass.pdf		A file's name dictionary, as defined in ISO 32000-1:2008, 7.7.4, may contain the EmbeddedFiles key,provided that all of the embedded files are compliant with either ISO 19005-1 or this part of ISO 19005.	Valid embedded file (as FileAttachment annotation)	2a 2b 2u		pass
694	pdfa2-6-8-bfo-t03-fail.pdf		NOTE The prohibition of non-PDF/A compliant documents has the implicit effect of disallowing embedded files that can create external dependencies and complicate preservation efforts.	Embedded file is not PDF/A	2a 2b 2u		fail

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№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
695	pdfa2-6-8-bfo-t04-fail.pdf			Embedded File has no "F" key	2a 2b 2u		fail
696	pdfa2-6-8-bfo-t05-fail.pdf			Embedded File has no "UF" key	2a 2b 2u		fail
697	no			Document has embedded file and file specification dictionary not used	3a 3b 3u		fail
698	no			The MIME type of an embedded file is specified using the Subtype key of the file specification dictionary	3a 3b 3u		pass
699	no			The MIME type of an embedded file is specified without the Subtype key of the file specification dictionary	3a 3b 3u		fail
700	no			“application/octet-stream” is used for the unknown MIME type	3a 3b 3u		pass
701	no			“application/octet-stream” is not used for the unknown MIME type	3a 3b 3u		fail
702	no			Embedded file’s stream dictionary contain a Params key whose value is a dictionary containing a ModDate key with correct value	3a 3b 3u		pass
703	no			Embedded file’s stream dictionary contain a Params key whose value is a dictionary containing a ModDate key with incorrect value	3a 3b 3u		fail
704	no			Embedded file’s stream dictionary contain a Params key whose value is a empty dictionary	3a 3b 3u		fail
705	no			File specification is the original source material for the associated content and AFRelationship has Source as value	3a 3b 3u		pass
706	no			File specification represents information used to derive a visual presentation and AFRelationship has Data as value	3a 3b 3u		pass
707	no			File specification is an alternative representation of content and AFRelationship has Alternative as value	3a 3b 3u		pass
708	no			File specification represents a supplemental representation of the original source and AFRelationship has Supplement as value	3a 3b 3u		pass
709	no			The relationship is not known and AFRelationship has Unspecified as value	3a 3b 3u		pass
710	no			AF tag is used to refer to a file specification dictionary and DP operator is used with this tag	3a 3b 3u		fail
711	no			AF tag is used to refer to a file specification dictionary and MP operator is used with this tag	3a 3b 3u		fail
712	no			The property list associated with the marked content specify an array of file specification dictionaries to which the content is associated.	3a 3b 3u		pass
713	no			The property list associated with the marked content don’t specify an array of file specification dictionaries to which the content is associated.	3a 3b 3u		fail
714	no			The property list is a named resource listed in the Properties sub-dictionary of the current resource dictionary	3a 3b 3u		pass
715	no			The property list is a named resource not listed in the Properties sub-dictionary of the current resource dictionary	3a 3b 3u		fail
716	pdfa2-6-10-bfo-t01-fail.pdf	6.10 Use of alternate presentations and transitions 6.10 Use of alternate presentations and transitions	There shall be no AlternatePresentations entry in the document’s name dictionary. There shall be no PresSteps entry in any Page dictionary. NOTE These restrictions prohibit the use of the slide show alternate presentation, which can cause the on-screen presentation to differ from what is seen when printing the same file. A PDF/A-2 conforming interactive reader shall ignore the Trans and Dur keys present in a Page	Document Name Tree has AlternatePresentations key	2a 2b 2u 3a 3b 3u		fail

C.1 PDF/A Test Suite

№	Isartor / Bavaria / BFO	PDF/A specification	Description	Test Case	Version Level	Example	Status of Test Case
717	pdfa2-6-10-bfo-t02-fail.pdf			Page has PresSteps key	2a 2b 2u 3a 3b 3u		fail
718	no			Document Name Tree not has AlternatePresentations key and Page not has PresSteps key	2a 2b 2u 3a 3b 3u		pass
719	pdfa2-6-11-bfo-t01-fail.pdf	6.11 Document requirements 6.11 Document requirements	The document catalog shall not contain the Requirements key. NOTE All PDF/A-2 conforming readers meet the requirements of this part of ISO 19005 and therefore conforming documents do not have specific requirements.	Document Catalog has Requirements key	2a 2b 2u 3a 3b 3u		fail

C.2 Tagged PDF Test Suite

№	ISO 32000-1	Description	Policy	Test Case	Status of Test Case	Note
1	14.8.1 General	All text shall be represented in a form that can be converted to Unicode.	Ignore			
2	14.8.1 General	Word breaks shall be represented explicitly.	Ignore			
3	14.8.1 General	Actual content shall be distinguished from artifacts of layout and pagination	Ignore			
4	14.8.1 General	Content shall begiven in an order related to its appearance on the page, as determined by the conforming writer	Ignore			
5	14.8.1 General	A Tagged PDF document shall also contain a mark information dictionary (see Table 321) with a value of true for the Marked entry.	Machine	A tagged PDF document contain a mark information dictionary with a value of false for the Marked entry	fail	
6			Machine	Marked entry is missing in tagged PDF	fail	
7	14.8.2.2.2 Specification of Artifacts	An artifact shall be explicitly distinguished from real content by enclosing it in a marked-content sequence with the tag Artifact: first form) /Artifact BMC …or… EMC or second form) /Artifact propertyList BDC ... EMC	Human	PDF document contains artifacts, which are defined without the tag Artifact.	fail	
8	14.8.2.2.2 Specification of Artifacts	The first form shall be used to identify a generic artifact; the second shall be used for those that have an associated property list	Human	First form used to identify associated property list (Tagged Pdf contains background artifact without properties list)	fail	
9	14.8.2.2.2 Specification of Artifacts	Table 330 Property list entries Key : Type Value : The type of artifact that this property list describes; if present, shall be one of the names Pagination, Layout, Page, or (PDF 1.7)Background.	Machine	Key Type is present in tagged PDF document and have value other than Pagination \/ Layout \/ Page \/ Background	fail	
10		--- Key : BBox Value : (Optional; required for background artifacts) An array of four numbers in default user space units giving the coordinates of the left, bottom, right, and top edges, respectively, of the artifact's bounding box (the rectangle that completely encloses its visible extent).	Machine	Version of PDF document is less than 1.7 and key Type with value Background is present in this document	fail	
11			Machine	Background artifacts are presented in document without BBox key	fail	
12			Machine	The value of the attached key contains a name other than Top, Bottom, Left, Right	fail	
13		--- Key : Attached Value : (Optional; pagination and full-page background artifacts only) An array of name objects containing one to four of the names Top, Bottom, Left, and Right, specifying the edges of the page, if any, to which the artifact is logically attached. Page edges shall be defined by the page's crop box (see 14.11.2, "Page Boundaries"). The ordering of names within the array is immaterial. Including both Left and Right or both Top and Bottom indicates a full-width or full-height artifact, respectively. Use of this entry for background artifacts shall be limited to full-page artifacts. Background artifacts that are not full-page take their dimensions from their parent structural element. --- Key : Subtype Value : (Optional; PDF 1.7) The subtype of the artifact. This entry should appear only when the Type entry has a value of Pagination. Standard values are Header, Footer, and Watermark. Additional values may be specified for this entry, provided they comply with the naming conventions described in Annex E.	Machine	The value of Attached key of the Background artifact contains not all four names Top, Bottom, Left, Right	fail	
14	14.8.2.2.3 Incidental Artifacts	In Tagged PDF, such an incidental word division shall be represented by a soft hyphen character, which the Unicode mapping algorithm (see "Unicode Mapping in Tagged PDF" in 14.8.2.4, "Extraction of Character Properties") translates to the Unicode value U+00AD.	Human	Word division is not represented by a soft hyphen character	fail	
15	14.8.2.2.3 Incidental Artifacts	For the purposes of Tagged PDF, page content shall be considered to include all text and illustrations in their entirety, regardless of whether they are visible when the document is displayed or printed.	Ignore			
16	14.8.2.3.1 General	In particular, any artifacts the page may contain shall be included in the page content order but not in the logical structure order, since they are not considered part of the document's logical structure	Machine	Page contain artifacts, which are included in the page content order and in the logical structure order.	fail	
17	14.8.2.3.1 General	The marked content shall have a properties dictionary with an entry whose name is TagSuspect and whose value is Ordering, which indicates that the ordering of the enclosed marked content does not meet Tagged PDF specifications.	Ignore			
18	14.8.2.3.1 General	Documents containing tag suspects shall contain a Suspects entry with a value of true in the mark information dictionary (see Table 321).	Machine	Documents containing tag suspects contain a Suspects entry with value false	fail	
19	14.8.2.3.2 Sequencing of Annotations	Annotations associated with a page are not interleaved within the page's content stream but shall be placed in the Annots array in its page object (see 7.7.3.3, "Page Objects").	Human	Annotations associated with a page are not placed in the Annots array in its page object	fail	
20	14.8.2.3.2 Sequencing of Annotations	Consequently, the correct position of an annotation in the page content order is not readily apparent but shall be determined from the document's logical structure.	Machine	Not all annotations are included in the logical structure	fail	
21	14.8.2.3.3 Reverse-Order Show Strings	If the sequence encompasses multiple show strings, only the individual characters within each string shall be reversed; the strings themselves shall be in natural reading order.	Human			

C.2 Tagged PDF Test Suite

№	ISO 32000-1	Description	Policy	Test Case	Status of Test Case	Note
22	14.8.2.3.3 Reverse-Order Show Strings	The show strings may have a SPACE (U+0020) character at the beginning or end to indicate a word break (see 14.8.2.5, “Identifying Word Breaks”) but shall not contain interior SPACEs.	Machine	The show strings contain interior SPACEs	fail	
23	14.8.2.4.1 General	a Tagged PDF document shall conform to at least one of them (see “Unicode Mapping in Tagged PDF” in 14.8.2.4, “Extraction of Character Properties”).	Machine	Tagged PDF include font dictionary, that contains a ToUnicode CMap	pass	
24			Machine	Tagged PDF include font dictionary without a ToUnicode CMap	fail	
25			Machine	Tagged PDF include simple font that uses one of the predefined encodings (MacRomanEncoding \/ MacExpertEncoding \/ WinAnsiEncoding)	pass	
26			Machine	Tagged PDF included simple font that has an encoding whose Differences array includes only character names taken from Adobe Standart Latin character set and the set of named characters in the Symbol font	pass	
27			Machine	Tagged PDF contain a composite font that uses one of the predefined CMaps	pass	
28			Machine	Tagged PDF contain a composite font that dont use one of the predefined CMaps	fail	
29			Machine	Tagged PDF contain a composite font whose descendant CIDFont uses the Adobe-GB1 \/ Adobe-CNS1 \/ Adobe-Japan1 \/ Adobe-Korea1 character collection	pass	
30			Machine	Tagged PDF contain a composite font whose descendant CIDFont dont use the Adobe-GB1 \/ Adobe-CNS1 \/ Adobe-Japan1 \/ Adobe-Korea1 character collection	fail	
31	14.8.2.4.3 Font Characteristics	Each of the characteristics shall be derived from information available in the font descriptor’s Flags entry (see 9.8.2, “Font Descriptor Flags”).	Ignore			
32	14.8.2.4.3 Font Characteristics	For the standard 14 Type 1 fonts, the font descriptor may be missing; the well-known values for those fonts shall be used.	Ignore			
33	14.8.2.4.3 Font Characteristics	Tagged PDF in PDF 1.5 defines a wider set of font characteristics, which provide information needed when converting PDF to other files formats such as RTF, HTML, XML, and OEB, and also improve accessibility and reflow of tables. Table 332 lists these font selector attributes and shows how their values shall be derived.	Ignore			
34	14.8.2.4.3 Font Characteristics	Table 332 – Font selector attributes Attribute : FontFamily Description : A string specifying the preferred font family name. Derived from the FontFamilyentry in the font descriptor (see Table 122). --- Attribute : GenericFontFamily Description : A general font classification, used if FontFamily is not found. Derived from the font descriptor’s Flags entry as follows: SerifChosen if the Serif flag is set and the FixedPitch and Script flags are not set SansSerifChosen if the FixedPitch, Script and Serif flags are all not set CursiveChosen if the Script flag is set and the FixedPitch flag is not set MonospaceChosen if the FixedPitch flag is set NOTEThe values Decorative and Symbol cannot be derived --- Attribute : FontSize Description : The size of the font: a positive number specifying the height of the typeface in points. Derived from the a, b, c, and d fields of the current text matrix. --- Attribute : FontStretch Description : The stretch value of the font. Derived from FontStretch in the font descriptor (see Table 122). --- Attribute : FontStyle Description : The italicization value of the font. It shall be Italic if the Italic flag is set in the Flags field of the font descriptor; otherwise, it shall be Normal. --- Attribute : FontVariant Description : The small-caps value of the font. It shall be SmallCaps if the SmallCap flag is set in the Flags field of the font descriptor; otherwise, it shall be Normal. --- Attribute : FontWeight Description : The weight (thickness) value of the font. Derived from FontWeight in the font descriptor (see Table 122). The ForceBold flag and the StemV field should not be used to set this attribute.	Machine	Italic flag is set in Flags field, but FontStyle isn't Italic	fail	
35			Machine	Italic flag isn't set in Flags field and FontStyle has Normal as value	pass	
36			Machine	SmallCaps flag is set in Flags field, but FontVariant isn't SmallCaps	fail	
37			Machine	SmallCaps flag isn't set in Flags field and FontVariant has Normal as value	pass	
38			Machine	FontStretch key has value other than UltraCondensed \/ ExtraCondensed \/ Condensed \/ SemiCondensed \/ Normal \/ SemiExpanded \/ Expanded \/ ExtraExpanded \/ UltraExpanded (in the font descriptor)	fail	
39	14.8.2.4.3 Font Characteristics	If the FontFamily, FontWeight and FontStretch fields are not present in the font descriptor, these values shall be derived from the font name in a manner of the conforming reader’s choosing.	Ignore			

C.2 Tagged PDF Test Suite

№	ISO 32000-1	Description	Policy	Test Case	Status of Test Case	Note
40	14.8.2.5 Identifying Word Breaks	A conforming reader of a Tagged PDF document may find words by sequentially examining the Unicode character stream, perhaps augmented by replacement text specified with ActualText (see 14.9.4, “Replacement Text”). For this purpose the spacing characters that would be present to separate words in a pure text representation shall be present in the Tagged PDF representation of the text.	Human	Word breaks is missing between two words	fail	
41	14.8.3 Basic Layout Model	The basic layout model begins with the notion of a reference area. This is a rectangular region used as a frame or guide in which to place the document’s content. Some of the standard structure attributes, such as StartIndent and EndIndent (see 14.8.5.4.3, “Layout Attributes for BLSEs”), shall be measured from the boundaries of the reference area.	Ignore			
42	14.8.3 Basic Layout Model	BLSEs shall be stacked within a reference area in block-progression order	Ignore			
43	14.8.3 Basic Layout Model	In general, the first BLSE shall be placed against the before edge of the reference area	Ignore			
44	14.8.3 Basic Layout Model	Subsequent BLSEs shall be stacked against preceding ones, progressing toward the after edge, until no more BLSEs fit in the reference area	Ignore			
45	14.8.3 Basic Layout Model	Within a BLSE, child ILSEs shall be packed into lines.	Ignore			
46	14.8.3 Basic Layout Model	Direct content items—those that are immediate children of a BLSE rather than contained within a child ILSE—shall be implicitly treated as ILSEs for packing purposes.	Ignore			
47	14.8.3 Basic Layout Model	Each line shall be treated as a synthesized BLSE and shall be stacked within the parent BLSE.	Ignore			
48	14.8.3 Basic Layout Model	a line shall be packed with ILSEs beginning at the start edge of the containing BLSE and continuing until the end edge shall be reached and the line is full.	Ignore			
49	14.8.3 Basic Layout Model	Two enclosing rectangles shall be associated with each BLSE and ILSE (including direct content items that aret reated implicitly as ILSEs): •The content rectangle shall be derived from the shape of the enclosed content and defines the bounds used for the layout of any included child elements. •The allocation rectangle includes any additional borders or spacing surrounding the element, affecting how it shall be positioned with respect to adjacent elements and the enclosing content rectangle or reference area.	Ignore			
50	14.8.3 Basic Layout Model	The definitions of these rectangles shall be determined by layout attributes associated with the structure element; see 14.8.5.4.5, “Content and Allocation Rectangles” for further discussion	Ignore			
51	14.8.4.1 General	As discussed in 14.7.3, “Structure Types,” the structure type of a logical structure element shall be specified by the S entry in its structure element dictionary.	Machine	The structure type of a logical structure dont specified by the S entry in its structure element dictionary	fail	
52	14.8.4.1 General	To be considered a standard structure type, this value shall be either: •One of the standard structure type names described in 14.8.4.2, “Grouping Elements.” •An arbitrary name that shall be mapped to one of the standard names by the document’s role map (see 14.7.3, “Structure Types”), possibly through multiple levels of mapping.	Machine	The value of structure type isn't standart and this value not mapped to one of the standart names by the documents role map	fail	
53	14.8.4.1 General	Ordinarily, structure elements having standard structure types shall be processed the same way whether the type is expressed directly or is determined indirectly from the role map	Ignore			
54	14.8.4.1 General	The content items associated with a structure element shall be laid out on the page as if they were blocks of text (for a BLSE) or characters within a line of text (for an ILSE).	Machine	The content items associated with a structure element is located outside the page, that contains this structure element	fail	
55	14.8.4.2 Grouping Elements	Grouping elements shall be used solely to group other structure elements; they are not directly associated with content items.	Machine	Grouping element has no child elements	fail	
56	14.8.4.2 Grouping Elements	In a tagged PDF document, the structure tree shall contain a single top-level element; that is, the structure tree root (identified by the StructTreeRoot entry in the document catalogue) shall have only one child in its K (kids) array	the type is different from StructTreeRoot	Structure tree root have more than one child in its K array	fail	
57	14.8.4.3.1 General	A block-level structure element (BLSE) is any region of text or other content that is laid out in the block-progression direction, such as a paragraph, heading, list item, or footnote. A structure element is a BLSE if its structure type (after role mapping, if any) is one of those: •TR (Table row), TH (Table header), TD (Table data), THead (Table head), TBody (Table body), and TFoot (Table footer), which shall be used to group elements within a table and shall be considered neither BLSEs nor ILSEs •Elements with a Placement attribute (see “General Layout Attributes” in 14.8.5.4, “Layout Attributes”) other than the default value of Inline	Ignore			
58	14.8.4.3.5 Usage Guidelines for Block-Level Structure		Ignore			
59	14.8.4.4.1 General	The resulting content may be broken into multiple lines, which in turn shall be stacked in the block-progression direction.An ILSE may in turn contain a BLSE, which shall be treated as a unitary item of layout in the inline direction. Table 338 lists the standard structure types for ILSEs.	Ignore			
60	14.8.4.4.2 Link Elements	When a Link structure element describes a span of text to be associated with a link annotation and that span wraps from the end of one line to the beginning of another, the Link structure element shall include a single object reference that associates the span with the associated link annotation	Human	Link structure element describes a span of text to be associated with a link annotation and that span wraps from the end of one line to the beginning of another, the Link structure element dont include a single object reference that associates the span with the associated link annotation	fail	
61	14.8.4.4.2 Link Elements	Further, the link annotation shall use the QuadPoint entry to denote the active areas on the page	Machine	The link annotation dont use QuadPoint entry to denote the active area on the page	fail	
62	14.8.4.4.3 Annotation Elements	Annotation elements shall be used for all types of annotations other than links (see “Link Elements” in 14.8.4.3, “Block-Level Structure Elements”) and forms (see Table 340).	Machine	Annotation elements are used for links	fail	
63			Machine	Annotation elements are used for Figure ∨ Formula ∨ Form	fail	
64	14.8.4.4.3 Annotation Elements	If an Annot element has no children other than object references, its rendering shall be defined by the appearance of the referenced annotations, and its text content shall be treated as if it were a Span element	Ignore			

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№	ISO 32000-1	Description	Policy	Test Case	Status of Test Case	Note
65	14.8.4.4.3 Annotation Elements	There may be multiple children that are object references to different annotations, subject to the constraint that the annotations shall be the same except for their Rect entry. This is much the same as is done for the Link element; it allows an annotation to be associated with discontiguous pieces of content, such as line-wrapped text.	Machine	The Annot element has multiple children, and these children differ not only in their Rect entry	fail	
66	14.8.4.4.4 Ruby and Warichu Elements	Table 339 Structure type Ruby	Machine	Structure type Ruby contain one RB element, that not followed by either RT and not followed by a three element group of RP, RT and RP	fail	
67		Description (Ruby) The wrapper around the entire ruby assembly. It shall contain one RB element followed by either an RT element or a three-element group consisting of RP, RT, and RP. Ruby	Human	Ruby elements and their content elements break across multiple lines	fail	
68	14.8.4.4.4 Ruby and Warichu Elements	Table 339 Structure type RT (Ruby annotation text) The smaller-size text that shall be placed adjacent to the ruby base text. It may contain text, other inline elements, or a mixture of both. It may have the RubyAlign and RubyPosition attributes.	Human	RT (Ruby annotation text) not placed adjacent to the ruby base text (RB)	fail	
69	14.8.4.5 Illustration Elements	The illustration’s content shall consist of one or more complete graphics objects.	Machine	The illustration's content is empty	fail	
70	14.8.4.5 Illustration Elements	It shall not appear between the BT and ET operators delimiting a text object (see 9.4, “Text Objects”)	Machine	The illustration's content is located between BT and ET operators deleimiting a text object	fail	
71	14.8.4.5 Illustration Elements	In Tagged PDF, all such marked clipping sequences shall carry the marked-content tag Clip	Machine	Clipping operator does not beloing to any marked sequence	fail	
72				Marked clipping sequnces dont contains the marked-content tag Clip	fail	
73	14.8.4.5 Illustration Elements	Table 340 Structure type Formula (Formula) A mathematical formula. This structure type is useful only for identifying an entire content element as a formula. No standard structure types are defined for identifying individual components within the formula. From a formatting standpoint, the formula shall be treated similarly to a figure (structure type Figure).	Ignore			
74	14.8.4.5 Illustration Elements	Table 340 Structure type Form (Form) A widget annotation representing an interactive form field (see 12.7, “Interactive Forms”). If the element contains a Role attribute, it may contain content items that represent the value of the (non-interactive) form field. If the element omits a Role attribute (see Table 348), it shall have only one child: an object reference (see 14.7.4.3, “PDF Objects as Content Items”) identifying the widget annotation. The annotations’ appearance stream (see 12.5.5, “Appearance Streams”) shall describe the appearance of the form element.	Machine	The Role attribute is omitted, and there is more than one child.	fail	
75			Machine	The Role attribute is omitted, there is only one child, but it does not correspond to the widget annotation	fail	
76	14.8.4.5 Illustration Elements	An illustration may have logical substructure, including other illustrations. For purposes of reflow, however, it shall be moved (and perhaps resized) as a unit, without examining its internal contents. To be useful for reflow, it shall have a BBox attribute.	Ignore			
77	14.8.4.5 Illustration Elements	Any such containment or attachment shall be represented through the use of the Figure structure type.	Ignore			
78	14.8.4.5 Illustration Elements	An illustration element without a Placement attribute shall be treated as an ILSE and laid out inline.	Ignore			
79	14.8.5.1 General	As discussed in 14.7.5, “Structure Attributes,” attributes shall be defined in attribute objects, which are dictionaries or streams attached to a structure element in either of two ways: •The A entry in the structure element dictionary identifies an attribute object or an array of such objects. •The C entry in the structure element dictionary gives the name of an attribute class or an array of such names. The class name is in turn looked up in the class map, a dictionary identified by the ClassMap entry in the structure tree root, yielding an attribute object or array of objects corresponding to the class.	Ignore			
80	14.8.5.2 Standard Attribute Owners	An attribute object owned by a specific export format, such as XML-1.00, shall be applied only when exporting PDF content to that format. Such format-specific attributes shall override any corresponding attributes owned by Layout, List, PrintField, or Table. There may also be additional format-specific attributes; the set of possible attributes is open-ended and is not explicitly specified or limited by Tagged PDF.	Ignore			
81	14.8.5.3 Attribute Values and Inheritance	Some attributes are defined as inheritable. Inheritable attributes propagate down the structure tree; that is, an attribute that is specified for an element shall apply to all the descendants of the element in the structure tree unless a descendent element specifies an explicit value for the attribute.	Ignore			
82	14.8.5.4.1 General	Layout attributes specify parameters of the layout process used to produce the appearance described by a document’s PDF content. Attributes in this category shall be defined in attribute objects whose O (owner) entry has the value Layout (or is one of the format-specific owner names listed in Table 341).	Machine	Layout attributes are defined in attribute objects whose O entry has the value other than Layout or one of the predefined owners from Table 341	fail	
83	14.8.5.4.2 General Layout Attributes	Table 343 – Standard layout attributes common to all standard structure types				Do we need to verify absence of non-inheritable attributes where they don't have sence?
84	14.8.5.4.3 Layout Attributes for BLSEs	Table 344 describes layout attributes that shall apply only to block-level structure elements (BLSEs).	Machine	Layout attributes (from table 344) apply to ILSEs with a Placement attribute, that has default value of Inline	fail	
85	14.8.5.4.3 Layout Attributes for BLSEs	Table 344 – Additional standard layout attributes specific to block-level structure elements	Human	The BBox key is missing for Table, that located at single page in the tagged PDF	fail	

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№	ISO 32000-1	Description	Policy	Test Case	Status of Test Case	Note
86			Human	The BBox key is missing for Figure, that located at single page in the tagged PDF	fail	
87			Machine	TBorderStyle has a value, that is not specified for BorderStyle	fail	
88			Machine	The value of TPading contains two number	fail	
89	14.8.5.4.4 Layout Attributes for ILSEs	Table 345 – Standard layout attributes specific to inline-level structure elements	Machine	The value of TextDecorationColor key is incorrect (the value isn't array of three numbers in the range 0.0 to 1.0)	fail	
90			Machine	The value of TextDecorationThickness is incorrect (the value is negative)	fail	
91	14.8.5.4.5 Content and Allocation Rectangles	As defined in 14.8.3, “Basic Layout Model,” an element’s content rectangle is an enclosing rectangle derived from the shape of the element’s content, which shall define the bounds used for the layout of any included child elements.	Ignore			
92	14.8.5.4.5 Content and Allocation Rectangles	The allocation rectangle includes any additional borders or spacing surrounding the element, affecting how it shall be positioned with respect to adjacent elements and the enclosing content rectangle or reference area.	Ignore			
93	14.8.5.4.5 Content and Allocation Rectangles	The exact definition of the content rectangle shall depend on the element’s structure type: •For a table cell (structure type TH or TD), the content rectangle shall be determined from the bounding box of all graphics objects in the cell’s content, taking into account any explicit bounding boxes (such as the BBox entry in a form XObject). This implied size may be explicitly overridden by the cell’s Width and Height attributes. The cell’s height shall be adjusted to equal the maximum height of any cell in its row; its width shall be adjusted to the maximum width of any cell in its column. •For any other BLSE, the height of the content rectangle shall be the sum of the heights of all BLSEs it contains, plus any additional spacing adjustments between these elements. •For an ILSE that contains text, the height of the content rectangle shall be set by the LineHeight attribute. The width shall be determined by summing the widths of the contained characters, adjusted for any indents, letter spacing, word spacing, or line-end conditions. •For an ILSE that contains an illustration or table, the content rectangle shall be determined from the bounding box of all graphics objects in the content, and shall take into account any explicit bounding boxes (such as the BBox entry in a form XObject). This implied size may be explicitly overridden by the element’s Width and Height attributes. •For an ILSE that contains a mixture of elements, the height of the content rectangle shall be determined by aligning the child objects relative to one another based on their text baseline (for text ILSEs) or end edge (for non-text ILSEs), along with any applicable BaselineShift attribute (for all ILSEs), and finding the extreme top and bottom for all elements.	Ignore			
94	14.8.5.4.5 Content and Allocation Rectangles	The allocation rectangle shall be derived from the content rectangle in a way that also depends on the structure type: •For a BLSE, the allocation rectangle shall be equal to the content rectangle with its before and after edges adjusted by the element’s SpaceBefore and SpaceAfter attributes, if any, but with no changes to the start and end edges. •For an ILSE, the allocation rectangle is the same as the content rectangle.	Ignore			
95	14.8.5.4.6 Illustration Attributes	Particular uses of illustration elements (structure types Figure, Formula, or Form) shall have additional restrictions: •When an illustration element has a Placement attribute of Block, it shall have a Height attribute with an explicitly specified numerical value (not Auto). This value shall be the sole source of information about the illustration’s extent in the block-progression direction. •When an illustration element has a Placement attribute of Inline, it shall have a Width attribute with an explicitly specified numerical value (not Auto). This value shall be the sole source of information about the illustration’s extent in the inline-progression direction. •When an illustration element has a Placement attribute of Inline, Start, or End, the value of its BaselineShift attribute shall be used to determine the position of its after edge relative to the text baseline; BaselineShift shall be ignored for all other values of Placement. (An illustration element with a Placement value of Start may be used to create a dropped capital; one with a Placement value of Inline may be used to create a raised capital.)	Machine	Illustration element has a Placement attribute of Block and this element has no Height arrtibute or the Height attribute has value Auto	fail	
96			Machine	Illustration element has a Placement attribute of Block and this element has the Height attribute, that has value Auto	fail	
97			Machine	Illustration element has a Placement attribute of Inline and this element has no Width attribute or the Width attribute has value Auto	fail	
98			Machine	Illustration element has a Placement attribute of Inline and this element has the Width attribute,that has value Auto	fail	
99	14.8.5.4.7 Column Attributes	The attributes described in Table 346 shall be present for the grouping elements Art, Sect, and Div (see 14.8.4.2, “Grouping Elements”). They shall be used when the content in the grouping element is divided into columns.	Machine	Not all attributes from Table 346 are present for the grouping elements Art, Sect, Div	fail	
100	14.8.5.5 List Attribute	If present, the ListNumbering attribute, described in Table 347, shall appear in an L (List) element. It controls the interpretation of the Lbl (Label) elements within the list’s LI (List item) elements (see “List Elements” in 14.8.4.3, “Block-Level Structure Elements”).	Machine	The ListNumberring attribute is present elements different from L (List) element	fail	
101	14.8.5.5 List Attribute	Table 347 – Standard list attribute	Machine	The value of the key ListNumberring is custom	warning	
102	14.8.5.6 PrintField Attributes	Table 348 – PrintField attributes	Machine	The value of Role key is other than rb \/ cb \/ pb \/ tv	fail	
103			Machine	The value of checked key is other than on \/ off \/ neutral	fail	
104	14.8.5.7 Table Attributes	The value of the O (owner) entry of a Table attributes element shall be Table or one of the format-specific owner names listed in Table 341.	Machine	Tha value of the O (Owner) entry of table attributes element is other than listed in Table 341	fail	
105	14.8.5.7 Table Attributes	Table 349 – Standard table attributes RowSpan	Machine	RownSpan and ColSpan are used when a table doesn't have a structure Type of TH or TD or one that is role mapped to structure type TH or TD	fail	

C.2 Tagged PDF Test Suite

№	ISO 32000-1	Description	Policy	Test Case	Status of Test Case	Note
106			Machine	Headers don't have a unique ID	fail	
107			Machine	Scope has value other than Row, Column, Both.	fail	
108			Machine	Scope is used when the structure type of element isn't TH	fail	
109			Machine	Summary is used within the structure elements other than Table	fail	

C.3 PDF/A “Should” and “May” Clauses

№	Section	Description	Clause type	Policy	PDF Features
1	6.1.5 Document information dictionary	A document information dictionary may be defined in a conforming file. If defined, its elements shall be consistent with analogous XMP metadata properties as specified in 6.7.3.	May	Machine	Info entry in trailer
2	6.1.9 Linearized PDF	Linearization shall be permitted but any linearization information supplied within a file should be ignored by conforming readers.	Conforming reader		Linearized PDF features
3	6.2.2 Output intent	A conforming file may specify the colour characteristics of the device on which it is intended to be rendered by using a PDF/A-1 OutputIntent. A PDF/A-1 OutputIntent is an OutputIntent dictionary, as defined by PDF Reference 9.10.4, that is included in the file’s OutputIntents array and has GTS_PDFA1 as the value of its S key and a valid ICC profile stream as the value its DestOutputProfile key.	May	Machine	OutputIntent entry
4	6.2.3.1 General	A conforming file may use any colour space specified in PDF Reference, except as restricted in 6.2.3.2 to 6.2.3.4. NOTE Specifying colour in the device-independent manner described within 6.2.3 enables predictable colour rendering based on a colorimetric definition and without reliance on assumptions or information external to the conforming file. It also provides a mechanism whereby a colorimetric definition can be associated with device-dependent colour data.	May	Machine	Color spaces used in PDF
5	6.2.3.3 Uncalibrated colour spaces	A conforming file may use either the DeviceRGB or DeviceCMYK colour space but shall not use both. If an uncalibrated colour space is used in a file then that file shall contain a PDF/A-1 OutputIntent, as defined in 6.2.2. DeviceRGB may be used only if the file has a PDF/A-1 OutputIntent that uses an RGB colour space. DeviceCMYK may be used only if the file has a PDF/A-1 OutputIntent that uses a CMYK colour space. When rendering a DeviceGray colour specification in a file whose OutputIntent is an RGB profile, a conforming reader shall convert the DeviceGray colour specification to RGB by the method described in PDF Reference 6.2.1. When rendering a DeviceGray colour specification in a file whose OutputIntent is a CMYK profile, a conforming reader shall convert the DeviceGray colour specification to DeviceCMYK by the method described in PDF Reference 6.2.2.	May	Machine	Color spaces used in PDF
6		When rendering colours specified in a device-dependent colour space a conforming reader shall use the file’s PDF/A-1 OutputIntent dictionary, as defined in 6.2.2, as the source colour space.	Conforming reader	Machine	Color spaces used in PDF
7	6.2.8 Extended graphics state	An ExtGState dictionary shall not contain the TR key. An ExtGState dictionary shall not contain the TR2 key with a value other than Default. A conforming reader may ignore any instance of the HT key in an ExtGState dictionary. Use of the RI key shall conform to the rules of 6.2.9.	Conforming reader	Machine	ExtGState dictionary with HT key
8	6.5.3 Annotation dictionaries	An annotation dictionary shall not contain the CA key with a value other than 1.0. An annotation dictionary shall contain the F key. The F key’s Print flag bit shall be set to 1 and its Hidden, Invisible and NoView flag bits shall be set to 0. Text annotations should set the NoZoom and NoRotate flag bits of the F key to 1. NOTE 1 The restrictions on annotation flags prevent the use of annotations that are hidden or that are viewable but not printable. The NoZoom and NoRotate flags are permitted, which allows the use of annotation types that have the same behaviour as the commonly-used text annotation type. By definition, text annotations exhibit the NoZoom and NoRotate behaviour even if the flags are not set, as described in PDF Reference 8.4.5; explicitly setting these flags removes any potential ambiguity between the annotation dictionary settings and reader behaviour. An annotation dictionary shall not contain the C array or the IC array unless the colour space of the DestOutputProfile in the PDF/A-1 OutputIntent dictionary, defined in 6.2.2, is RGB. NOTE 2 These provisions ensure that the device colour spaces used in annotations by mechanisms other than an appearance stream are indirectly defined by means of the PDF/A-1 OutputIntent. If an annotation dictionary contains the AP key, the appearance dictionary that it defines as its value shall contain only the N key, whose value shall be a stream defining the appearance of the annotation. NOTE 3 All of the provisions of 6.5.3 apply to all annotation types, including the Widget type used for form fields.	Should	Machine	Text annotation with NoZoom and NoRotate flag of F key
9	6.6.3 Hypertext links	Conforming interactive readers may choose to make hyperlinks non-actionable, but in addition to the rendering behaviour defined by PDF Reference, as modified by this part of ISO 19005, they shall provide a mechanism to display the F and D keys of a GoToR action dictionary, the URI key of a URI action dictionary, and the F key of a SubmitForm action dictionary.	Conforming readers	Machine	Hyperlinks with the described keys

C.3 PDF/A “Should” and “May” Clauses

№	Section	Description	Clause type	Policy	PDF Features
10	6.7.1 General	6.7.2 to 6.7.11 specify requirements for metadata within conforming files. Metadata is essential for effective management of a file throughout its life cycle. A file depends on metadata for identification and description, as well as for describing appropriate technical and administrative matters. As a result, writers of conforming files may have to comply with various domain-specific metadata requirements defined external to this part of ISO 19005. This part of ISO 19005 outlines a structured, consistent framework that supports a broad variety of metadata requirements.	General		
11	6.7.4 Normalization	All XMP schemas should define the normalization rules that are applicable for their properties.	Should	Machine	XMP package
12		For all metadata properties defined in schemas that do provide normalization rules, the property values shall be entered, saved and retained in the normalized fashion defined by those schemas to facilitate interchange and support consistent interpretation of metadata by conforming readers.	Conforming readers	Machine	XMP package
13	6.7.6 File identifiers	A conforming file should have one or more metadata properties to characterize, categorize and otherwise identify the file. This part of ISO 19005 does not mandate any specific identification scheme.	Should	Machine	XMP package
14		Identifiers may be externally based, such as an International Standard Book Number (ISBN)[4] or a Digital Object Identifier (DOI), or internally based, such as a Globally Unique Identifier/Universally Unique Identifier (GUID/UUID) or another designation assigned during workflow operations. Identifiers may be included through use of the xmp:Identifier property; use of the xmpMM:DocumentID, xmpMM:VersionID and xmpMM:RenditionClass properties; or use of properties from an extension schema. Any identification system may be used so long as the properties comply with XMP requirements and this part of ISO 19005.	May	Machine	XMP package
15		If a conforming file is changed in any way, even if only by the addition of an xmpMM:History entry as described in 6.7.7, then the changing identifier part of the file trailer dictionary ID key should be modified as described in PDF Reference 9.3. NOTE The XML namespace URI for the xmp prefix is <http://ns.adobe.com/xap/1.0/>; the namespace URI for the xmpMM prefix is <http://ns.adobe.com/xap/1.0/mm/>.	Should	Machine	XMP package
16	6.7.7 File provenance information	In order to describe all high-level user actions taken to create, transform or otherwise instantiate a conforming file, each of those actions should be recorded in the xmpMM:History property. For each action that is recorded: _ the action, parameters and when fields shall be specified; _ the softwareAgent field should be specified; _ the instanceID field shall not be specified. NOTE 1 The XML namespace URI for the prefix xmpMM is <http://ns.adobe.com/xap/1.0/mm/>. NOTE 2 Applications with specific auditing requirements may need to record additional types of action or additional details about actions beyond those defined by predefined XMP schemas. Examples of additional types of action include those that change the appearance of the document, such as downsampling or font substitution. Examples of additional details include the identity of the human agent that instigated or performed the action or the environment in which the action occurred. In cases where original sources such as paper, microform or electronic files are transformed into conforming files, xmpMM:History should describe all high-level processing (e.g. transformed from PDF 1.4 to PDF/A-1); alterations to file content or functionality (e.g. embedded JavaScript and audio objects were not retained); handling of pre-existing metadata (e.g. all document information dictionary values converted to XMP); and any other significant aspects of the transformation process. For all conforming files, whether created natively or by conversion from sources such as paper, microform, or other electronic formats, xmpMM:History should describe all subsequent high-level workflow processes (e.g. descriptions of activities and handoffs); citations to policies governing file handling (e.g. titles of official directives under which files are collected, processed, and used); names and versions of software tools; any other matters that are needed to indicate the context of the file's creation and use. In cases where XMP metadata properties have been changed or deleted as a file moves through its life cycle, xmpMM:History should describe those changes by including entries whose parameters fields specify the name of the properties and their previous values. This recommendation applies to all metadata properties except the xmpMM:History itself. If a metadata property has been deleted, the action field of its entry in xmpMM:History shall be pdfa:deleted.	Should	Conforming writer	XMP package
17	6.7.8 Extension schemas	The preferred values for pdfaProperty:valueType should be the non-deprecated property value types defined in XMP Specification 2004, 4. Array types shall be preceded by their container type: alt, bag or seq, separated from the base type by a single white-space character.	Should	Machine	XMP package
18	6.7.9 Validation	All content of all XMP packets shall be well-formed as defined by Extensible Markup Language (XML) 1.0 (Third Edition), 2.1, and RDF/XML Syntax Specification (Revised), 7. If possible, at the time a writer creates or resaves a conforming file all of the content of that file's XMP packets should be validated.	Should	Ignore	

C.3 PDF/A “Should” and “May” Clauses

№	Section	Description	Clause type	Policy	PDF Features
19	6.7.10 Font metadata	For all embedded Type 0, Type 1, or TrueType font programs, the embedded font file stream dictionary should include a Metadata entry whose value is an XMP metadata stream. The following XMP metadata elements should be supplied: xmp:Title, giving the value of the FontName key from the font's font descriptor dictionary; xmpRights:Copyright, giving the copyright statement; xmpRights:Marked, with the Boolean value true; xmpRights:Owner, giving the legal owner of the font; xmpRights:UsageTerms, giving a statement of the licensing terms under which the font is being used.	Should	Machine	Font XMP package
20		Additional XMP metadata may be included at the discretion of the file writer. NOTE 1 Font rights information is helpful in order to preserve the identity and scope of the intellectual property rights of the font copyright holder. While many fonts embed statements of copyright and licensing terms within the font itself, this is not a uniform practice. Therefore it is advantageous to require the explicit representation of rights statements in the conforming file. Even though this may be redundant, it obviates the necessity for some future system to have the ability to parse through the particular internal structure of font programs. NOTE 2 The XML namespace URI for the xmp prefix is <http://ns.adobe.com/xap/1.0/>; the namespace URI for the xmpRights prefix is <http://ns.adobe.com/xap/1.0/rights/>.	May	Machine	Font XMP package
21	6.8.3.1 General	Pagination features such as running heads or page numbers, cosmetic layout features such as footnote rules or background screens, and production aids such as cut marks and colour bars should be specified as pagination, layout, and page artifacts, respectively, as described in PDF Reference 9.7.2.	Should	Human	
22	6.8.3.3 Structure hierarchy	The logical structure of the conforming file shall be described by a structure hierarchy rooted in the StructTreeRoot entry of the document catalog dictionary, as described in PDF Reference 9.6. Each structure element dictionary in the structure hierarchy shall have a Type entry with the name value of StructElem. Writers of conforming files should attempt to capture a document’s logical structure hierarchy to the finest granularity possible, making use of the standard structure types for grouping elements, block-level structure elements, paragraph-like elements, list elements, table elements, inline-level structure elements, link elements and illustration elements, as defined in PDF Reference 9.7.4, to the fullest extent possible. NOTE The explicit description of a document’s logical structure will prove valuable to future efforts to recover the document’s full semantic value for the purposes of rendering or migration to other data formats.	Should	Human	
23	6.8.3.4 Structure types	The definition of block-level structuring elements should follow the strongly structured paradigm as described in PDF Reference 9.7.4.	Should	Human	
24	6.8.4 Natural language specification	The default natural language for all text in a file should be specified by the Lang entry in the document catalog dictionary. All textual content within a file which differs from the default language should be indicated by use of a Lang property attached to a marked-content sequence, or by a Lang entry in a structure element dictionary, as described in PDF Reference 9.8.1. If the Lang entry is present in the document catalog dictionary or in a structure element dictionary or property list, its value shall be a language identifier as defined by RFC 1766, Tags for the Identification of Languages, as described in PDF Reference 9.8.1.	Should	Machine	Lang entry, that located in Catalog dictionary
25		All text strings encoded in Unicode whose language is not the default natural language for the file or not the natural language defined by the innermost enclosing structure element or marked-content sequence should indicate their language using the internal escape sequence described in PDF Reference 3.8.1. NOTE The distinction between words foreign to a language and foreign words incorporated by common usage into a language is problematic. The intent of these requirements is to allow for future unambiguous semantic interpretation of textual content.	Should	Machine	Text content, that use other language, than defined in Catalog dictionary
26	6.8.5 Alternate descriptions	All structure elements whose content does not have a natural predetermined textual analogue, e.g. images, formulae, etc., should supply an alternate text description using the Alt entry in the structure element dictionary, as described in PDF Reference 9.8.2. NOTE Alternate descriptions provide textual descriptions that aid in the proper interpretation of otherwise opaque non-textual content.	Should	Machine	Alt key for Illustration structure element
27	6.8.6 Non-textual annotations	For annotation types that do not display text, the Contents key of an annotation dictionary should be specified with an alternative description of the annotation's contents in human-readable form.	Should	Machine	Content key of the Annotation

C.3 PDF/A “Should” and “May” Clauses

№	Section	Description	Clause type	Policy	PDF Features
28	6.8.7 Replacement text	All textual structure elements that are represented in a non-standard manner, e.g., custom characters or inline graphics, should supply replacement text using the ActualText entry in the structure element dictionary, as described in PDF Reference 9.8.3. NOTE Replacement text provides textual equivalents that aid in the proper interpretation of otherwise opaque, unusual representations of textual components.	Should	Human	
29	6.8.8 Expansions of abbreviations and acronyms	All instances of abbreviations and acronyms in textual content should be placed in a marked-content sequence with a Span tag whose E property provides a textual expansion of the abbreviation or acronym, as described in PDF Reference 9.8.4. NOTE Abbreviation and acronym expansion provides textual equivalents that aid in the proper interpretation of otherwise opaque nomenclature.	Should	Human	
30	B.2 Natural language identifiers	Languages should be identified using ISO 639-1[3], ISO 3166-1[5] or IANA[17] registered identifiers. Private use identifiers should be used only if the language does not have a defined identifier within ISO 639-1, ISO 3166-1 or IANA registry. In the event that a language is truly unknown, the identifier x-unknown should be used. NOTE The use of ISO 639-1[3], ISO 3166-1[5] and IANA-registered identifiers is defined in RFC 1766, Tags for the Identification of Languages, which PDF uses as the basis for its language identifiers. ISO 639-2[24] defines three-letter language identifiers that are not allowed under RFC 1766.		Duplicate	
PDF/A - 2a					
31	6.1.1 General	Overall file format issues and the base elements that form the general structure of a conforming file are addressed in 6.1.2 to 6.1.12. Any data contained in a conforming file that is not described in ISO 32000-1 or in this part of ISO 19005 should be ignored by a conforming reader and shall not be used to render content on a page.	General		
32	6.1.4 Cross reference table	The xref keyword and the cross-reference subsection header shall be separated by a single EOL marker. Any indirect object whose offset is not referenced in any cross-reference table, nor in any cross-reference stream, shall be exempt from all requirements of this part of ISO 19005 and may be ignored by a conforming reader. If a conforming reader does not ignore such indirect objects, they shall never influence the way content is rendered.	Conforming reader	Machine	Indirect objects, which offset is not referenced in any cross reference table
33	6.1.5 Document information dictionary	A document information dictionary may be present in a conforming file and a PDF/A-2 compliant reader shall ignore it. NOTE Metadata can be included in a document through the use of XMP metadata streams as specified in 6.6.3.	May	Machine	Info dictionary
34	6.1.11 Linearized PDF	Linearization shall be permitted but any linearization information present within a file should be ignored by conforming readers.		Duplicate	
35	6.1.7.2 Filters	All standard stream filters listed in ISO 32000-1:2008, 7.4, Table 6 may be used, with the exception of LZWDecode. In addition, the Crypt filter shall not be used unless the value of the Name key in the decode parameters dictionary is Identity. Filters that are not listed in ISO 32000-1:2008, 7.4, Table 6 shall not be used. NOTE The Crypt filter is used to apply encryption and access control to the file.	May	Machine	Names of Stream flters
36	6.2.1 General	Restrictions that shall be placed on both conforming files and readers with respect to the graphical elements described in ISO 32000-1:2008, 7.8 are described in 6.2.2 to 6.2.11. A conforming reader shall render these graphical elements onto their respective PDF pages according to the rendering requirements of ISO 32000-1 as modified by this part of ISO 19005. A conforming interactive reader may put additional user interface elements around, above or below the graphical elements of the page. These user interface elements may be a presentation of other PDF objects (such as bookmarks or page thumbnails) or they may represent non-PDF objects. In all cases, the user interface elements and their contents shall not be required to conform to the requirements of 6.2.2 to 6.2.11.	General		

C.3 PDF/A “Should” and “May” Clauses

№	Section	Description	Clause type	Policy	PDF Features
37	6.2.3 Output intent	A conforming file may specify the colour characteristics of the device on which it is intended to be rendered by using a PDF/A OutputIntent. A PDF/A OutputIntent shall be identified as an OutputIntent dictionary, as defined by ISO 32000-1:2008, 14.11.5, that is included in the file’s OutputIntents array. It shall have GTS_PDFA1 as the value of its S key and a valid ICC profile stream as the value of its DestOutputProfile key. NOTE 1 PDF/A requires that an OutputIntent be present when uncalibrated colour spaces are used (see 6.2.4.3 for more details). It has this requirement in order to ensure reliable rendering of colour through the indirect use of the OutputIntent profile provided. NOTE 2 The value for GTS_PDFA1 was maintained for this part of ISO 19005 to enable greater compatibility with ISO 19005-1. In addition, the DestOutputProfileRef key, as defined in ISO 15930-7:2010, Annex A, shall not be present in any PDF/X OutputIntent. NOTE 3 Disallowing the DestOutputProfileRef key maintains the intent of this part of ISO 19005 of ensuring selfcontained documents with no external references. However, it does mean that a single PDF is unable to be compliant with both PDF/A-2 and PDF/X-4p. If a file's OutputIntents array contains more than one entry, as might be the case where a file is compliant with this part of ISO 19005 and at the same time with PDF/X-4 or PDF/E-1, then all entries that contain a DestOutputProfile key shall have as the value of that key the same indirect object, which shall be a valid ICC profile stream. The profile stream that is the value of the DestOutputProfile key shall either be an output profile (Device Class = “prtr”) or a monitor profile (Device Class = “mntr”). The profiles shall have a colour space of either “GRAY”, “RGB”, or “CMYK”. If present in the DestOutputProfile stream object, the Alternate key shall be ignored by a PDF/A-2 conforming reader.		Duplicate	
38	6.2.4.4 Separation and DeviceN colour spaces	The Separation arrays in the Colorants dictionary of DeviceN and NChannel colour spaces should be consistent with the tintTransform and alternateSpace of the DeviceN or NChannel colour space itself.	Should	Machine	DeviceN and NChanell with tintTransform and alternateSpace
39	6.2.8.3 JPEG2000	JPEG2000 enumerated colour space 12 (CMYK), which is part of JPX but not JPX baseline, may be used.	May	Machine	Image with JPXDecode
40	6.2.10 Transparency	PDF transparency (as described in ISO 32000-1:2008, Clause 11) may be used in a PDF/A-2 file.	May	Machine	Transparency properties for PDF objects
41		The method that a conforming reader should use to determine whether a given page contains any graphical elements whose associated graphic state contains transparency or which are otherwise involved in a transparency operation is defined in Annex A. A conforming reader shall use the document’s PDF/A OutputIntent as the default blending colour space (ISO 32000-1:2008, 11.3.4). If the document does not contain a PDF/A OutputIntent, then all Page objects that contain transparency shall include the Group key, and the attribute dictionary that forms the value of that Group key shall include a CS entry whose value shall be used as the default blending colour space. NOTE This requirement ensures that there is always an explicitly defined transparency blending space specified for any content which has associated transparency. The value for any CS key in any transparency group’s attribute dictionary shall conform to the restrictions on colour spaces set out in 6.2.4. Only blend modes that are specified in ISO 32000-1:2008 shall be used for the value of the BM key in an extended graphic state dictionary. A PDF/A-2 compliant reader shall process these blend modes as described in ISO 32000-1:2008, 11.3.5, and as amended by the Adobe Supplement to ISO 32000-1, BaseVersion 1.7, ExtensionLevel 5, Section 3.	Should	Machine	Transparency properties for PDF objects
42	6.2.11.3.1 General	For any given composite (Type 0) font within a conforming file, the CIDSystemInfo entry in its CIDFont dictionary and its Encoding dictionary shall have the following relationship: If the Encoding key in the Type 0 font dictionary is Identity-H or Identity-V, any values of Registry, Ordering, and Supplement may be used in the CIDSystemInfo entry of the CIDFont. Otherwise, the corresponding Registry and Ordering strings in both CIDSystemInfo dictionaries shall be identical, and the value of the Supplement key in the CIDSystemInfo dictionary of the CIDFont shall be greater than or equal to the Supplement key in the CIDSystemInfo dictionary of the CMap. NOTE The requirement for the Supplement key ensures that the font includes glyphs for all CIDs which can be referenced by the CMap.	May	Machine	Encoding key in the Type 0 font dictionary is Identity-H or Identity-V, any values of Registry, Ordering, and Supplement, which are used in the CIDSystemInfo entry of the CIDFont.

C.3 PDF/A “Should” and “May” Clauses

№	Section	Description	Clause type	Policy	PDF Features
43	6.3.2 Annotation dictionaries	Except for annotation dictionaries whose Subtype value is Popup, all annotation dictionaries shall contain the F key. If present, the F key’s Print flag bit shall be set to 1 and its Hidden, Invisible, ToggleNoView, and NoView flag bits shall be set to 0. Text annotations should set the NoZoom and NoRotate flag bits of the F key to 1. NOTE The restrictions on annotation flags prevent the use of annotations that are hidden or that are viewable but not printable. The NoZoom and NoRotate flags are permitted, which allows the use of annotation types that have the same behaviour as the commonly used text annotation type. By definition, text annotations exhibit the NoZoom and NoRotate behaviour even if the flags are not set, as described in ISO 32000-1:2008, 12.5.3; explicitly setting these flags removes any potential ambiguity between the annotation dictionary settings and reader behaviour.		Duplicate	
44	6.6.2.2 Namespaces and prefixes	According to the W3C XML Namespace recommendation[16], namespace prefixes are shortcuts to namespace URIs. No significance is given to the prefix itself, except where a specific prefix is identified as required, any prefix can be used. The prefixes in Table 1 should be used for all properties using the namespaces identified by the URIs listed in that table. In addition, namespace URIs are for identification purposes only and are not required to be actionable links. None of the namespace URIs defined in this part of ISO 19005 is guaranteed to be an actionable link. Attempting to de-reference or follow any of these links might not result in a valid web page. Table 1 — Suggested mappings between namespace URIs and their prefixes URI Prefix <http://purl.org/dc/elements/1.1/> dc <http://ns.adobe.com/pdf/1.3/> pdf <http://ns.adobe.com/xap/1.0/> xmp <http://ns.adobe.com/xap/1.0/mm/> xmpMM	Should	Machine	XMP package
45	6.6.2.3.2 Extension schemas	All extension schemas referenced from any metadata stream in a conforming file shall have their descriptions embedded within the referencing metadata stream or the metadata stream that is the value of the Metadata key in the Catalog. Any schemas present in the metadata stream referenced from the Catalog shall be inherited by and apply to all metadata streams; however, all other schemas shall be considered only in the context of the stream in which it is embedded. Schemas present in metadata streams other than that of the Catalog may extend or replace some or all of a schema that was inherited from the Catalog’s stream. NOTE The reason for putting extension schemas in the document’s metadata stream is to avoid duplication of common schemas across multiple metadata streams. Extension schemas shall be specified using the PDF/A extension schema container schema defined in 6.6.2.3.3. All fields described in each of the tables in 6.6.2.3.3 shall be present in any extension schema container schema.	May	Machine	XMP package
46	6.6.3 Document information dictionary	A document information dictionary may appear within a conforming file. If it does appear, a compliant PDF/A-2 reader shall ignore it.	May	Machine	XMP and Info with equal values
47		A PDF/A-2 conforming writer should ensure that the values in the document information dictionary are consistent with the corresponding values in the document’s metadata stream as listed in Table 7. NOTE Since a document information dictionary is allowed within a conforming file, it is possible for a single file to be conformant with multiple standards, including this part of ISO 19005, PDF/X (ISO 15930-1, ISO 15930-3, ISO 15930-4, ISO 15930-6, and ISO 15930-7) and PDF/E-1 (ISO 24517-1).	Should	Machine	XMP and Info with equal values
48	6.6.5 File identifiers	A conforming file should have one or more metadata properties to characterize, categorize and otherwise identify the file. This part of ISO 19005 does not mandate any specific identification scheme. Identifiers may be externally based, such as an International Standard Book Number (ISBN) or a Digital Object Identifier (DOI), or internally based, such as a Globally Unique Identifier/Universally Unique Identifier (GUID/UUID) or another designation assigned during workflow operations. Identifiers may be included through the use of properties such as the xmp:Identifier property, the xmpMM:InstanceID, xmpMM:DocumentID, xmpMM:VersionID properties, or use of properties from an extension schema. Since any identification system may be used so long as the properties comply with XMP requirements and this part of ISO 19005, the previous list shall not be considered as exhaustive. If an xmpMM:History entry, as described in 6.6.6, is added to a conforming file, then the changing identifier part of the file trailer dictionary ID key shall be modified according to 6.1.3.		Duplicate	

C.3 PDF/A “Should” and “May” Clauses

№	Section	Description	Clause type	Policy	PDF Features
49	6.6.6 File provenance information	In order to describe all high-level user actions taken to create, transform or otherwise instantiate a conforming file, each of those actions should be recorded in the xmpMM:History property inside the XMP metadata stream that is the value of the Metadata entry in the document catalog dictionary. For each action that is recorded: the action, parameters and when fields shall be specified; the softwareAgent field should be specified; the instanceID field should be specified. NOTE 1 Applications with specific auditing requirements might need to record additional types of action or additional details about actions beyond those defined by predefined XMP schemas. Examples of additional types of action include those that change the appearance of the document, such as downsampling or font substitution. Examples of additional details include the identity of the human agent that instigated or performed the action or the environment in which the action occurred. In cases where original sources such as paper, microform or electronic files are transformed into conforming files, xmpMM:History should describe all high-level processing (e.g. transformed from ISO 32000-1 to PDF/A-2), alterations to file content or functionality (e.g. embedded JavaScript and audio objects not retained), handling of pre-existing metadata (e.g. all document information dictionary values converted to XMP), and any other significant aspects of the transformation process. For all conforming files, whether created natively or by conversion from sources such as paper, microform, or other electronic formats, xmpMM:History should describe all subsequent high-level workflow processes (e.g.descriptions of activities and handoffs), citations to policies governing file handling (e.g. titles of official directives under which files are collected, processed, and used), names and versions of software tools, and any other matters that are needed to indicate the context of the file's creation and use. In cases where XMP metadata properties have been changed or deleted as a file moves through its life cycle, xmpMM:History should describe those changes by including entries whose parameters fields specify the name of the properties and their previous values. This recommendation applies to all metadata properties except the xmpMM:History itself. NOTE 2 The “Tracking Document History” section of the Partners Guide to XMP for Dynamic Media describes a more comprehensive solution to document history tracking via XMP metadata that some conforming readers might choose to implement instead.		Duplicate	
50	6.7.3.1 Specification of artefacts	Pagination features such as running heads or page numbers, cosmetic layout features such as footnote rules or background screens, and production aids such as cut marks and colour bars should be specified as pagination, layout, and page artefacts, respectively, as described in ISO 32000-1:2008, 14.8.2.2.1 and 14.8.2.2.2.		Duplicate	
51	6.7.3.3 Structure hierarchy	The logical structure of the conforming file shall be described by a structure hierarchy rooted in the StructTreeRoot entry of the document’s Catalog dictionary, as described in ISO 32000-1:2008, 14.7. Writers of conforming files should attempt to capture a document’s logical structure hierarchy to the finest granularity possible, making use of the standard structure types for grouping elements, block-level structure elements, paragraph-like elements, list elements, table elements, inline-level structure elements, link elements and illustration elements, as defined in ISO 32000-1:2008, 14.8.4, to the fullest extent possible. NOTE The explicit description of a document’s logical structure will prove valuable to future efforts to recover the document’s full semantic value for the purposes of rendering or migration to other data formats.		Duplicate	
52	6.7.3.4 Structure types	All non-standard structure types shall be mapped to the nearest functionally equivalent standard type, as defined in ISO 32000-1:2008, 14.8.4, in the role map dictionary of the structure tree root. This mapping may be indirect; within the role map a non-standard type can map directly to another non-standard type, but eventually the mapping shall terminate at a standard type.		Duplicate	

C.3 PDF/A “Should” and “May” Clauses

№	Section	Description	Clause type	Policy	PDF Features
53	6.7.4 Natural language specification	The default natural language for all text in a file should be specified by the Lang entry in the document’s Catalog dictionary. All textual content within a file which differs from the default language should be indicated by use of a Lang property attached to a marked-content sequence, or by a Lang entry in a structure element dictionary, as described in ISO 32000-1:2008, 14.9.2. If the Lang entry is present in the document’s Catalog dictionary or in a structure element dictionary or property list, its value shall be a language identifier as described in ISO 32000-1:2008, 14.9.2. NOTE 1 Annex C of this part of ISO 19005 also gives some guidance for best practices in this area. All text strings encoded in Unicode whose language is not the default natural language for the file or not the natural language defined by the innermost enclosing structure element or marked-content sequence should indicate their language using the internal escape sequence described in ISO 32000-1:2008, 7.9.2. NOTE 2 The distinction between words foreign to a language and foreign words incorporated by common usage into a language is problematic. The intent of these requirements is to allow for future unambiguous semantic interpretation of textual content.		Duplicate	
54	6.7.5 Alternate descriptions	All structure elements whose content does not have a natural predetermined textual analogue, e.g. images, formulae, etc., should supply an alternate text description using the Alt entry in the structure element dictionary, as described in ISO 32000-1:2008, 14.9.3. NOTE Alternate descriptions provide textual descriptions that aid in the proper interpretation of otherwise opaque non-textual content.		Duplicate	
55	6.7.6 Non-textual annotations	For annotation types that do not display text, the Contents key of an annotation dictionary should be specified with an alternative description of the annotation's contents in human-readable form.		Duplicate	
56	6.7.7 Replacement text	All textual structure elements that are represented in a non-standard manner, e.g. custom characters or inline graphics, should supply replacement text using the ActualText entry in the structure element dictionary, as described in ISO 32000-1:2008, 14.9.4. NOTE Replacement text provides textual equivalents that aid in the proper interpretation of otherwise opaque, unusual representations of textual components.		Duplicate	
57	6.7.8 Expansions of abbreviations and acronyms	All instances of abbreviations and acronyms in textual content should be placed in a marked-content sequence with a Span tag whose E property provides a textual expansion of the abbreviation or acronym, as described in ISO 32000-1:2008, 14.9.5. NOTE Abbreviation and acronym expansion provides textual equivalents that aid in the proper interpretation of otherwise opaque nomenclature.		Duplicate	
58	6.8 Embedded files	A file specification dictionary, as defined in ISO 32000-1:2008, 7.11.3, may contain the EF key, provided that the embedded file is compliant with either ISO 19005-1 or this part of ISO 19005.	May	Machine	File specification dictionary with EF key File name dictionary with EmbeddedFiles key
59		The file specification dictionary for an embedded file shall contain the F and UF keys and should contain the Desc key.	Should	Machine	File specification dictionary with EF key File name dictionary with EmbeddedFiles key
60		A file’s name dictionary, as defined in ISO 32000-1:2008, 7.7.4, may contain the EmbeddedFiles key, provided that all of the embedded files are compliant with either ISO 19005-1 or this part of ISO 19005. NOTE The prohibition of non-PDF/A compliant documents has the implicit effect of disallowing embedded files that can create external dependencies and complicate preservation efforts.	May	Machine	File specification dictionary with EF key File name dictionary with EmbeddedFiles key
61		A conforming reader shall provide a mechanism to display the name strings from the value of the EmbeddedFiles key in the names dictionary of a conforming file. In addition, a conforming reader may also choose to display information from the associated embedded file stream dictionaries or their Params dictionary.	Conforming reader	Machine	File specification dictionary with EF key File name dictionary with EmbeddedFiles key

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№	Section	Description	Clause type	Policy	PDF Features
62	6.9 Optional content	Optional content may be used in PDF/A-2 files to allow multiple variants of a document to be supplied in a single file. Common use cases for this include multilingual documents, regional versioning or different object groupings on a CAD-type drawing. A variant consists of one or more optional content groups (OCGs), which are associated through an optional content membership dictionary (OCMD) and an optional content configuration dictionary (OCCD). Each optional content configuration dictionary determines which OCGs are grouped together to form a single variant. The document’s Catalog may contain the OCProperties key. The presence of OCProperties indicates that the file contains variants, and the requirements of this section apply. In the absence of explicit instructions to the contrary, a PDF/A-2 reader shall render the file in the default state set by the value of the D key in the OCProperties dictionary, as specified in “Determining the State of Optional Content Groups” (ISO 32000-1:2008, 8.11.4). The OCProperties dictionary may also contain the Configs key. If a Configs key is present, then each element of the array that forms the value of the Configs key shall define a single variant. Each optional content configuration dictionary that forms the value of the D key, or that is an element in the array that forms the value of the Configs key in the OCProperties dictionary, shall contain the Name key, which is the identifier of the variant, whose value shall be unique amongst all optional content configuration dictionaries within the PDF/A-2 file. NOTE 1 It is recommended that all values for the Name key be selected in such a way as to allow unambiguous identification of the correct content that is to be printed or displayed. If an optional content configuration dictionary contains the Order key, the array which is the value of this Order key shall contain references to all OCGs in the conforming file. A conforming interactive reader shall provide a means to display the contents of the Order key from any OCCDs present in the conforming file that contain an Order key or that inherit the Order key from the default OCCD. In addition, if a conforming file contains OCCDs in addition to the default OCCD, then a conforming interactive reader shall provide a means to display the list of OCCDs from which a user can choose which one to view and print. NOTE 2 The OCGs in an Order array can be structured using a hierarchy of arrays and not simply a flat list. The AS key shall not appear in any optional content configuration dictionary. NOTE 3 This prevents the automatic adjustment of states based on usage information (ISO 32000-1:2008, 8.11.4.5). NOTE 4 The requirements of 6.2.11 apply for all fonts used in all optional content, even where a particular exchange will not result in some optional content being rendered. A conforming reader shall not use the value of the Intent key.	May	Machine	OptionalContent properties
PDF/A - 3a					
63	6.1.4 Cross reference table	The xref keyword and the cross reference subsection header shall be separated by a single EOL marker. Any indirect object whose offset is not referenced in any cross reference table nor in any cross-reference stream shall be exempt from all requirements of this part of ISO 19005 and may be ignored by a conforming reader. If a conforming reader chooses not to ignore such indirect objects, they shall never influence the way content is rendered.	Conforming reader		
64	6.1.5 Document information dictionary	A document information dictionary may be present in a conforming file and a PDF/A-3 compliant reader shall ignore it. NOTE Metadata can be included in a document through the use of XMP metadata streams as specified in 6.6.3.		Duplicate	
65	6.1.7.2 Filters	All standard stream filters listed in ISO 32000-1:2008, 7.4, Table 6 may be used, with the exception of LZWDecode. In addition, the Crypt filter shall not be used unless the value of the Name key in the decode parameters dictionary is Identity. Filters that are not listed in ISO 32000-1:2008, 7.4, Table 6 shall not be used. NOTE The Crypt filter is used to apply encryption and access control to the file.		Duplicate	

C.3 PDF/A “Should” and “May” Clauses

№	Section	Description	Clause type	Policy	PDF Features
66	6.1.8 Name objects	Font names, names of colourants in Separation and DeviceN colour spaces, and structure type names — after expansion of character sequences escaped with a NUMBER SIGN (23h), if any — shall be valid UTF-8 character sequences. NOTE These requirements make normative the recommendations set out in ISO 32000-1:2008, 7.3.5. All other name objects should adhere to these same restrictions.	Should	Machine	Use of non-ANSI symbols in font and colorant names
67	6.1.11 Linearized PDF	Linearization shall be permitted but any linearization information present within a file should be ignored by conforming readers. NOTE As defined in ISO 32000-1:2008, Annex F, a PDF is not linearized if the value of the L key in the linearization dictionary does not match the actual length of the PDF file. This implies that an incremental update to a linearized PDF will render it non-linearized.		Duplicate	
68	6.2.3 Output intent	A conforming file may specify the colour characteristics of the device on which it is intended to be rendered by using a PDF/A OutputIntent. A PDF/A OutputIntent shall be identified as an OutputIntent dictionary, as defined by ISO 32000-1:2008, 14.11.5, that is included in the file’s OutputIntents array. It shall have GTS_PDFA1 as the value of its S key and a valid ICC profile stream as the value of its DestOutputProfile key. NOTE 1 PDF/A requires that an OutputIntent be present when uncalibrated colour spaces are used (see 6.2.4.3 for more details). It has this requirement in order to ensure reliable rendering of colour through the indirect use of the OutputIntent profile provided. NOTE 2 The value for GTS_PDFA1 was maintained for this part of ISO 19005 to enable greater compatibility with ISO 19005-1. In addition, the DestOutputProfileRef key, as defined in ISO 15930-7:2010, Annex A, shall not be present in any PDF/X OutputIntent. NOTE 3 Disallowing the DestOutputProfileRef key maintains the intent of this part of ISO 19005 of ensuring self-contained documents with no external references. However, it does mean that a single PDF is unable to be compliant with both PDF/A-3 and PDF/X-4p. If a file’s OutputIntents array contains more than one entry, such as may be the case where a file is compliant with this part of ISO 19005 and at the same time with PDF/X-4 or PDF/E-1, then all entries that contain a DestOutputProfile key shall have as the value of that key the same indirect object, which shall be a valid ICC profile stream. The profile stream that is the value of the DestOutputProfile key shall either be an output profile (Device Class = “prtr”) or a monitor profile (Device Class = “mntr”). The profiles shall have a colour space of either “GRAY”, “RGB ”, or “CMYK”. If present in the DestOutputProfile stream object, the Alternate key shall be ignored by a PDF/A-3 conforming reader.		Duplicate	
69	6.2.4.1 General	All colours shall be specified in a device-independent manner, either directly by the use of deviceindependent colour spaces, or indirectly by the means of the DestOutputProfile in the PDF/A OutputIntent. A conforming file may use any colour space specified in ISO 32000-1, except as restricted in 6.2.4.2 to 6.2.4.5. NOTE Specifying colour in a device-independent manner as described within 6.2.4 enables predictable colour rendering based on a colourimetric definition and without reliance on heuristic assumptions or on information external to the conforming file. It also provides a mechanism whereby a colourimetric definition can be associated with device-dependent colour data.		Duplicate	
70	6.2.4.4 Separation and DeviceN colour spaces	The Separation arrays in the Colorants dictionary of DeviceN and NChannel colour spaces should be consistent with the tintTransform and alternateSpace of the DeviceN or NChannel colour space itself.		Duplicate	

C.3 PDF/A “Should” and “May” Clauses

№	Section	Description	Clause type	Policy	PDF Features
71	6.2.5 Extended graphics state	An ExtGState dictionary shall not contain the TR or HTP keys. An ExtGState dictionary shall not contain the TR2 key with a value other than Default. A conforming reader may ignore any instance of the HT key in an ExtGState dictionary. NOTE 1 The HTP key was present in early versions of PDF but was removed by PDF 1.3. The TransferFunction key in a halftone dictionary shall be used only as required by ISO 32000-1. All halftones in a conforming PDF/A-3 file shall have the value 1 or 5 for the HalftoneType key. NOTE 2 This prohibits the use of threshold screens that will produce different appearances at different resolutions. Halftones in a conforming PDF/A-3 file shall not contain a HalftoneName key. The use of the RI key shall conform to the requirements of 6.2.6. The use of the FL key shall conform to the requirements of 6.2.7. Conforming readers shall ignore the BG, BG2, UCR and UCR2 functions when rendering the PDF. Conforming readers shall respect the OP, op and OPM entries in ExtGState dictionaries as described in 8.6.7 of ISO 32000-1 when rendering the PDF. When rendering to a device that does not natively support all colourants to be rendered, a conforming reader shall simulate the overprinting of the colourants as if they had been rendered to a device that did natively support them. NOTE 3 Having a conforming reader respect these entries, both when viewing on screen and printing, ensures a consistent rendering between these two types of output.		Duplicate	
72	6.2.8.3 JPEG2000	JPEG2000 enumerated colour space 12 (CMYK), which is part of JPX but not JPX baseline, may be used.		Duplicate	
73	6.2.10 Transparency	PDF transparency (as described in ISO 32000-1:2008, Clause 11) may be used in a PDF/A-3 file. The method that a conforming reader should use to determine whether a given page contains any graphical elements whose associated graphic state contains transparency or are otherwise involved in a transparency operation is defined in A.3. A conforming reader shall use the document’s PDF/A OutputIntent as the default blending colour space (ISO 32000-1:2008, 11.3.4). If the document does not contain a PDF/A OutputIntent, then all Page objects that contain transparency shall include the Group key, and the attribute dictionary that forms the value of that Group key shall include a CS entry whose value shall be used as the default blending colour space. NOTE This requirement ensures that there is always an explicitly defined transparency blending space specified for any content which has associated transparency. The value for any CS key in any transparency group’s attribute dictionary shall conform to the restrictions on colour spaces set out in 6.2.4. Only blend modes that are specified in ISO 32000-1:2008 shall be used for the value of the BM key in an extended graphic state dictionary. A PDF/A-3 compliant reader shall process these blend modes as described in ISO 32000-1:2008, 11.3.5 and amended by the Adobe Supplement to ISO 32000-1, BaseVersion 1.7, ExtensionLevel 5, Section 3.		Duplicate	
74	6.2.11.3.1 General	For any given composite (Type 0) font within a conforming file, the CIDSystemInfo entry in its CIDFont dictionary and its Encoding dictionary shall have the following relationship: — If the Encoding key in the Type 0 font dictionary is Identity-H or Identity-V, any values of Registry, Ordering, and Supplement may be used in the CIDSystemInfo entry of the CIDFont. — Otherwise the corresponding Registry and Ordering strings in both CIDSystemInfo dictionaries shall be identical and the value of the Supplement key in the CIDSystemInfo dictionary of the CIDFont shall be greater than or equal to the Supplement key in the CIDSystemInfo dictionary of the CMap. NOTE The requirement for the Supplement key ensures that the font includes glyphs for all CIDs which can be referenced by the CMap.		Duplicate	

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№	Section	Description	Clause type	Policy	PDF Features
75	6.3.2 Annotation dictionaries	Except for annotation dictionaries whose Subtype value is Popup, all annotation dictionaries shall contain the F key. If present, the F key’s Print flag bit shall be set to 1 and its Hidden, Invisible, ToggleNoView, and NoView flag bits shall be set to 0. Text annotations should set the NoZoom and NoRotate flag bits of the F key to 1. NOTE The restrictions on annotation flags prevent the use of annotations that are hidden or that are viewable but not printable. The NoZoom and NoRotate flags are permitted, which allows the use of annotation types that have the same behaviour as the commonly-used text annotation type. By definition, text annotations exhibit the NoZoom and NoRotate behaviour even if the flags are not set, as described in ISO 32000-1:2008, 12.5.3; explicitly setting these flags removes any potential ambiguity between the annotation dictionary settings and reader behaviour.		Duplicate	
76	6.4.3 Digital signatures	As permitted by ISO 32000-1:2008, 12.8.1, a PDF/A-3 conforming file may contain document, certifying or user rights signatures. Such signatures shall be specified in the PDF through the use of signature fields in accordance with ISO 32000-1:2008, 12.7.4.5. All annotations associated with signature fields shall meet the requirements of 6.3.2 and 6.3.3 of this part of ISO 19005. When generating signature appearances and any other PDF objects as part of the signing process, a conforming reader shall ensure that it does not invalidate compliance with this part of ISO 19005, specifically concerning any content added to the widget’s appearance. Additional requirements for the use of digital signatures in a PDF/A conforming file can be found in Annex B.	May	Machine	Signature objects in PDF
77	6.5.3 Handling of GoToR, GoToE, URI and SubmitForm actions	While permitted to be present in a conforming file, there are four types of actions for which a conforming interactive reader shall provide special treatment: the GoToR, GoToE, URI and SubmitForm actions. The conforming interactive reader shall provide a mechanism to display the F and D keys of a GoToR or GoToE action dictionary, the URI key of a URI action dictionary, and the F key of a SubmitForm action dictionary. In addition, since the actual invocation of these four actions by a conforming interactive reader involves the locating of and interacting with other files that may or may not be conforming, the reader may choose to not allow the actual invocation of these actions. NOTE For purposes of archival disclosure of the complete information content of conforming files, it is important for interactive readers to provide some mechanism to expose the destination of such actions. However, this part of ISO 19005 does not prescribe any specific behaviour or the technical implementation details that interactive readers might use to meet these functional requirements.	Conforming reader	Machine	GoToR, GoToE, URI, Submit actions
78	6.6.2.1 General	The Catalog dictionary of a conforming file shall contain the Metadata key whose value is a metadata stream as defined in ISO 32000-1:2008, 14.3.2. In addition, all metadata streams present in the PDF shall conform to the XMP Specification. The bytes and the encoding attributes shall not be used in the header of an XMP packet. NOTE Both the bytes and encoding attributes are deprecated in the XMP Specification. All content of all XMP packets shall be well-formed as defined by Extensible Markup Language (XML) 1.0 (Third Edition), 2.1, and RDF/XML Syntax Specification (Revised). At the time a conforming writer creates or resaves a conforming file, all of the content of that file’s XMP packets should be validated.	Conforming reader	Machine	XMP package
79	6.6.2.2 Namespaces and prefixes	According to the W3C XML Namespace recommendation[16], namespace prefixes are shortcuts to namespace URIs. No significance is given to the prefix itself; except where a specific prefix is identified as required, any prefix can be used. The prefixes in Table 1 should be used for all properties using the namespaces identified by the URIs listed in that table. In addition, namespace URIs are for identification purposes only and are not required to be actionable links. None of the namespace URIs defined in this part of ISO 19005 is guaranteed to be an actionable link. Attempting to de-reference or follow any of these links may not result in a valid web page. Table in specification		Duplicate	XMP package

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№	Section	Description	Clause type	Policy	PDF Features
80	6.6.2.3.2 Extension schemas	All extension schemas referenced from any metadata stream in a conforming file shall have their descriptions embedded within the referencing metadata stream or the metadata stream that is the value of the Metadata key in the Catalog. Any schemas present in the metadata stream referenced from the Catalog shall be inherited by and apply to all metadata streams; however all other schemas shall be considered only in the context of the stream in which it is embedded. Schemas present in metadata streams other than that of the Catalog may extend or replace some or all of a schema that was inherited from the Catalog’s stream. NOTE The reason for putting extension schemas in the document’s metadata stream is to avoid duplication of common schemas across multiple metadata streams. Extension schemas shall be specified using the PDF/A extension schema container schema defined in 6.6.2.3.3. All fields described in each of the tables in 6.6.2.3.3 shall be present in any extension schema container schema.		Duplicate	
81	6.6.3 Document information dictionary	A document information dictionary may appear within a conforming file. If it does appear, a compliant PDF/A-3 reader shall ignore it. A PDF/A-3 conforming writer should ensure that the values in the document information dictionary are consistent with the corresponding values in the document’s metadata stream as listed in Table 7. NOTE Since a document information dictionary is allowed within a conforming file, it is possible for a single file to be conformant with multiple standards including this part of ISO 19005, PDF/X (ISO 15930-1, ISO 15930-3, ISO 15930-4, ISO 15930-6 and ISO 15930-7) and PDF/E-1 (ISO 24517-1).		Duplicate	
82	6.6.6 File provenance information	In order to describe all high-level user actions taken to create, transform or otherwise instantiate a conforming file, each of those actions should be recorded in the xmpMM:History property inside the XMP metadata stream that is the value of the Metadata entry in the document catalog dictionary. For each action that is recorded: — the action, parameters and when fields shall be specified; — the softwareAgent field should be specified; — the instanceID field should be specified. NOTE 1 Applications with specific auditing requirements may need to record additional types of action or additional details about actions beyond those defined by predefined XMP schemas. Examples of additional types of action include those that change the appearance of the document, such as downsampling or font substitution. Examples of additional details include the identity of the human agent that instigated or performed the action or the environment in which the action occurred. In cases where original sources such as paper, microform or electronic files are transformed into conforming files, xmpMM:History should describe all high-level processing (e.g. transformed from ISO 32000-1 to PDF/A-3); alterations to file content or functionality (e.g. embedded JavaScript and audio objects not retained); handling of pre-existing metadata (e.g. all document information dictionary values converted to XMP); and any other significant aspects of the transformation process. For all conforming files, whether created natively or by conversion from sources such as paper, microform, or other electronic formats, xmpMM:History should describe all subsequent high-level workflow processes (e.g. descriptions of activities and handoffs); citations to policies governing file handling (e.g. titles of official directives under which files are collected, processed, and used); names and versions of software tools; any other matters that are needed to indicate the context of the file’s creation and use. In cases where XMP metadata properties have been changed or deleted as a file moves through its life cycle, xmpMM:History should describe those changes by including entries whose parameters fields specify the name of the properties and their previous values. This recommendation applies to all metadata properties except the xmpMM:History itself. NOTE 2 The “Tracking Document History” section of the Partners Guide to XMP for Dynamic Media[13] describes a more comprehensive solution to document history tracking via XMP metadata that some conforming readers might choose to implement instead.	Should	Writer	XMP package

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№	Section	Description	Clause type	Policy	PDF Features
83	6.7.1 General	Subclause 6.7 is applicable only for files meeting Level A conformance. For Level B and Level U conformance the requirements of this subclause may be ignored. The intent of the requirements in 6.7.2 to 6.7.8 is to provide guidance in incorporating higher-level semantic information in PDF/A-3 conforming documents based on the recommendations in ISO 32000-1:2008, 14.7 and 14.8. Such information will help to ensure the recovery of the textual content of a conforming file in the natural reading order of the language in which they are written. In addition, the presence of the structure will enable richer accessibility of the PDF for those users with disabilities as detailed in ISO 32000-1:2008, 14.9. NOTE 1 Examples of such information are structure hierarchy, natural language specification, alternative descriptions, non-textual annotations, replacement text and expansions of abbreviations and acronyms. PDF/A-3 writers should not add structural or semantic information that is not explicitly or implicitly present in the source material solely for the purpose of achieving conformance. NOTE 2 It is inadvisable for writers to generate structural or semantic information using automated processes without appropriate verification.	General		
84	6.7.3.1 Specification of artifacts	Pagination features such as running heads or page numbers, cosmetic layout features such as footnote rules or background screens, and production aids such as cut marks and colour bars should be specified as pagination, layout and page artifacts, respectively, as described in ISO 32000-1:2008, 14.8.2.2.1 and 14.8.2.2.2.		Duplicate	
85	6.7.3.3 Structure hierarchy	The logical structure of the conforming file shall be described by a structure hierarchy rooted in the StructTreeRoot entry of the document’s Catalog dictionary, as described in ISO 32000-1:2008, 14.7. Writers of conforming files should attempt to capture a document’s logical structure hierarchy to the finest granularity possible, making use of the standard structure types for grouping elements, blocklevel structure elements, paragraph-like elements, list elements, table elements, inline-level structure elements, link elements and illustration elements, as defined in ISO 32000-1:2008, 14.8.4, to the fullest extent possible. NOTE The explicit description of a document’s logical structure will prove valuable to future efforts to recover the document’s full semantic value for the purposes of rendering or migration to other data formats.	Should	Human	
86	6.7.3.4 Structure types	All non-standard structure types shall be mapped to the nearest functionally equivalent standard type, as defined in ISO 32000-1:2008, 14.8.4, in the role map dictionary of the structure tree root. This mapping may be indirect; within the role map a non-standard type can map directly to another nonstandard type, but eventually the mapping shall terminate at a standard type.		Duplicate	
87	6.7.4 Natural language specification	The default natural language for all text in a file should be specified by the Lang entry in the document’s Catalog dictionary. All textual content within a file which differs from the default language should be indicated by use of a Lang property attached to a marked-content sequence, or by a Lang entry in a structure element dictionary, as described in ISO 32000-1:2008, 14.9.2. If the Lang entry is present in the document’s Catalog dictionary or in a structure element dictionary or property list, its value shall be a language identifier as described in ISO 32000-1:2008, 14.9.2. NOTE 1 Annex C of this part of ISO 19005 also gives some guidance for best practices in this area. All text strings encoded in Unicode whose language is not the default natural language for the file or not the natural language defined by the innermost enclosing structure element or marked-content sequence should indicate their language using the internal escape sequence described in ISO 32000-1:2008, 7.9.2. NOTE 2 The distinction between words foreign to a language and foreign words incorporated by common usage into a language is problematic. The intent of these requirements is to allow for future unambiguous semantic interpretation of textual content.		Duplicate	
88	6.7.5 Alternate descriptions	All structure elements whose content does not have a natural predetermined textual analogue (such as images and formulae) should supply an alternate text description using the Alt entry in the structure element dictionary, as described in ISO 32000-1:2008, 14.9.3. NOTE Alternate descriptions provide textual descriptions that aid in the proper interpretation of otherwise opaque non-textual content.		Duplicate	
89	6.7.6 Non-textual annotations	For annotation types that do not display text, the Contents key of an annotation dictionary should be specified with an alternative description of the annotation’s contents in human-readable form.		Duplicate	

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№	Section	Description	Clause type	Policy	PDF Features
90	6.7.7 Replacement text	All textual structure elements that are represented in a non-standard manner, e.g. custom characters or inline graphics, should supply replacement text using the ActualText entry in the structure element dictionary, as described in ISO 32000-1:2008, 14.9.4. NOTE Replacement text provides textual equivalents that aid in the proper interpretation of otherwise opaque, unusual representations of textual components.		Duplicate	
91	6.7.8 Expansions of abbreviations and acronyms	All instances of abbreviations and acronyms in textual content should be placed in a marked-content sequence with a Span tag whose E property provides a textual expansion of the abbreviation or acronym, as described in ISO 32000-1:2008, 14.9.5. NOTE Abbreviation and acronym expansion provides textual equivalents that aid in the proper interpretation of otherwise opaque nomenclature.		Duplicate	
92	6.8 Embedded files	This part of ISO 19005 allows for embedding of files of any t ype, but imposes certain requirements for embedded files that go beyond what ISO 32000-1 requires. Files that comply with these additional requirements, as described in Annex E, are called ‘associated files’. The additional information provided for associated files as well as the usage requirements for associated files indicate the relationship between the embedded file and the PDF document or the part of the PDF document with which it is associated. NOTE 1 The AFRelationship key is used to describe how this embedded file relates to the content of the PDF. A file specification dictionary, as defined in ISO 32000-1:2008, 7.11.3, may contain the EF key. The file specification dictionary for an embedded file shall contain the F and UF keys and should contain the Desc key. NOTE 2 The Desc key is used to provide a human-readable description of the embedded file. NOTE 3 This provision makes mandatory a recommendation in ISO 32000-1, 7.11.3, to use the UF entry in addition to the F entry. The UF entry provides cross-platform and cross-language compatibility while the F entry provides backwards compatibility.	May	Machine	File specification dictionary with EF key and Desc File specification dictionary with EmbeddedFiles key Embedded file that no comply with any part of Standart
93		A file’s name dictionary, as defined in ISO 32000-1:2008, 7.7.4, may contain the EmbeddedFiles key. A conforming interactive reader shall provide a mechanism to display the name strings from the value of the EmbeddedFiles key in the names dictionary of a conforming file. In addition, a conforming interactive reader may also choose to display information from the associated embedded file stream dictionaries or their Params dictionary. Although embedded files that do not comply with any part of this International Standard should not be rendered by a conforming reader, a conforming interactive reader should enable the extraction of any embedded file. The conforming interactive reader should also require an explicit user action to initiate the process. NOTE 4 The extraction process consists of copying the raw byte stream of the embedded file data (after any decoding of filters that might be applied) from inside the PDF to some external byte storage system (e.g. disk or memory). NOTE 5 These recommendations are to aid users in avoiding potential security risks inherent in opening unknown file types.	Conforming reader	Machine	File specification dictionary with EF key and Desc File specification dictionary with EmbeddedFiles key Embedded file that no comply with any part of Standart

C.3 PDF/A “Should” and “May” Clauses

№	Section	Description	Clause type	Policy	PDF Features
94	6.9 Optional content	Optional content may be used in PDF/A-3 files to allow multiple variants of a document to be supplied in a single file. Common use cases for this include multilingual documents, regional versioning or different object groupings on a CAD-type drawing. A variant consists of one or more optional content groups (OCGs), which are associated through an optional content membership dictionary (OCMD) and an optional content configuration dictionary (OCCD). Each optional content configuration dictionary determines which OCGs are grouped together to form a single variant. The document’s Catalog may contain the OCProperties key. The presence of OCProperties indicates that the file contains variants, and the requirements of this subclause apply. In the absence of explicit instructions to the contrary a PDF/A-3 reader shall render the file in the default state set by the value of the D key in the OCProperties dictionary, as specified in “Determining the State of Optional Content Groups” (ISO 32000-1:2008, 8.11.4). The OCProperties dictionary may also contain the Configs key. If a Configs key is present, then each element of the array, that forms the value of the Configs key, shall define a single variant. Each optional content configuration dictionary that forms the value of the D key, or that is an element in the array that forms the value of the Configs key in the OCProperties dictionary shall contain the Name key, the identifier of the variant, whose value shall be unique amongst all optional content configuration dictionaries within the PDF/A-3 file. NOTE 1 It is recommended that all values for the Name key be selected in such a way as to allow unambiguous identification of the correct content that is to be printed or displayed. If an optional content configuration dictionary contains the Order key, the array, which is the value of this Order key, shall contain references to all OCGs in the conforming file. A conforming interactive reader shall provide a means to display the contents of the Order key from any OCCDs present in the conforming file that contain an Order key or that inherit the Order key from the default OCCD. In addition, if a conforming file contains OCCDs in addition to the default OCCD, then a conforming interactive reader shall provide a means to display the list of OCCDs from which a user can choose which one to view and print. NOTE 2 The OCGs in an Order array can be structured using a hierarchy of arrays and not simply a flat list. The AS key shall not appear in any optional content configuration dictionary. NOTE 3 This prevents the automatic adjustment of states based on usage information (ISO 32000-1:2008, 8.11.4.5). NOTE 4 The requirements of 6.2.11 apply for all fonts used in all optional content, even where a particular exchange will not result in some optional content being rendered. A conforming reader shall not use the value of the Intent key.	May	Machine	OptionalContent properties