



TECHNICAL SPECIFICATION

**Electronic Signatures and Infrastructures (ESI);
XAdES digital signatures -
Testing Conformance and Interoperability;
Part 4: Testing Conformance of XAdES baseline signatures**

Reference

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ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Electronic Signatures and Infrastructures (ESI).

The present document is part 4 of a multi-part deliverable covering XAdES digital signatures - Testing Conformance and Interoperability. Full details of the entire series can be found in part 1 [i.2].

A tool implementing the present document has been developed and is accessible at <http://signatures-conformance-checker.etsi.org/>.

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

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1 Scope

The present document defines the set of checks to be performed for testing conformance of XAdES signatures against XAdES baseline signatures as specified ETSI EN 319 132-1 [1].

The present document does not specify checks leading to conclude whether a signature is technically valid or not (for instance, it does not specify checks for determining whether the cryptographic material present in the signature may be considered valid or not). In consequence no conclusion may be inferred regarding the technical validity of a signature that has been successfully tested by any tool conformant to the present document.

Checks specified by the present document are exclusively constrained to elements specified by XAdES [1] and to certain elements specified by XMLSig [3] that are re-used in XAdES schema definition (like `ds:DigestMethod`, `ds:DigestValue`).

Regarding XAdES properties, the present document explicitly differentiates between structural requirements that are defined by the XAdES XML Schema, and the rest of the requirements specified by XAdES [1]. Checks corresponding to the first set of requirements are specified in the normative annex A. Checks corresponding to the second set of requirements are specified in the body part of the present document.

The present document is intentionally not linked to any software development technology and is also intentionally agnostic on implementation strategies. This is one of the reasons why the test assertions set specified in the present document includes tests on the correctness of the structure of all the elements specified by XAdES [1].

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are necessary for the application of the present document.

- [1] ETSI EN 319 132-1: "Electronic Signatures and Infrastructures (ESI); XAdES digital signatures; Part 1: Building blocks and XAdES baseline signatures".
- [2] ETSI EN 319 132-2: "Electronic Signatures and Infrastructures (ESI); XAdES digital signatures; Part 2: Extended XAdES signatures".
- [3] W3C Recommendation (2008): "XML-Signature Syntax and Processing (Second Edition)".
- [4] IETF RFC 3061 (2001): "A URN Namespace of Object Identifiers".
- [5] IETF RFC 3161 (2001): "Internet X.509 Public Key Infrastructure: Time-Stamp Protocol (TSP)".
- [6] IETF RFC 6960: "X.509 Internet Public Key Infrastructure Online Certificate Status Protocol - OCSP".

2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] OASIS Standard: "Test Assertions Model Version 1.0".
- [i.2] ETSI TR 119 134-1: "Electronic Signatures and Infrastructures (ESI); XAdES digital signatures - Testing Conformance and Interoperability; Part 1: Overview".
- [i.3] ETSI TS 119 134-5: "Electronic Signatures and Infrastructures (ESI); XAdES digital signatures - Testing Conformance and Interoperability; Part 5: Testing Conformance of extended XAdES signatures".

3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

BER	Basic Encoding Rules
CER	Canonical Encoding Rules
DER	Distinguished Encoding Rules
HTTP	Hyper Text Transfer Protocol
OCSP	Online Certificate Status Protocol
OID	Object IDentifier
PER	Packed Encoding Rules
TSP	Trusted Service Providers
URI	Uniform Resource Identifier
URN	Uniform Resource Name
XER	XML Encoding Rules
XML	eXtensible Markup Language
XMLDSIG	eXtensible Markup Language Digital SIGNature

4 Overview

The present clause describes the main aspects of the technical approach used for specifying the whole set of tests to be performed for testing conformance to ETSI EN 319 132-1 [1].

In order to test conformance against the aforementioned specification, several types of tests are identified, namely:

- 1) Tests on the signature structure that are directly derived from the XML Schema specified in ETSI EN 319 132-1 [1]. These tests are specified in annex A.
- 2) Tests on the signature structure that are not defined by the XML schema of ETSI EN 319 132-1 [1] and that in consequence may not be tested by a XML Schema validator tool.
- 3) Tests on values of specific elements and/or attributes that cannot be tested by a XML Schema validator tool.
- 4) Tests on interrelationship between different elements present in the signature (URIs that point to certain elements, for instance).
- 5) Tests on computations reflected in the contents of the signatures (for instance message imprints for a time-stamping service, computed by digesting the concatenation of a number of elements of the signature).

No tests are included testing actual validity of the cryptographic material that might be present in the signature or to be used for its verification (for instance status of certificates).

Tests are defined as test assertions following the work produced by OASIS in "Test Assertions Model Version 1.0" [i.1].

For each XAdES qualifying property and for certain relevant elements specified in XMLDSIG [3], the present document defines a number of test assertions corresponding to the requirements specified in the aforementioned specifications.

ETSI EN 319 132-1 [1] defines requirements for building blocks and XAdES baseline signatures. For the purpose of identifying the whole set of test assertions required for testing conformance against XAdES baseline signatures as specified in ETSI EN 319 132-1 [1], the present document classifies the whole set of requirements specified in ETSI EN 319 132-1 [1] in three groups as follows:

- 1) Requirements "XAdES_BS" (after "XAdES baseline signatures"): requirements defined in clause 6 of ETSI EN 319 132-1 [1]. These are requirements specific to XAdES baseline signatures.
- 2) Requirements "XAdES_BB" (after "XAdES building blocks"): requirements defined in clauses 4 and 5, annexes A, C and D of ETSI EN 319 132-1 [1] applicable to both XAdES baseline signatures as specified in ETSI EN 319 132-1 [1] and XAdES extended signatures as specified in ETSI EN 319 132-2 [2].
- 3) Requirements "XAdES_SCH" (after "XAdES schema"): requirements defined in annex A. These are requirements directly derived from the XML Schema definitions in ETSI EN 319 132-1 [1].

The set of test assertions for XAdES baseline signatures as specified in ETSI EN 319 132-1 [1], shall be the addition of test assertions with code "XAdES_BB", and test assertions with code "XAdES_BS".

Each test assertion includes:

- 1) Unique identifier for further referencing. The identifiers of the assertions start with a code identifying the set of requirements the assertion corresponds to, namely: "XAdES_BB", and "XAdES_BS".

NOTE: The present document does not define test assertions for requirements "XAdES_BB_ES". These test assertions are defined in ETSI TS 119 134-5 [i.3].

- 2) Reference to the **Normative source** for the test.
- 3) The **Target** of the assertion. In the normative part, this field identifies ETSI EN 319 132-1 [1].
- 4) **Prerequisite (optional)** is, according to [i.1], "a logical expression (similar to a Predicate) which further qualifies the Target for undergoing the core test (expressed by the Predicate) that addresses the Normative Statement". It is used for building test assertions corresponding to requirements that are imposed under certain conditions.
- 5) **Predicate** fully and unambiguously defining the assertion to be tested.
- 6) **Prescription level**: three levels are defined: mandatory, preferred and permitted, whose semantics is to be interpreted as described in clause 3.1.2 of [i.1].
- 7) **Tag**: information on the element tested by the assertion. This indicates that XAdES [1] is the origin of the assertion.

Table 1 shows the prefixes used to refer to specific elements in the XAdES signature associated to the URIs of the corresponding namespaces.

Table 1: Prefixes used

XML Namespace URI	Prefix
http://www.w3.org/2000/09/xmlsig#	ds
http://uri.etsi.org/01903/v1.3.2#	xades
http://uri.etsi.org/01903/v1.4.1#	xadesv141

5 Testing conformance to B-B level of XAdES signatures

5.1 General

The clause 5 specifies the whole set of assertions, not directly derived from XAdES XML schema, to be tested on applications claiming conformance to the XAdES-B-B signatures as specified in ETSI EN 319 132-1 [1]. As mentioned before the assertions derived from the XML Schema definition are specified in the normative annex A.

Clause 5.2 specifies the assertions for testing conformance on elements that are specified by the W3C XML Signature Recommendation [3] and further profiled by ETSI EN 319 132-1 [1], against ETSI EN 319 132-1 [1].

Clause 5.3 specifies the assertions for testing conformance on the qualifying properties that are relevant for the XAdES-B-B level.

According to ETSI EN 319 132-1 [1], XAdES-B-B signatures should not incorporate a number of qualifying properties. Nevertheless, a XAdES-B-B signature can incorporate them. The list below specifies how to test these properties in case they are present in a XAdES-B-B signature:

- 1) `xades:SignatureTimeStamp`, shall be tested as specified in clauses 6.2 and A.3.13.
- 2) `xadesv141:CompleteCertificateRefsV2`, shall be tested as specified in clauses 5.3.12 and A.3.14.
- 3) `xades:CompleteRevocationRefs`, shall be tested as specified in clauses 5.3.14 and A.3.15.
- 4) `xadesv141:AttributeCertificateRefsV2`, shall be tested as specified in clauses 5.3.13 and A.3.14.
- 5) `xades:AttributeRevocationRefs`, shall be tested as specified in clauses 5.3.15 and A.3.15.
- 6) `xadesv141:RefsOnlyTimeStampV2`, shall be tested as specified in clauses 5.3.17 and A.3.17.
- 7) `xadesv141:SigAndRefsTimeStampV2`, shall be tested as specified in clauses 5.3.16 and A.3.16.
- 8) `xades:CertificateValues`, shall be tested as specified in clauses 7.2 and A.3.18.
- 9) `xades:AttrAuthoritiesCertValues`, shall be tested as specified in clauses 7.4 and A.3.18.
- 10) `xades:RevocationValues`, shall be tested as specified in clauses 7.3 and A.3.19.
- 11) `xades:AttributeRevocationValues`, shall be tested as specified in clauses 7.5 and A.3.19.
- 12) `xadesv141:TimeStampValidationData`, shall be tested as specified in clauses 7.6 and A.3.20.
- 13) `xadesv141:ArchiveTimeStamp`, shall be tested as specified in clauses 8.2 and A.3.21.
- 14) `xadesv141:RenewedDigests`, shall be tested as specified in clauses 8.3 and A.3.22.

5.2 Testing XML Signature elements and containers of XAdES qualifying properties

5.2.1 Testing XML Signature elements

5.2.1.1 Testing ds:Signature element

TA id: XAdES_BS/XMLSIG/DSSIG/1

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The signature has one or more ds:Object children.

Prescription level: mandatory

Tag: XAdES baseline signatures.

5.2.1.2 Testing ds: Reference element

5.2.1.2.1 Test assertions common to XAdES baseline and extended signatures

This clause defines the test assertions for ds:Reference element.

TA id: XAdES_BB/XMLSIG/REF/1

Normative source: [1] - Clause 4.4.2

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1] and to XAdES extended signatures as specified in [2]

Predicate: The value of the attribute Type of the ds:Reference element referencing the xades:SignedProperties element is "http://uri.etsi.org/01903#SignedProperties".

Prescription level: mandatory

Tag: XAdES baseline and extended signatures.

TA id: XAdES_BB/XMLSIG/REF/2

Normative source: [1] - Clause 4.4.2

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1] and to XAdES extended signatures as specified in [2]

Predicate: The digest value appearing within the ds:Reference element is equal to the value computed after processing the ds:Reference according to XMLDSIG [3] clause 4.4.3.2.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures.

5.2.1.2.2 Testing ds: Transforms element

This clause defines the test assertions for ds:Reference's ds:Transforms child element.

TA id: XAdES_BS/XMLSIG/REF/TR/1

Normative source: [1] Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The range of the Transformation algorithms used in new signatures, is the range identified in ETSI EN 319 132 Part 1 [1] clause 6.3.

Prescription level: preferred

Tag: XAdES baseline signatures.

5.2.1.3 Testing ds: Canonicalization element

This clause defines the test assertions for ds:CanonicalizationMethod element.

TA id: XAdES_BS/XMLSIG/REF/CAN/1

Normative source: [1] Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The value of the attribute Algorithm of ds:Canonicalization element for new signatures is one of the following three values: <http://www.w3.org/2006/12/xml-c14n11>, <http://www.w3.org/2001/10/xml-exc-c14n#>, <http://www.w3.org/TR/2001/REC-xml-c14n-20010315>.

Prescription level: preferred

Tag: XAdES baseline signatures.

TA id: XAdES_BS/XMLSIG/REF/CAN/2

Normative source: [1] Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The value of the attribute Algorithm of ds:Canonicalization element in legacy XAdES baseline signatures is one of the following six values: <http://www.w3.org/2006/12/xml-c14n11>, <http://www.w3.org/2001/10/xml-exc-c14n#>, <http://www.w3.org/TR/2001/REC-xml-c14n-20010315>, <http://www.w3.org/2006/12/xml-c14n11#WithComments>, <http://www.w3.org/2001/10/xml-exc-c14n#WithComments>, <http://www.w3.org/TR/2001/REC-xml-c14n-20010315#WithComments>.

Prescription level: permitted

Tag: XAdES baseline signatures.

5.2.1.4 Testing ds:SignatureValue element

5.2.1.4.1 Test assertions common to XAdES baseline and extended signatures

This clause defines the test assertions for ds:SignatureValue child element.

TA id: XAdES_BS/XMLSIG/SIGVAL/TR/1

Normative source: [3]

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The value in ds:SignatureValue is cryptographically correct.

Prescription level: mandatory

Tag: XAdES baseline signatures and extended signatures.

5.2.1.5 Testing ds: KeyInfo element

5.2.1.5.1 Test assertions common to XAdES baseline and extended signatures

TA id: XAdES_BB/XMLSIG/KEYINFO/1

Normative source: [3] - Clause 4.4.4

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The content of any ds:X509Certificate descendant element within the ds:KeyInfo element is a base-64 encoding of a X509 certificate.

Prescription level: mandatory

Tag: XAdES baseline signatures and extended signatures.

5.2.1.5.2 Test assertions specific to XAdES baseline signatures

TA id: XAdES_BS/XMLSIG/KEYINFO/1

Normative source: [1] Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The ds:KeyInfo element is present within the XAdES baseline signatures as specified in [1]

Prescription level: mandatory

Tag: XAdES baseline signatures.

TA id: XAdES_BS/XMLSIG/KEYINFO/2

Normative source: [1] Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The ds:KeyInfo includes the signing certificate in one of its descendant X09Certificate elements

Prescription level: mandatory

Tag: XAdES baseline signatures.

5.2.2 Testing containers of XAdES qualifying properties

5.2.2.1 Testing incorporation of XAdES qualifying properties to the signature

TA id: XAdES_BS/PROPERTIES/INCORPORATION/1

Normative source: [1]- Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The XAdES signature contains one and exactly one xades:QualifyingProperties descendant element.

Prescription level: mandatory

Tag: XAdES baseline signatures.

TA id: XAdES_BS/PROPERTIES/INCORPORATION/2

Normative source: [1]- Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The xades:QualifyingProperties element is child of one ds:Object element that is child of the ds:Signature element.

Prescription level: mandatory

Tag: XAdES baseline signatures.

TA id: XAdES_BS/PROPERTIES/INCORPORATION/3

Normative source: [1]- Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: None of the ds:Object elements children of the ds:Signature element includes a xades:QualifyingPropertiesReference element.

Prescription level: mandatory

Tag: XAdES baseline signatures.

5.2.2.2 Testing xades:QualifyingProperties

5.2.2.2.1 Test assertions common to XAdES baseline and extended signatures

TA id: XAdES_BB/QP/1

Normative source: [1]- Clause 4.3.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The xades:QualifyingProperties element is not an empty element.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/QP/2

Normative source: [1]- Clause 4.3.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The Target attribute of xades:QualifyingProperties element references the Id attribute of the ds:Signature element **that is the root element** of the XAdES signature that incorporates the aforementioned xades:QualifyingProperties element.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

5.2.2.2.2 Test assertions specific to XAdES baseline signatures

TA id: XAdES_BS/QP/1

Normative source: [1]- Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The xades:QualifyingProperties element contains one xades:SignedProperties child element.

Prescription level: mandatory

Tag: XAdES baseline signatures

5.2.2.3 Testing xades:SignedProperties

5.2.2.3.1 Test assertions specific to XAdES baseline signatures

TA id: XAdES_BS/SIGPROP/1

Normative source: [1]- Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The xades:SignedProperties contains one xades:SignedSignatureProperties child element.

Prescription level: mandatory

Tag: XAdES baseline signatures

TA id: XAdES_BS/ SIGPROP/3

Normative source: [1]- Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Prerequisite: The ds:Signature countersigns one or more signatures (it is the child element of a xades:CounterSignature element AND/OR it has one or more ds:Reference elements that have their corresponding Type attributes set to "http://uri.etsi.org/01903#CountersignedSignature") AND the signature signs the countersigned signature(s), its own xades:SignedProperties, and additional data objects.

Predicate: The xades:SignedProperties contains one xades:SignedDataObjectProperties element.

Prescription level: mandatory

Tag: XAdES baseline signatures

TA id: XAdES_BS/SIGPROP/2

Normative source: [1]- Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Prerequisite: The ds:Signature does not countersign any signature AND signs its own xades:SignedProperties and additional data objects.

Predicate: The xades:SignedProperties contains one xades:SignedDataObjectProperties element.

Prescription level: mandatory

Tag: XAdES baseline signatures

5.2.2.4 Testing xades:SignedSignatureProperties

5.2.2.4.1 Test assertions specific to XAdES baseline signatures

TA id: XAdES_BS/SIGSIGPROP/1

Normative source: [1]- Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The xades:SignedSignatureProperties element contains one xades:SigningCertificateV2 qualifying property.

Prescription level: mandatory

Tag: XAdES baseline signatures

TA id: XAdES_BS/SIGSIGPROP/2

Normative source: [1]- Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The xades:SignedSignatureProperties element contains one xades:SigningTime qualifying property.

Prescription level: mandatory

Tag: XAdES baseline signatures

5.2.2.5 Testing xades:SignedDataObjectProperties

5.2.2.5.1 Test assertions common to XAdES baseline and extended signatures

TA id: XAdES_BB/SIGDOPROP/1

Normative source: [1]- Clause 4.3.5

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The xades:SignedDataObjectProperties element is not an empty element.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

5.2.2.5.2 Test assertions specific to XAdES baseline signatures

TA id: XAdES_BS/SIGDOPROP/1

Normative source: [1]- Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Prerequisite: The signature does not countersign any signature.

Predicate: The xades:SignedDataObjectProperties element has one xades:DataObjectFormat per each signed data object except the xades:SignedProperties element.

Prescription level: mandatory

Tag: XAdES baseline signatures

TA id: XAdES_BS/SIGDOPROP/2

Normative source: [1]- Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Prerequisite: The ds:Signature countersigns one or more signatures (it is the child element of a xades:CounterSignature element AND/OR it has one or more ds:Reference elements that have their corresponding Type attributes set to "http://uri.etsi.org/01903#CountersignedSignature") AND the signature signs the countersigned signature(s), its own xades:SignedProperties, and additional data objects.

Predicate: The xades:SignedProperties has one xades:DataObjectFormat per each additional signed data object.

Prescription level: mandatory

Tag: XAdES baseline signatures

5.2.2.6 Testing xades:UnSignedProperties

5.2.2.6.1 Test assertions common to XAdES baseline and extended signatures

TA id: XAdES_BB/UNSIGPROP/1

Normative source: [1]- Clause 4.3.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The xades:UnSignedProperties element is not an empty element.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

5.2.2.6.2 Test assertions specific to XAdES baseline signatures

TA id: XAdES_BS/UNSIGPROP/1

Normative source: [1]- Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: A XAdES baseline signature incorporates 0 or 1 xades:UnSignedProperties element.

Prescription level: mandatory

Tag: XAdES baseline signatures

5.2.2.7 Testing xades:UnSignedSignatureProperties

5.2.2.7.1 Test assertions common to XAdES baseline and extended signatures

TA id: XAdES_BB/UNSIGSIGPROP/1

Normative source: [1]- Clause 4.3.6

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The xades:UnSignedSignatureProperties element is not an empty element.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

5.2.2.7.2 Test assertions specific to XAdES baseline signatures

TA id: XAdES_BS/UNSIGSIGPROP/1

Normative source: [1]- Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: A XAdES baseline signature incorporates 0 or 1 xades:UnSignedSignatureProperties element.

Prescription level: mandatory

Tag: XAdES baseline signatures

5.2.2.8 Testing xades:UnsignedDataObjectProperties

5.2.2.8.1 Test assertions common to XAdES baseline and extended signatures

TA id: XAdES_BB/UNSIGDOPROP/1

Normative source: [1]- Clause 4.3.7

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The xades:UnsignedDataObjectProperties element is not an empty element.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

NOTE: So far no property of this type has been specified within XAdES framework. It is out of the scope of the present document to specify any conformance assertion for this property or their potential children other than the assertion above.

TA id: XAdES_BB/UNSIGDOPROP/2

Normative source: [1] - Clause 6.3 - [2] Clauses 4.3, A.1 and A.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: A XAdES signature does not incorporate any xades:UnsignedDataObjectProperties element.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

5.3 Testing XAdES qualifying properties

5.3.1 Testing xades:SigningTime element

5.3.1.1 Test assertions specific to XAdES baseline signatures

No additional test assertions for checking xades:SigningTime qualifying property are required in addition to the ones defined in clause A.3.2.

5.3.2 Testing xades:SigningCertificateV2 element

5.3.2.1 Test assertions common to XAdES baseline and extended signatures

TA id: XAdES_BB/SIGCERTV2/1

Normative source: [1]- Clause 5.2.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The first xades:Cert child of the xades:SigningCertificateV2 signed property contains the base-64 encoded value of digest value computed on the DER-encoded signing certificate.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/SIGCERTV2/2

Normative source: [1]- Clause 5.2.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The xades:SigningCertificate signed property contains other xades:Cert elements.

Prescription level: **permitted**

Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/SIGCERTV2/3

Normative source: [1]- Clause 5.2.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:Cert children other than the first one contain base-64 encoded digest values of other DER-encoded certificates different than the signing certificate, which are part of the signing certificate path.

Prescription level: **permitted**

Tag: XAdES baseline and extended signatures

5.3.2.2 Test assertions specific to XAdES baseline signatures

TA id: XAdES_BS/SIGCERTV2/1
Normative source: [1]- Clause 6.3
Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]
Predicate: The xades:SigningCertificateV2 does not contain Cert children's URI attribute.
Prescription level: **mandatory**
Tag: XAdES baseline signatures

TA id: XAdES_BS/SIGCERTV2/2
Normative source: [1]- Clause 6.3
Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]
Predicate: The xades:SigningCertificateV2 does not include the IssuerSerialV2 Cert's child.
Prescription level: **preferred**
Tag: XAdES baseline signatures

5.3.3 Testing xades:CommitmentTypeIndication element

5.3.3.1 Test assertions common to XAdES baseline and extended signatures

TA id: XAdES_BB/CTI/1
Normative source: [1]- Clause 5.2.3
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: Any xades:ObjectReference present child element references either a ds:Reference element within the ds:SignedInfo element, or a ds:Reference within a signed ds:Manifest element.
Prescription level: **mandatory**
Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/CTI/2
Normative source: [1]- Clause 5.2.3
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: None of the xades:ObjectReference present children elements does reference a ds:Reference element referencing the xades:SignedProperties element.
Prescription level: **mandatory**
Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/CTI/3
Normative source: [1]- Clause 5.2.3
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The Identifier child of xades:CommitmentTypeIndication does not contain the Qualifier attribute.
Prescription level: **mandatory**
Tag: XAdES baseline and extended signatures

5.3.4 Testing xades:DataObjectFormat element

5.3.4.1 Test assertions common to XAdES baseline and extended signatures

TA id: XAdES_BB/DOF/1
Normative source: [1] - Clause 5.2.4
Target: : XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The attribute ObjectReference of xades:DataObjectFormat element references either a ds:Reference element child of ds:SignedInfo, or a ds:Reference element child of signed ds:Manifest element.
Prescription level: **mandatory**
Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/DOF/2
Normative source: [1] - Clause 5.2.4
Target: : XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The ObjectReference attribute of xades:DataObjectFormat element does not reference a ds:Reference element referencing the xades:SignedProperties element.
Prescription level: **mandatory**
Tag: XAdES baseline and extended signatures

TA id: XADES_BB/DOF/3

Normative source: [1] - Clause 6.3

Target: : XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The ObjectReference attribute of the xades:DataObjectFormat element does not reference a ds:Reference that is present within a countersignature AND that references the countersigned signature.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_BB/DOF/4

Normative source: [1] - Clause 5.2.4

Target: : XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Prerequisite: The xades:DataObjectFormat element contains one xades:MimeType child element AND the ObjectReference attribute of the xades:DataObjectFormat element references a ds:Reference in the signature AND this ds:Reference references a ds:Object AND this ds:Object contains a MimeType attribute.

Predicate: The value of the xades:MimeType child element of the xades:DataObjectFormat element is the same as the value of the MimeType attribute of the ds:Object.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_BB/DOF/5

Normative source: [1] - Clause 5.2.4

Target: : XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Prerequisite: The xades:DataObjectFormat element contains one xades:Encoding child element AND the ObjectReference attribute of the xades:DataObjectFormat element references a ds:Reference in the signature AND this ds:Reference references a ds:Object AND this ds:Object contains an Encoding attribute.

Predicate: The value of the xades:Encoding child element of the xades:DataObjectFormat element, is the same as the value of the Encoding attribute of the ds:Object.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_BB/DOF/6

Normative source: [1] - Clause 5.1.2

Target: : XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Prerequisite: The value of the attribute Qualifier of the xades:ObjectIdentifier child element of xades:DataObjectFormat is "OIDAsURN".

Predicate: The value of the xades:ObjectIdentifier child element of xades:DataObjectFormat child element of the xades:DataObjectFormat element is an OID encoded within an URN as specified in the IETF RFC 3061 [4].

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

5.3.4.2 Test assertions specific to XAdES baseline signatures

TA id: XADES_BS/DOF/1

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Prerequisite: The XAdES signature is not a countersignature.

Predicate: One xades:DataObjectFormat property is incorporated to the XAdES signature for each signed data object, except for the xades:SignedProperties element.

Prescription level: mandatory

Tag: XAdES baseline signatures

TA id: XADES_BS/DOF/2

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Prerequisite: The XAdES signature is a countersignature (it is the child of a xades:CounterSignature AND/OR some of its ds:Reference have their Type attributes set to value "http://uri.etsi.org/01903#CountersignedSignature").

Predicate: One xades:DataObjectFormat property is incorporated to the XAdES signature for each signed data object, except for the xades:SignedProperties element, and for the countersigned signatures.

Prescription level: mandatory

Tag: XAdES baseline signatures

TA id: XAdES_BBS/DOF/3
Normative source: [1] - Clause 6.3
Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]
Predicate: xades:DataObjectFormat property contains one xades:MimeType child.
Prescription level: mandatory
Tag: XAdES baseline signatures

5.3.5 Testing xades:SignatureProductionPlaceV2 element

5.3.5.1 Test assertions common to XAdES baseline and extended signatures

TA id: XAdES_BB/SIGPRODPLV2/1
Normative source: [1]- Clause 5.2.5
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The xades:SignatureProductionPlace element is not an empty element.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

5.3.6 Testing xades:SignerRoleV2 element

5.3.6.1 Test assertions common to XAdES baseline and extended signatures

TA id: XAdES_BB/SIGROLEV2/1
Normative source: [1]- Clause 5.2.6
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: xades:SignerRoleV2 property is not an empty element.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/SIGROLE/2
Normative source: [1]- Clause 5.2.6
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: Any present xades:X509AttributeCertificate element encapsulates the base-64 encoding of one DER-encoded X509 attribute certificate.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/SIGROLE/3
Normative source: [1]- Clause 5.2.6
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Prerequisite: The content of a xades:SignedAssertion is an XML node set.
Predicate: The content of a xades:SignedAssertion is well formed.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/SIGROLE/4
Normative source: [1]- Clause 5.2.6
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: Any present xades:SignedAssertion element is signed.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

NOTE: The specification of the contents of xades:OtherAttributeCertificate element is out of the scope of XAdES framework. It is out of the scope of the present document to specify any conformance assertion for this element or their potential children other than the assertion above.

5.3.7 Testing xades:CounterSignature element

5.3.7.1 Test assertions common to XAdES baseline and extended signatures

TA id: XADES_BB/COUNTSIG/2

Normative source: [1]- Clause 5.2.7

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The xades:CounterSignature element contains a ds:Reference referencing the ds:SignatureValue of the countersigned signature.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_BB/COUNTSIG/3

Normative source: [1]- Clause 5.2.7

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The value of the ds:SignatureValue child of the xades:CounterSignature property is cryptographically correct.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

For testing conformance of the countersignature itself against XAdES baseline signatures as specified in ETSI EN 319 132-1 [1], the whole set of tests assertions defined in the present document shall be checked for the countersignature.

NOTE: ETSI TS 119 134-5 [i.3] provides details on how to proceed for testing conformance of the countersignature against XAdES extended signatures as specified in ETSI EN 319 132-2 [2].

5.3.8 Testing xades:AllDataObjectsTimeStamp element

5.3.8.1 Test assertions common to XAdES baseline and extended signatures

TA id: XADES_BB/ADOTST/1

Normative source: [1] - Clause 5.2.8.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:AllDataObjectsTimeStamp does not contain any xades:Include child element.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_BB/ADOTST/2

Normative source: [1] - Clause 5.2.8.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:AllDataObjectsTimeStamp encapsulates one or more time-stamp tokens.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_BB/ADOTST/3

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The xades:AllDataObjectsTimeStamp uses the implicit mechanism as specified in EN 319 132 Part 1 clause 5.1.4.4.1.

Prescription level: mandatory

Tag: XAdES baseline signatures and extended signatures

TA id: XADES_BB/ADOTST/4

Normative source: [1] - Clause 5.2.8.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The message imprint computation input of any time-stamp token encapsulated by xades:AllDataObjectsTimeStamp is the concatenation of all the objects obtained after processing as specified in XMLDSIG [3] clause 4.4.3.2 all the ds:Reference elements within the ds:SignedInfo except the one referencing the xades:SignedProperties element, in their order of appearance

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

5.3.9 Testing xades:IndividualDataObjectsTimeStamp element

5.3.9.1 Test assertions common to XAdES baseline and extended signatures

TA id: XADES_BB/IDOTST/1

Normative source: [1] - Clause 5.2.8.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The xades:IndividualDataObjectsTimeStamp qualifying property contains one or more xades:Include children element.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_BB/IDOTST/2

Normative source: [1] - Clause 5.2.8.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:IndividualDataObjectsTimeStamp encapsulates one or more time-stamp tokens.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_BB/IDOTST/3

Normative source: [1] - Clause 5.2.8.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: Any xades:Include child element references one ds:Reference element within the ds:SignedInfo or within a signed ds:Manifest.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_BB/IDOTST/4

Normative source: [1] - Clause 5.2.8.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: A ds:Reference element within the ds:SignedInfo that is referenced by a xades:Include child element of xades:IndividualDataObjectsTimeStamp qualifying property, does not reference the xades:SignedProperties element.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_BB/IDOTST/5

Normative source: [1] - Clause 5.2.8.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The value of the referencedData attribute of any xades:Include descendant element is "true".

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_BB/IDOTST/6

Normative source: [1] - Clause 5.2.8.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The message imprint computation input of any time-stamp token encapsulated by xades:IndividualDataObjectsTimeStamp is the concatenation of the objects obtained after processing as specified in XMLDSIG [3] clause 4.4.3.2 the ds:Reference elements within the ds:SignedInfo or signed ds:Manifest referenced by the URI attributes of the xades:Include elements.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

5.3.10 Testing xades:SignaturePolicyIdentifier element

5.3.10.1 Test assertions common to XAdES baseline and extended signatures

TA id: XADES_BB/SIGPOLID/1

Normative source: [1] - Clause 5.2.9

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The xades:SigPolicyHash element contains the hash value of the object obtained after processing xades:SigPolicyId and ds:Transforms element when this last element is present.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_BB/SIGPOLID/2

Normative source: [1] - Clause 5.2.9

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Prerequisite: The value of the Algorithm attribute of one of the ds:Transform children of the ds:Transforms element is

<http://uri.etsi.org/01903/v1.3.2/SignaturePolicy/SPDocDigestAsInSpecification>.

Predicate: The xades:SignaturePolicyIdentifier property is qualified at least by the xadesv141:SPDocSpecification qualifier.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_BB/SIGPOLID/3

Normative source: [1] - Clause 5.2.9

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The xades:SigPolicyQualifiers child element of xades:SignaturePolicyId, contains one or more qualifiers of the same type.

Prescription level: permitted

Tag: XAdES baseline and extended signatures

5.3.10.2 Testing xades:SPURI signature policy qualifier

5.3.10.2.1 Test assertions common to XAdES baseline and extended signatures

TA id: XADES_BB/SIGPOLID/SPURI/1

Normative source: [1] - Clause 5.2.9.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The place referenced by its value contains the signature policy document.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

5.3.10.3 Testing xadesv141:SPDocSpecification signature policy qualifier

5.3.10.3.1 Test assertions common to XAdES baseline and extended signatures

TA id: XADES_BB/SIGPOLID/SPDOCSPEC/1

Normative source: [1] - Clause 5.2.9.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Prerequisite: The technical specification is identified using an OID.

Predicate: The xades:Identifier child contains a URN encoding this OID as specified in IETF RFC 3061 [4] AND its QualifierType attribute is present with its value set to "OIDAsURN".

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_BB/SIGPOLID/SPDOCSPEC/2

Normative source: [1] - Clause 5.2.9.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Prerequisite: The technical specification is identified using a URI.

Predicate: The value of the xades:Identifier child element is this URI AND its xades:QualifierType attribute is not present.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

5.3.11 Testing xadesv141:SignaturePolicyStore

5.3.11.1 Test assertions common to XAdES baseline and extended signatures

TA id: XADES_BB/SIGPOLST/1

Normative source: [1]- Clause 6.3, [2] Clauses 4.3, A.1, and A.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Prerequisite: The XAdES signature does not incorporate the xades:SignaturePolicyIdentifier.

Predicate: The XAdES signature does not incorporate the xadesv141:SignaturePolicyStore.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/SIGPOLST/2

Normative source: [1]- Clause 6.3, [2] Clauses 4.3, A.1, and A.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Prerequisite: The XAdES signature incorporates the xades:SignaturePolicyIdentifier AND the xades:SignaturePolicyIdentifier does not contain the xades:SigPolicyHash descendant element.

Predicate: The XAdES signature does not incorporate the xadesv141:SignaturePolicyStore.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/SIGPOLST/3

Normative source: [1]- Clause 6.3, [2] Clauses 4.3, A.1, and A.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Prerequisite: The XAdES signature incorporates the xades:SignaturePolicyIdentifier AND the xades:SignaturePolicyIdentifier contains an empty xades:SigPolicyHash descendant element.

Predicate: The XAdES signature does not incorporate the xadesv141:SignaturePolicyStore.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/SIGPOLST/4

Normative source: [1]- Clause 6.3, [2] Clauses 4.3, A.1, and A.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Prerequisite: The XAdES signature incorporates the xades:SignaturePolicyIdentifier AND the xades:SignaturePolicyIdentifier contains a non empty xades:SigPolicyHash descendant element.

Predicate: The XAdES signature incorporates the xadesv141:SignaturePolicyStore.

Prescription level: permitted

Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/SIGPOLST/5

Normative source: [1]- Clause 5.2.10

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The place referenced by the value of xades:SigPolDocLocalURI child element contains the signature policy document.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

5.3.12 Testing xadesv141:CompleteCertificateRefsV2 element

5.3.12.1 Test assertions common to XAdES baseline and extended signatures

TA id: XAdES_BB/CCERTREFSV2/1

Normative source: [1]- Clause A.1.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The xadesv141:CompleteCertificateRefsV2 property does not contain a reference of the signing certificate.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/CCERTREFSV2/2

Normative source: [1]- Clause A.1.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Prerequisite: At least one of the following unsigned properties is incorporated into the signature: xades:CertificateValues, xades:AttrAuthoritiesCertValues, or the xadesv141:ArchiveTimeStamp defined in the namespace whose URI is <http://uri.etsi.org/01903/v1.4.1#>.

Predicate: All the certificates referenced in xadesv141:CompleteCertificateRefsV2 are present elsewhere in the signature.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

5.3.12.2 Test assertions specific to XAdES baseline signatures

TA id: XAdES_BS/CCERTREFSV2/1

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The xadesv141:CompleteCertificateRefsV2 property is not present in the signature.

Prescription level: preferred

Tag: XAdES baseline signatures

TA id: XAdES_BS/CCERTREFSV2/2
Normative source: [1] - Clause 6.3
Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]
Predicate: At most one instance of xadesv141:CompleteCertificateRefsV2 property is incorporated into the signature.
Prescription level: **mandatory**
Tag: XAdES baseline signatures

TA id: XAdES_BS/CCERTREFSV2/3
Normative source: [1]- Clause 6.3
Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]
Predicate: The xadesv141:CompleteCertificateRefsV2 property does not include the IssuerSerialV2 child element of Cert child element.
Prescription level: **preferred**
Tag: XAdES baseline signatures

5.3.13 Testing xadesv141:AttributeCertificateRefsV2 element

5.3.13.1 Test assertions common to XAdES baseline and extended signatures

TA id: XAdES_BB/ATTCERTREFSV2/1
Normative source: [1]- Clause A.1.3
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The xadesv141:AttributeCertificateRefsV2 property does not contain references present within xadesv141:CompleteCertificateRefsV2 and xades:SigningCertificateV2 properties.
Prescription level: **preferred**
Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/ATTCERTREFSV2/2
Normative source: [1]- Clause A.1.3
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: At least one of the following unsigned properties is incorporated into the signature: xades:CertificateValues, xades:AttrAuthoritiesCertValues, or xadesv141:ArchiveTimeStamp.
Predicate: All the certificates referenced in xadesv141:AttributeCertificateRefsV2 are present in the signature.
Prescription level: **mandatory**
Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/ATTCERTREFSV2/3
Normative source: [1]- Clause A.1.3
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: At least one attribute certificate or one signed assertion is incorporated into the XAdES signature.
Predicate: The xadesv141:AttributeCertificateRefsV2 property is present
Prescription level: **permitted**
Tag: XAdES baseline and extended signatures

5.3.13.2 Test assertions specific to XAdES baseline signatures

TA id: XAdES_BS/ATTCERTREFSV2/1
Normative source: [1] - Clause 6.3
Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]
Predicate: The xadesv141:AttributeCertificateRefsV2 property is not present in the signature.
Prescription level: **preferred**
Tag: XAdES baseline signatures

TA id: XAdES_BS/ATTCERTREFSV2/2
Normative source: [1] - Clause 6.3
Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]
Predicate: At most one instance of xadesv141:AttributeCertificateRefsV2 property is incorporated into the signature.
Prescription level: **mandatory**
Tag: XAdES baseline signatures

TA id: XAdES_BS/ATTCERTREFSV2/3
Normative source: [1]- Clause 6.3
Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]
Predicate: The xadesv141:AttributeCertificateRefsV2 property does not include the IssuerSerialV2 Cert's child.
Prescription level: preferred
Tag: XAdES baseline signatures

5.3.14 Testing xades:CompleteRevocationRefs element

5.3.14.1 Test assertions common to XAdES baseline and extended signatures

TA id: XAdES_BB/CREVREFS/1
Normative source: [1]- Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The xades:CompleteRevocationRefs contains a reference to a revocation value for the signing certificate.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/CREVREFS/2
Normative source: [1]- Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The xades:CompleteRevocationRefs contains references to revocation values corresponding to CA certificates within the signing certificate path.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/CREVREFS/3
Normative source: [1]- Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The xades:CompleteRevocationRefs does not contain references to revocation values for the trust anchor.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/CREVREFS/4
Normative source: [1]- Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The xades:byKey child of any xades:ResponderID element contains the base-64 encoding of the DER-encoded of 'byKey' field specified in IETF RFC 6960 [6].
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/CREVREFS/5
Normative source: [1]- Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The value in xades:ProducedAt child of xades:OCSPIdentifier element indicates the same time as the time indicated by the 'ProducedAt' field of the referenced OCSP response.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/CREVREFS/6
Normative source: [1]- Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The xades:OCSPRef contains the xades:DigestAlgAndValue child element.
Prescription level: preferred
Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/CREVREFS/7
Normative source: [1]- Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The xades:CompleteRevocationRefs property is not an empty element.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XADES_BB/CREVREFS/8
Normative source: [1]- Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Prerequisite: At least one of the following unsigned properties is incorporated into the signature: xades:CertificateValues, xades:AttrAuthoritiesCertValues, or xadesv141:ArchiveTimeStamp.
Predicate: All the revocation data referenced in xades:CompleteRevocationRefs is present elsewhere in the signature.
Prescription level: **mandatory**
Tag: XAdES baseline and extended signatures

5.3.14.2 Test assertions specific to XAdES baseline signatures

TA id: XADES_BS/CREVREFS/1
Normative source: [1] - Clause 6.3
Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]
Predicate: The xades:CompleteRevocationRefs property is not present in the signature.
Prescription level: **preferred**
Tag: XAdES baseline signatures

TA id: XADES_BS/CREVREFS/2
Normative source: [1] - Clause 6.3
Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]
Predicate: At most one instance of xades:CompleteRevocationRefs property is incorporated into the signature.
Prescription level: **mandatory**
Tag: XAdES baseline signatures

5.3.15 Testing xades:AttributeRevocationRefs element

5.3.15.1 Test assertions common to XAdES baseline and extended signatures

TA id: XADES_BB/ATTREVREFS/1
Normative source: [1]- Clause A.1.4
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Prerequisite: All or some of the references to revocation values for the signing certificate(s) of the attribute certificate(s) and signed assertion(s) are not present within xades:CompleteRevocationRefs.
Predicate: The missing references to revocation values for the signing certificate(s) of the attribute certificate(s) and signed assertion(s) are present within xades:AttributeRevocationRefs qualifying property.
Prescription level: **mandatory**
Tag: XAdES baseline and extended signatures

TA id: XADES_BB/ATTREVREFS/2
Normative source: [1]- Clause A.1.4
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The xades:AttributeRevocationRefs does not contain references to revocation values for the trust anchor.
Prescription level: **mandatory**
Tag: XAdES baseline and extended signatures

TA id: XADES_BB/ATTREVREFS/3
Normative source: [1]- Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The xades:byKey child of any xades:ResponderID element contains the base-64 encoding of the DER-encoded of 'byKey' field specified in IETF RFC 6960 [6].
Prescription level: **mandatory**
Tag: XAdES baseline and extended signatures

TA id: XADES_BB/ATTREVREFS/4
Normative source: [1]- Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The value in xades:ProducedAt child of xades:OCSPIdentifier element indicates the same time as the time indicated by the 'ProducedAt' field of the referenced OCSP response.
Prescription level: **mandatory**
Tag: XAdES baseline and extended signatures

TA id: XADES_BB/ATTREVREFS/5

Normative source: [1]- Clause A.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The xades:OCSPRef contains the xades:DigestAlgAndValue child element.

Prescription level: preferred

Tag: XAdES baseline and extended signatures

TA id: XADES_BB/ATTREVREFS/6

Normative source: [1]- Clause A.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The xades:CompleteRevocationRefs property is not an empty element.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_BB/ATTREVREFS/7

Normative source: [1]- Clause A.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Prerequisite: At least one of the following unsigned properties is incorporated into the signature: xades:CertificateValues, xades:AttrAuthoritiesCertValues, or xadesv141:ArchiveTimeStamp.

Predicate: All the revocation data referenced in xades:AttributeRevocationRefs shall be present elsewhere in the signature.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

5.3.15.2 Test assertions specific to XAdES baseline signatures

TA id: XADES_BS/ATTREVREFS/1

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The xades:AttributeRevocationRefs property is not present in the signature.

Prescription level: preferred

Tag: XAdES baseline signatures

TA id: XADES_BS/ATTREVREFS/2

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: At most one instance of xades:AttributeRevocationRefs property is incorporated into the signature.

Prescription level: mandatory

Tag: XAdES baseline signatures

5.3.16 Testing xadesv141:SigAndRefsTimeStampV2 element

5.3.16.1 Test assertions common to XAdES baseline and extended signatures

TA id: XADES_BB/SIGREFSTSTV2/1

Normative source: [1] - Clause A.1.5.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Prerequisite: The xadesv141:SigAndRefsTimeStampV2 element does not contain any xades:Include child element.

Predicate: The message imprint computation input of the time-stamp token encapsulated by xadesv141:SigAndRefsTimeStampV2, shall be the result of canonicalizing and concatenating, in the order given the following elements and properties: ds:SignatureValue, xades:SignatureTimeStamp, xadesv141:CompleteCertificateRefsV2, xades:RevocationRefs, xadesv141:AttributeCertificateRefsV2 if present, and xades:AttributeRevocationRefs if present.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_BB/SIGREFSTSTV2/2

Normative source: [1] - Clause A.1.5.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Prerequisite: It is possible to establish an order between the time-stamp tokens (as specified in RFC 3161 [5] clause 2.4.2) encapsulated in xades:SignatureTimeStamp, in any existing xades:AllDataObjectsTimeStamp, in any existing xades:IndividualDataObjectsTimeStamp, and xades:SigAndRefsTimeStamp properties.

Predicate: Time indicated within any time-stamp token enveloped in this container shall be later to the time indicated within any time-stamp token enveloped within xades:IndividualDataObjectsTimeStamp if present, within xades:AllDataObjectsTimeStamp if present, and within xades:SignatureTimeStamp.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

5.3.16.2 Test assertions specific to XAdES baseline signatures

TA id: XADES_BS/SIGREFSTSTV2/1

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The xades:SigAndRefsTimeStampV2 property is not present in XAdES-B-B signatures.

Prescription level: preferred

Tag: XAdES baseline signatures

TA id: XADES_BS/SIGREFSTSTV2/2

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The xadesv141:SigAndRefsTimeStampV2 uses the implicit mechanism as specified in EN 319 132 Part 1 clause 5.1.3.3.1 (does not have any xades:Include child element).

Prescription level: mandatory

Tag: XAdES baseline signatures

5.3.17 Testing xadesv141:RefsOnlyTimeStampV2 element

5.3.17.1 Test assertions common to XAdES baseline and extended signatures

TA id: XADES_BB/REFSONTSTV2/1

Normative source: [1] - Clause A.1.5.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Prerequisite: The xadesv141:RefsOnlyTimeStampV2 qualifying property does not contain any xades:Include child element.

Predicate: The message imprint computation input of the time-stamp token encapsulated by xadesv141:RefsOnlyTimeStampV2, shall be the result of canonicalizing and concatenating, in the order given the following elements and properties: xadesv141:CompleteCertificateRefsV2, xades:RevocationRefs, xades:AttributeCertificateRefsV2 if present, and xades:AttributeRevocationRefs if present.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_BB/REFSONTSTV2/2

Normative source: [1] - Clause A.1.5.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Prerequisite: It is possible to establish an order between the time-stamp tokens (as specified in RFC 3161 [5] clause 2.4.2) encapsulated in xades:SignatureTimeStamp, in any existing xades:AllDataObjectsTimeStamp, in any existing xades:IndividualDataObjectsTimeStamp, and xades:SigAndRefsTimeStamp properties.

Predicate: Time indicated within any time-stamp token enveloped in this container shall be later to the time indicated within any time-stamp token enveloped within xades:IndividualDataObjectsTimeStamp if present, within xades:AllDataObjectsTimeStamp if present, and within xades:SignatureTimeStamp if present.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

5.3.17.2 Test assertions specific to XAdES baseline signatures

TA id: XAdES_BS/REFSONTSTV2/1

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The xadesv141:RefsOnlyTimeStampV2 property is not present in XAdES-B-B signatures.

Prescription level: preferred

Tag: XAdES baseline signatures

TA id: XAdES_BS/SIGREFSTSTV2/2

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The xadesv141:RefsOnlyTimeStampV2 uses the implicit mechanism as specified in EN 319 132 Part 1 clause 5.1.3.3.1.

Prescription level: mandatory

Tag: XAdES baseline signatures

6 Testing conformance to B-T level of XAdES signatures

6.1 General requirements

For testing conformance to B-T level of XAdES baseline signatures, the following test assertions shall apply:

- 1) The test assertions defined in clause 6; and
- 2) the test assertions defined in clauses 5.2 and 5.3 unless stated otherwise.

According ETSI EN 319 132-1 [1], XAdES-B-T signatures should not incorporate the following qualifying properties: xadesv141:CompleteCertificateRefsV2, xades:CompleteRevocationRefs, xadesv141:AttributeCertificateRefsV2, xades:AttributeRevocationRefs, xadesv141:RefsOnlyTimeStampV2, xadesv141:SigAndRefsTimeStampV2, xades:CertificateValues, xades:RevocationValues, xades:AttrAuthoritiesCertValues, xades:AttributeRevocationValues, xadesv141:TimeStampValidationData, xadesv141:RenewedDigests, and xadesv141:ArchiveTimeStamp. Nevertheless, a XAdES-B-T signature can incorporate them.

If any of the aforementioned qualifying properties is incorporated into a XAdES-B-T signature, it shall be tested as indicated in clause 5.1.

6.2 Testing xades:SignatureTimeStamp element

6.2.1 Test assertions common to XAdES baseline and extended signatures

TA id: XAdES_BB/SIGTST/1

Normative source: [1] - Clause 5.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The message imprint computation input of the time-stamp token encapsulated by xades:SignatureTimeStamp, is the canonicalized ds:SignatureValue element.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_BB/SIGTST/2

Normative source: [1] - Clause 5.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Prerequisite: The signature incorporates `xades:IndividualDataObjectsTimeStamp` and/or `xades:AllDataObjectsTimeStamp` properties AND it is possible to establish an order between the time-stamp tokens (as specified in RFC 3161 [5] clause 2.4.2) encapsulated in `xades:SignatureTimeStamp` properties and the time-stamp tokens encapsulated in any existing `xades:AllDataObjectsTimeStamp` and `xades:IndividualDataObjectsTimeStamp` properties.

Predicate: Time indicated within any time-stamp token present within this property is later to the time indicated within any present time-stamp token enveloped within `xades:IndividualDataObjectsTimeStamp` and `xades:AllDataObjectsTimeStamp` properties.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

6.2.2 Test assertions specific to XAdES baseline signatures

TA id: XADES_BS/SIGTST/1

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The `xades:SignatureTimeStamp` property is present in the signature.

Prescription level: **mandatory**

Tag: XAdES baseline signatures

TA id: XADES_BS/SIGTST/2

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: `xades:SignatureTimeStamp` encapsulates one time-stamp token.

Prescription level: **mandatory**

Tag: XAdES baseline signatures

7 Testing conformance to B-LT level of XAdES signatures

7.1 General requirements

7.1.1 Core requirements

For testing conformance to B-LT level of XAdES baseline signatures, the following test assertions shall apply:

- 1) the test assertions defined in clause 7; and
- 2) the test assertions defined in clauses 5.2, 5.3 and 6.2 unless stated otherwise.

7.1.2 Test assertions for testing properties containing references to validation data

According ETSI EN 319 132-1 [1], XAdES-B-LT, and XAdES-B-LTA signatures shall not incorporate the following qualifying properties: `xadesv141:CompleteCertificateRefsV2`, `xades:CompleteRevocationRefs`, `xadesv141:AttributeCertificateRefsV2`, `xades:AttributeRevocationRefs`, `xadesv141:RefsOnlyTimeStampV2`, and `xadesv141:SigAndRefsTimeStampV2`. When testing conformance to B-LT or conformance to B-LTA levels of XAdES baseline signatures, the test assertions defined in the clauses listed below shall not apply:

- 1) Clause 5.3.12. Test assertions for `xadesv141:CompleteCertificateRefsV2`.
- 1) Clause 5.3.13. Test assertions for `xadesv141:AttributeCertificateRefsV2`.
- 2) Clause 5.3.14. Test assertions for `xades:CompleteRevocationRefs`.
- 3) Clause 5.3.15. Test assertions for `xades:AttributeRevocationRefs`.

- 4) Clause 5.3.16. Test assertions for `xadesv141:SigAndRefsTimeStampV2`.
- 5) Clause 5.3.17. Test assertions for `xadesv141:RefsOnlyTimeStampV2`.

Instead the test assertions defined in the present clause shall apply.

TA id: XADES_BS/BLT_BLTA/CCERTREFSV2/1

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance either to XAdES-B-LT or XAdES-B-LTA signatures as specified in [1]

Predicate: The `xadesv141:CompleteCertificateRefsV2` property is not present in the signature.

Prescription level: mandatory

Tag: XAdES baseline signatures

TA id: XADES_BS/BLT_BLTA/ATTCERTREFSV2/1

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance either to XAdES-B-LT or XAdES-B-LTA signatures as specified in [1]

Predicate: The `xadesv141:AttributeCertificateRefsV2` property is not present in the signature.

Prescription level: mandatory

Tag: XAdES baseline signatures

TA id: XADES_BS/BT_BLT_BLTA/CREVREFS/1

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance either to XAdES-B-LT or XAdES-B-LTA signatures as specified in [1]

Predicate: The `xades:CompleteRevocationRefs` property is not present in the signature.

Prescription level: mandatory

Tag: XAdES baseline signatures

TA id: XADES_BS/BLT_BLTA/ATTREVREFS/1

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance either to XAdES-B-LT or XAdES-B-LTA signatures as specified in [1]

Predicate: The `xades:AttributeRevocationRefs` property is not present in the signature.

Prescription level: mandatory

Tag: XAdES baseline signatures

TA id: XADES_BS/BLT_BLTA/SIGREFSTSTV2/1

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance either to XAdES-B-LT or XAdES-B-LTA signatures as specified in [1]

Predicate: The `xades:SigAndRefsTimeStampV2` property is not present in the signature.

Prescription level: mandatory

Tag: XAdES baseline signatures

TA id: XADES_BS/BLT_BLTA/REFSONTSTV2/1

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance either to XAdES-B-LT or XAdES-B-LTA signatures as specified in [1]

Predicate: The `xadesv141:RefsOnlyTimeStampV2` property is not present in the signature.

Prescription level: mandatory

Tag: XAdES baseline signatures

7.1.3 Test assertions for testing properties from upper levels

According ETSI EN 319 132-1 [1], XAdES-B-LT signatures should not incorporate the following qualifying properties: `xadesv141:ArchiveTimeStamp`, and `xadesv141:RenewedDigests`.

If any of the aforementioned qualifying properties is incorporated into a XAdES-B-LT signature, it shall be tested as indicated in clause 5.1.

7.2 Testing xades:CertificateValues element

7.2.1 Test assertions common to XAdES baseline and extended signatures

TA id: XAdES_BB/CERTVALS/1

Normative source: [1] - Clause 5.4.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: Any xades:EncapsulatedX509Certificate child element contains the base-64 encoding of a DER-encoded X.509 certificate.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

7.2.2 Test assertions specific to XAdES baseline signatures

TA id: XAdES_BS/CERTVALS/1

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Prerequisite: The rest of elements and properties of the signature miss some of the certificates listed in clause 5.4.1 of ETSI TS 319 132 Part 1[1] that are required to validate the XAdES signature

Predicate: The xades:CertificateValues property is present in the signature.

Prescription level: **mandatory**

Tag: XAdES baseline signatures

TA id: XAdES_BS/CERTVALS/2

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: At most one instance of the xades:CertificateValues property is present in the signature.

Prescription level: **mandatory**

Tag: XAdES baseline signatures

TA id: XAdES_BS/CERTVALS/3

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The xades:CertificateValues property does not include certificates that are present elsewhere in the XAdES signature.

Prescription level: **preferred**

Tag: XAdES baseline signatures

7.3 Testing xades:RevocationValues element

7.3.1 Test assertions common to XAdES baseline and extended signatures

TA id: XAdES_BB/REVVALS/1

Normative source: [1] - Clause 5.4.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: Each xades:EncapsulatedCRLValue child of xades:CRLValues child contains the base-64 encoding of a DER-encoded X.509 CRL.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/REVVALS/2

Normative source: [1] - Clause 5.4.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: Each xades:EncapsulatedOCSPValue child of xades:OCSPValues element contains the base-64 encoding of a DER-encoded OCSPResponse defined in IETF RFC 6960 [6].

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

7.3.2 Test assertions specific to XAdES baseline signatures

TA id: XAdES_BS/REVVALS/1

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Prerequisite: The rest of elements and properties of the signature miss some of the revocation values listed in clause 5.4.2 of ETSI TS 319 132 Part 1[1] that are required to validate the XAdES signature

Predicate: The xades:RevocationValues property is present in the signature.

Prescription level: **mandatory**

Tag: XAdES baseline signatures

TA id: XAdES_BS/REVVALS/2

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: At most one instance of the xades:RevocationValues property is present in the signature.

Prescription level: **mandatory**

Tag: XAdES baseline signatures

TA id: XAdES_BS/REVVALS/3

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The xades:RevocationValues property does not include revocation values that are present elsewhere in the XAdES signature.

Prescription level: **preferred**

Tag: XAdES baseline signatures

7.4 Testing xades:AttrAuthoritiesCertValues element

7.4.1 Test assertions common to XAdES baseline and extended signatures

TA id: XAdES_BB/ATTCERTVALS/1

Normative source: [1] - Clause 5.4.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: Any xades:EncapsulatedX509Certificate child element contains the base-64 encoding of a DER-encoded X.509 certificate.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

7.4.2 Test assertions specific to XAdES baseline signatures

TA id: XAdES_BS/ATTCERTVALS/1

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Prerequisite: The signature incorporates attribute certificate(s) and/or signed assertion(s) AND the rest of elements and properties miss some of the certificates required for their validation.

Predicate: The xades:AttrAuthoritiesCertValues property is present in the signature.

Prescription level: **mandatory**

Tag: XAdES baseline signatures

TA id: XAdES_BS/ATTCERTVALS/2

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: At most one instance of the xades:AttrAuthoritiesCertValues property is present in the signature.

Prescription level: **mandatory**

Tag: XAdES baseline signatures

TA id: XAdES_BS/ATTCERTVALS/3

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The xades:AttrAuthoritiesCertValues property does not include certificates that are present elsewhere in the XAdES signature.

Prescription level: **preferred**

Tag: XAdES baseline signatures

7.5 Testing xades:AttributeRevocationValues element

7.5.1 Test assertions common to XAdES baseline and extended signatures

TA id: XAdES_BB/ATTREVVALS/1

Normative source: [1] - Clause 5.4.4

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: Each xades:EncapsulatedCRLValue child of CRLValues child contains the base-64 encoding of a DER-encoded X.509 CRL.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/ATTREVVALS/2

Normative source: [1] - Clause 5.4.4

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: Each xades:EncapsulatedOCSPValue child of xades:OCSPValues element contains the base-64 encoding of a DER-encoded OCSPResponse defined in IETF RFC 6960 [6].

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

7.5.2 Test assertions specific to XAdES baseline signatures

TA id: XAdES_BS/ATTREVVALS/1

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Prerequisite: The signature incorporates attribute certificate(s) and/or signed assertion(s) AND the rest of elements and properties miss some of the revocation values required for their validation

Predicate: The xades:AttributeRevocationValues property is present in the signature.

Prescription level: **mandatory**

Tag: XAdES baseline signatures

TA id: XAdES_BS/ATTREVVALS/2

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: At most one instance of the xades:AttributeRevocationValues property is present in the signature.

Prescription level: **mandatory**

Tag: XAdES baseline signatures

TA id: XAdES_BS/ATTREVVALS/3

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The xades:AttributeRevocationValues property does not include revocation data that are present elsewhere in the XAdES signature.

Prescription level: **preferred**

Tag: XAdES baseline signatures

7.6 Testing xadesv141:TimeStampValidationData element

7.6.1 Test assertions common to XAdES baseline and extended signatures

TA id: XAdES_BB/TSTVALDAT/1

Normative source: [1] - Clause 5.5.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: Any xades:EncapsulatedX509Certificate descendant element of xades:CertificateValues child contains the base-64 encoding of a DER-encoded X.509 certificate.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/TSTVALDAT/2

Normative source: [1] - Clause 5.5.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: Any xades:EncapsulatedCRLValue descendant element of xades:RevocationValues child contains the base-64 encoding of a DER-encoded X.509 CRL.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/TSTVALDAT/3

Normative source: [1] - Clause 5.5.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: Each xades:EncapsulatedOCSPValue descendant of xades:RevocationValues child contains the base-64 encoding of a DER-encoded OCSPResponse defined in IETF RFC 6960 [6].

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/TSTVALDAT/4

Normative source: [1] - Clause 5.5.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Prerequisite: Direct incorporation of qualifying properties is used.

Predicate: The xadesv141:TimeStampValidationData property is either the first child of the xades:UnsignedSignatureProperties OR it appears immediately after a qualifying property that is a time-stamp token container.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/TSTVALDAT/5

Normative source: [1] - Clause 5.5.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Prerequisite: The xadesv141:TimeStampValidationData property is incorporated immediately after a qualifying property that is a container of a time-stamp token.

Predicate: The URI attribute is not present.

Prescription level: **preferred**

Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/TSTVALDAT/6

Normative source: [1] - Clause 5.5.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Prerequisite: The xadesv141:TimeStampValidationData property is not incorporated immediately after a qualifying property that is a container of a time-stamp token.

Predicate: The URI attribute is present and references the specific container encapsulating the time-stamp token whose validation material this xadesv141:TimeStampValidationData property contains.

Prescription level: **preferred.**

Tag: XAdES baseline and extended signatures

8 Testing conformance to B-LTA level of XAdES signatures

8.1 General requirements

For testing conformance to B-LTA level of XAdES baseline signatures, the following test assertions shall apply:

- 1) the test assertions defined in clause 8; and
- 2) the test assertions defined in clauses 5.2, 5.3, 6.2, 7.1.2, 7.2, 7.3, 7.4, 7.5 and 7.6 unless stated otherwise.

8.2 Testing xadesv141:ArchiveTimeStamp element

8.2.1 Common tests for distributed and not distributed cases

8.2.1.1 Test assertions common to XAdES baseline and extended signatures

TA id: XADES_BB/ATSTV141/1

Normative source: [1] - Clause 5.5.2.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Prerequisite: The xadesv141:ArchiveTimeStamp qualifying property does not have any xades:Include child element.

Predicate: The message imprint computation input of the time-stamp token encapsulated by xadesv141:ArchiveTimeStamp, is as specified in EN 319 132 Part 1 [1] clause 5.5.2.2.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

8.2.1.2 Test assertions specific to XAdES baseline signatures

TA id: XADES_BS/ATST/1

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The xadesv141:ArchiveTimeStamp property is present in XAdES-B-LTA signatures.

Prescription level: mandatory

Tag: XAdES baseline signatures

TA id: XADES_BS/SIGREFSTSTV2/2

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The xadesv141:ArchiveTimeStamp uses the implicit mechanism as specified in EN 319 132 Part 1 clause 5.1.3.3.1.

Prescription level: mandatory

Tag: XAdES baseline signatures

TA id: XADES_BS/ATST/3

Normative source: [1] - Clauses 5.5.2 and 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Prerequisite: It is possible to establish an order between the time-stamp tokens (as specified in RFC 3161 [5] clause 2.4.2) encapsulated in xades:SignatureTimeStamp, in any existing xades:AllDataObjectsTimeStamp, and in any existing xades:IndividualDataObjectsTimeStamp properties

Predicate: Time indicated within any time-stamp token enveloped in this container is later to the time indicated within any time-stamp token enveloped within xades:IndividualDataObjectsTimeStamp if present, xades:AllDataObjectsTimeStamp if present, xades:SignatureTimeStamp, and any preceding xadesv141:ArchiveTimeStamp if present.

Prescription level: mandatory

Tag: XAdES baseline signatures

8.3 Testing xadesv141:RenewedDigests element

8.3.1 Test assertions common to XAdES baseline and extended signatures

TA id: XADES_BB/RENDIG/1

Normative source: [1] - Clause 5.5.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: Any xadesv141:RecomputedDigestValue descendant contains the base-64 encoded digest value, computed with the digest algorithm indicated within the ds:DigestMethod child element of xadesv141:RenewedDigest, of the result of processing, as specified by the reference processing model of XMLDSIG [3] clause 4.4.3.2, the corresponding ds:Reference element identified by the value of the attribute Order of this xadesv141:RecomputedDigestValue child.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_BB/RENDIG/1

Normative source: [1] - Clause 5.5.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Prerequisite: The XAdES signature does not contain any signed ds:Manifest referencing data objects that are detached from the signature.

Predicate: The xadesv141:RenewedDigests qualifying property is not present in the signature.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

8.3.2 Test assertions specific to XAdES baseline signatures

TA id: XAdES_BS/RENDIG/1

Normative source: [1] - Clause 6.3

Target: XAdES signature generator claiming conformance to XAdES baseline signatures as specified in [1]

Predicate: The xadesv141:RenewedDigests property is present in the signature.

Prescription level: **permitted**

Tag: XAdES baseline signatures

Annex A (normative): Test assertions derived from XML Schema

A.0 Introduction

This annex specifies test assertions focussed on testing the structure of the elements specified by XAdES [1] according to its XML Schema.

The following notation is used throughout this annex for specifying the inner structure of instances of XML types defined by XAdES XML Schema:

- Entities specifying the inner structure of instances of XML types may be elements or attributes.
- Elements are identified by the corresponding namespace prefix and name.

EXAMPLE 1: `xades:SignedProperties`.

- Attributes are identified by their names if they are not defined within any namespace or by the namespace prefix and name if they are defined within a certain namespace.

EXAMPLE 2: `id`.

- A list of entities separated by ‘,’ characters represents an ordered list.

EXAMPLE 3: The following test assertion text: “The inner structure of one instance of `xades:QualifyingPropertiesType` type in terms of its children is as follows: `xades:SignedProperties`, `xades:UnsignedProperties`”, means that the first child element of an instance of `xades:QualifyingPropertiesType` type is `xades:SignedProperties`, the second child is `xades:UnsignedProperties` and that this instance does not have any other children.

- `()`: represents a group of ordered entities. Example: `(xades:SignedProperties, xades:UnsignedProperties)` groups the two entities in one group. Internally, the entities order is preserved.
- Modifiers: particles that modify certain aspects of the entities or groups they apply to:
 - `?`: When applied to one entity means that there appear 0 or 1 instances of that entity. When applied to a group means that there appear 0 or 1 instances of that group.
 - `+`: When applied to one entity means that there appear 1 or more instances of that entity. When applied to a group means that there appear 1 or more instances of that group.
 - `*`: When applied to one entity means that there appear 0, 1, or more instances of that entity. When applied to a group means that there appear 0, 1, or more instances of that group
 - `noOrder()`: this modifier may only be applied to a group of entities. When this occurs the entities within the group appear in any order within the specified XML type instance.

EXAMPLE 4: The following assertion text: "The set of attributes (leaving apart the attributes declaring namespaces) of one instance of `xades:EncapsulatedPKIDataType` type is as follows: `noOrder(Id?, Encoding?)`." means that any instance of `xades:EncapsulatedPKIDataType` type may have an `Id` attribute and may also have an `Encoding` attribute, and that their order of appearance is not relevant.

- `choice()`: this modifier may only be applied to a group of entities. When this occurs only one of the entities of the group may appear.

EXAMPLE 5: The text `choice(xades:EncapsulatedTimeStamp, xades:XMLTimeStamp)`, means that in the specified place, only one of the two elements within the group may appear.

A.1 Testing auxiliary types contents

A.1.1 Introduction

ETSI EN 319 132-1 [1] defines the `ObjectIdentifierType`, `EncapsulatedPKIDataType` and `XAdESTimeStampType` types. Some of the qualifying properties are derived from some of these types or contain elements of one of these types.

This clause defines common test assertions for any element of this type.

A.1.2 Testing `xades:ObjectIdentifierType` instances

This clause defines test assertions for any element derived from or containing children instances of `xades:ObjectIdentifierType` type.

TA id: XADES_SCH/OID/1

Normative source: [1]- Clause 5.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of an instance of `xades:ObjectIdentifierType` type in terms of its children is as follows: `xades:Identifier`, `xades:Description?`, `xades:DocumentationReferences?`.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/OID/2

Normative source: [1]- Clause 5.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: An instance of `xades:ObjectIdentifierType` type does not contain any attribute (leaving apart the attributes declaring namespaces).

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/OID/ID/1

Normative source: [1]- Clause 5.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: An instance of `xades:IdentifierType` type does not contain any children.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/OID/ID/2

Normative source: [1]- Clause 5.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: An instance of `xades:IdentifierType` type has a valid URI Reference as value.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/OID/ID/3

Normative source: [1]- Clause 5.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The set of attributes (leaving apart the attributes declaring namespaces) of one instance of `xades:IdentifierType` is as follows: `Qualifier?`.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/OID/ID/4

Normative source: [1]- Clause 5.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The `Qualifier` attribute of an instance of `xades:IdentifierType` has one of the following values: "OIDAsURI" or "OIDAsURN".

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/OID/DOCREFS/1
Normative source: [1]- Clause 5.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The inner structure of an instance of xades:DocumentationReferencesType type in terms of its children is as follows: xades:DocumentationReference+.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/OID/DOCREFS/2
Normative source: [1]- Clause 5.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: An instance of xades:DocumentationReferencesType type does not have any attribute.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/OID/DOCREFS/DOCREFS/1
Normative source: [1]- Clause 5.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: Element xades:DocumentationReference does not have any children.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/OID/DOCREFS/DOCREFS/2
Normative source: [1]- Clause 5.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: Element xades:DocumentationReference has a valid URI Reference as value.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/OID/DOCREFS/DOCREFS/3
Normative source: [1]- Clause 5.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: Element xades:DocumentationReference does not have any attribute.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

A.1.3 Testing xades:EncapsulatedPKIDataType instances

This clause defines test assertions for instances of xades:EncapsulatedPKIDataType type.

TA id: XADES_SCH/PKIDATA/1
Normative source: [1]- Clause 5.1.3
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: An instance of xades:EncapsulatedPKIDataType type does not contain any children.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/PKIDATA/2
Normative source: [1]- Clause 5.1.3
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The set of attributes (leaving apart the attributes declaring namespaces) of one instance of xades:EncapsulatedPKIData type is as follows: noOrder(Id?, Encoding?).
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/PKIDATA/3
Normative source: [1]- Clause 5.1.3
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: An instance of xades:EncapsulatedPKIDataType type has a valid Base64 encoded content.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/PKIDATA/4

Normative source: [1]- Clause 5.1.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The attribute Encoding of an instance of xades:EncapsulatedPKIData type has as value one in the following list: <http://uri.etsi.org/01903/v1.2.2#DER>, <http://uri.etsi.org/01903/v1.2.2#BER>, <http://uri.etsi.org/01903/v1.2.2#CER>, <http://uri.etsi.org/01903/v1.2.2#PER>, <http://uri.etsi.org/01903/v1.2.2#XER>.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

A.1.4 Testing xades:XAdESTimeStampType instances

A.1.4.1 Introduction

This clause defines test assertions for instances of xades:XAdESTimeStampType type. As the XAdES baseline profile admits time-stamp tokens containers properties using the implicit and the explicit referencing mechanism to the time-stamped data objects, the assertions on xades:Include elements are given in the clauses devoted to each type of time-stamp tokens container property.

TA id: XADES_SCH/XTST/1

Normative source: [1]- Clause 5.1.4.4.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of an instance of xades:XAdESTimeStampType type in terms of its children is as follows: xades:Include*, ds:CanonicalizationMethod?, (xades:EncapsulatedTimeStamp || xades:XMLTimeStamp)+.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/XTST/2

Normative source: [1]- Clause 5.1.4.4.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The set of attributes (leaving apart the attributes declaring namespaces) of one instance of xades:XAdESTimeStampType type is as follows: Id?.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

The structure of xades:EncapsulatedTime child element shall be tested as specified in clause A.1.3.

A.1.4.2 Testing xades:IncludeType instances

This clause defines generic test assertions for instances of xades:IncludeType type, used in certain time-stamp tokens container properties.

TA id: XADES_SCH/XTST/INCLUDE/1

Normative source: [1]- Clause 5.1.4.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: An instance of xades:IncludeType type does not have any children elements.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/INCLUDE/2

Normative source: [1]- Clause 5.1.4.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The set of attributes (leaving apart the attributes declaring namespaces) of one instance of xades:IncludeType type is as follows: noOrder(URI,referencedData?).

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/INCLUDE/3
Normative source: [1]- Clause 5.1.4.3
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The attribute URI of an instance of xades:IncludeType type has a valid URI Reference as value.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/INCLUDE/4
Normative source: [1]- Clause 5.1.4.3
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The value of the attribute referencedData of an instance of xades:IncludeType is a boolean value.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

A.1.5 Testing Lists of references to certificates.

A.1.5.1 Testing xades:CertIDListV2Type instances

This clause defines generic test assertions for instances of xades:CertIDListV2Type type, used in xades:SigningCertificateV2, xadesv141:CompleteCertificateRefsV2 and xadesv141:AttributeCertificateRefsV2 properties.

TA id: XADES_SCH/CERTSREFV2/1
Normative source: [1] - Clause 5.2.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The inner structure of an instance of xades:CertIDListV2Type type in terms of its children is as follows: (xades:Cert)+.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CERTSTREFV2/2
Normative source: [1] - Clause 5.2.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: Instances of xades:CertIDListV2Type does not contain any attribute (leaving apart the attributes declaring namespaces).
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

A.1.5.2 Testing xades:CertIDTypeV2 instances

Below follow the generic assertions to be tested on instances of xades:CertIDTypeV2 type.

TA id: XADES_SCH/CERTSREFV2/CERTIDV2/1
Normative source: [1] - Clause 5.2.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The inner structure of an instance of xades:CertIDTypeV2 type in terms of its children is as follows: xades:CertDigest, xades:IssuerSerialV2?.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CERTSREF/CERTIDV2/3
Normative source: [1] - Clause 5.2.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The set of attributes (leaving apart the attributes declaring namespaces) of one instance of xades:CertIDTypeV2 type is as follows: URI?.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CERTSREF/CERTIDV2/4
Normative source: [1] - Clause 5.2.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The value of the attribute URI of an instance of xades:CertIDTypeV2 type, is a valid URI Reference.

Prescription level: mandatory
Tag: XAdES baseline and extended signatures

A.1.5.3 Testing xades:DigestAlgAndValueType instances

Below follow the generic assertions to be tested on instances of xades:DigestAlgAndValueType type.

TA id: XADES_SCH/CERTSREFV2/CERTIDV2/DIGALVAL/1

Normative source: [1] - Clause 5.2.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of an instance of xades:DigestAlgAndValueType type in terms of its children is as follows: ds:DigestMethod, ds:DigestValue.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CERTSREFV2/CERTIDV2/DIGALVAL/2

Normative source: [1] - Clause 5.2.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: An instance of xades:DigestAlgAndValueType type does not have any attribute.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CERTSREFV2/CERTIDV2/DIGALVAL/3

Normative source: [1] - Clause 5.2.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The ds:DigestValue child element of an instance of xades:DigestAlgAndValueType type does not have any children.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CERTSREFV2/CERTIDV2/DIGALVAL/4

Normative source: [1] - Clause 5.2.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The ds:DigestValue child element of an instance of xades:DigestAlgAndValueType type does not have any attribute.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CERTSREFV2/CERTIDV2/DIGALVAL/5

Normative source: [1] - Clause 5.2.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The value of the ds:DigestValue child element of an instance of xades:DigestAlgAndValueType type is a valid Base64 value.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CERTSREFV2/CERTIDV2/DIGALVAL/6

Normative source: [1] - Clause 5.2.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The ds:DigestMethod child element of an instance of xades:DigestAlgAndValueType type does not have any children.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CERTSREFV2/CERTIDV2/DIGALVAL/7

Normative source: [1] - Clause 5.2.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The set of attributes (leaving apart the attributes declaring namespaces) of one instance of ds:DigestMethod child is as follows: URI.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CERTSREFV2/CERTIDV2/DIGALVAL/8

Normative source: [1] - Clause 5.2.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The value of the URI attribute of the ds:DigestMethod child element of an instance of xades:DigestAlgAndValueType type is a valid URI Reference.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

A.1.5.4 Testing xades:IssuerSerialV2 element

Below follow the generic assertions to be tested on instances of xades:IssuerSerialV2 element.

TA id: XADES_SCH/CERTSREFV2/CERTIDV2/ISSSERV2/1

Normative source: [4] - Clause 5.2.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The xades:IssuerSerialV2 element does not have any children.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CERTSREFV2/CERTIDV2/ISSSERV2/2

Normative source: [4] - Clause 5.2.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The xades:IssuerSerialV2 element does not have any attribute.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CERTSREFV2/CERTIDV2/ISSSERV2/3

Normative source: [4] - Clause 5.2.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The value of xades:IssuerSerialV2 element is a valid Base64 value.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

A.2 Testing containers for XAdES signatures

A.2.1 Testing xades:QualifyingProperties

A.2.1.1 Testing xades:QualifyingProperties element

Below follow the test assertions on xades:QualifyingProperties element.

TA id: XADES_SCH/SCHEMA/QP/1

Normative source: [1]- Clause 4.3.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of xades:QualifyingProperties element in terms of its children is as follows: xades:SignedProperties?, xades:UnsignedProperties?.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SCHEMA/QP/2

Normative source: [1]- Clause 4.3.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The set of attributes (leaving apart the attributes declaring namespaces) of one instance of xades:QualifyingProperties is as follows: noOrder(Target,Id?).

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SCHEMA/QP/3

Normative source: [1]- Clause 4.3.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The value of the attribute Target is a URI reference.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

A.2.1.2 Testing xades:SignedProperties

A.2.1.2.1 Testing xades:SignedProperties element

Below follow the test assertions on xades:SignedProperties element.

TA id: XADES_SCH/SCHEMA/QP/SIGP/1

Normative source: [1]- Clause 4.3.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of xades:SignedProperties element in terms of its children is as follows: xades:SignedSignatureProperties?, xades:SignedDataObjectProperties?.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SCHEMA/QP/SIGP/2

Normative source: [1]- Clause 4.3.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The set of attributes (leaving apart the attributes declaring namespaces) of one instance of xades:SignedSignatureProperties is as follows: Id?.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

A.2.1.2.2 Testing xades:SignedSignatureProperties

Below follow the test assertions on xades:SignedSignatureProperties element.

TA id: XADES_SCH/SCHEMA/QP/SIGP/SIGSIGP/1

Normative source: [1]- Clause 4.3.4

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of xades:SignedSignatureProperties element in terms of its children is as follows: xades:SigningTime?, xades:SigningCertificate?, xades:SigningCertificateV2?, xades:SignaturePolicyIdentifier?, xades:SignatureProductionPlace, xades:SignatureProductionPlaceV2, xades:SignerRole?, xades:SignerRoleV2?, <other>*.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SCHEMA/QP/SIGP/SIGSIGP/2

Normative source: [1]- Clause 4.3.4

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The set of attributes (leaving apart the attributes declaring namespaces) of one instance of xades:SignedSignatureProperties is as follows: Id?.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

A.2.1.2.3 Testing xades:SignedDataObjectProperties

Below follow the test assertions on xades:SignedDataObjectProperties element.

TA id: XADES_SCH/SCHEMA/QP/SIGP/SIGDOP/1

Normative source: [1]- Clause 4.3.5

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of xades:SignedDataObjectProperties element in terms of its children is as follows: xades:DataObjectFormat*, xades:CommitmentTypeIndication*, xades:AllDataObjectsTimeStamp*, xades:IndividualDataObjectsTimeStamp*, <other>*.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SCHEMA/QP/SIGP/SGDOP/2

Normative source: [1]- Clause 4.3.5

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The set of attributes (leaving apart the attributes declaring namespaces) of one instance of xades:SignedDataObjectProperties is as follows: Id?.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

A.2.1.3 Testing xades:UnsignedProperties

A.2.1.3.1 Testing xades:UnsignedProperties element

Below follow the test assertions on xades:UnsignedProperties element.

TA id: XADES_SCH/SCHEMA/QP/UNSIGP/1

Normative source: [1]- Clause 4.3.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of xades:UnsignedProperties element in terms of its children is as follows: xades:UnsignedSignatureProperties?, xades:UnsignedDataObjectProperties?.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SCHEMA/QP/UNSIGP/2

Normative source: [1]- Clause 4.3.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The set of attributes (leaving apart the attributes declaring namespaces) of one instance of xades:UnsignedProperties is as follows: Id?.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

A.2.1.3.2 Testing xades:UnsignedSignatureProperties

Below follow the test assertions on xades:UnsignedSignatureProperties element.

TA id: XADES_SCH/SCHEMA/QP/UNSIGP/UNSIGSIGP/1

Normative source: [1]- Clause 4.3.6

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of xades:UnsignedSignatureProperties element in terms of its children is as follows: (choice(xades:CounterSignature, xades:SignatureTimeStamp, xadesv141:SignaturePolicyStore, xades:CompleteCertificateRefs, xadesv141:CompleteCertificateRefsV2, xades:CompleteRevocationRefs, xades:AttributeCertificateRefs, xadesv141:AttributeCertificateRefsV2, xades:AttributeRevocationRefs, xades:RefsOnlyTimeStamp, xades:SigAndRefsTimeStamp, xadesv141:RefsOnlyTimeStampV2, xadesv141:SigAndRefsTimeStampV2, xades:CertificateValues, xades:Revocationalues, xades:AttrAuthoritiesCertValues, xades:AttributeRevocationValues, xades:ArchiveTimeStamp, xadesv141:ArchiveTimeStamp, xadesv141:TimeStampValidationData, xades:v141:RenewedDigests, <other>))+.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SCHEMA/QP/UNSIGP/UNSIGSIGP/2

Normative source: [1]- Clause 4.3.6

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The set of attributes (leaving apart the attributes declaring namespaces) of one instance of xades:UnsignedSignatureProperties is as follows: Id?.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

A.2.1.3.3 Testing xades:UnsignedDataObjectProperties

Below follow the test assertions on xades:UnsignedDataObjectProperties element.

TA id: XADES_SCH/SCHEMA/QP/UNSIGP/UNSIGDOP/1

Normative source: [1]- Clause 4.3.7

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of xades:UnsignedDataObjectProperties element in terms of its children is as follows: (xades:UnsignedDataObjectProperty)+.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/SCHEMA/QP/UNSIGP/UNSIGDOP/2

Normative source: [1]- Clause 4.3.7

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The set of attributes (leaving apart the attributes declaring namespaces) of one instance of `xades:UnsignedDataObjectProperties` is as follows: `Id?`.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

A.3 Testing XAdES qualifying properties

A.3.1 Introduction

This clause specifies test assertions derived from the XML Schema definition of the different XAdES-BES qualifying properties.

A.3.2 Testing `xades:SigningTime`

This clause defines test assertions for `xades:SigningTime` signed property.

TA id: XAdES_SCH/SIGNINGTIME/1

Normative source: [1] - Clause 5.2.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The `xades:SigningTime` property does not have any child element.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/SIGNINGTIME/2

Normative source: [1] - Clause 5.2.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The `xades:SigningTime` signed property does not have any attribute.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/SIGNINGTIME/3

Normative source: [1] - Clause 5.2.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The content of the `xades:SigningTime` signed property is a UTC time value.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

A.3.3 Testing `xades:SigningCertificateV2`

A `xades:SigningCertificateV2` element is an instance of `xades:CertIDListV2Type` type. Assertions specified in clause A.1.4 shall apply for this element.

A.3.4 Testing `xades:CommitmentTypeIndication`

This clause defines test assertions for `xades:CommitmentTypeIndication` signed property directly derived from its XML Schema definition.

TA id: XAdES_SCH/CTI/1

Normative source: [1] - Clause 5.2.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of `xades:CommitmentTypeIndication` element in terms of its children is as follows: `xades:CommitmentTypeId`, (`xades:ObjectReference+` || `xades:AllSignedDataObjects`), `xades:CommitmentTypeQualifiers?`.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/CTI/2

Normative source: [1] - Clause 5.2.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The xades:CommitmentTypeIndication element does not have any attribute.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/CTI/OBREF/1

Normative source: [1] - Clause 5.2.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:ObjectReference is an empty element.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/CTI/OBREF/2

Normative source: [1] - Clause 5.2.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:ObjectReference does not have any attribute.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/CTI/OBREF/3

Normative source: [1] - Clause 5.2.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The value of xades:ObjectReference is a valid URI reference.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/CTI/ALLSDO/1

Normative source: [1] - Clause 5.2.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:AllSignedDataObjects is an empty element.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/CTI/ALLSDO/2

Normative source: [1] - Clause 5.2.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:AllSignedDataObjects does not have any attribute.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/CTI/CTQS/1

Normative source: [1] - Clause 5.2.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of xades:CommitmentTypeQualifiers element in terms of its children is as follows: (xades:CommitmentTypeQualifier)*.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/CTI/CTQS/2

Normative source: [1] - Clause 5.2.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:CommitmentTypeIndication does not contain any attribute (leaving apart the attributes declaring namespaces).

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

The structure of xades:CommitmentTypeId child element shall be tested as specified in clause A.1.2.

A.3.5 Testing xades:DataObjectFormat

This clause defines test assertions for xades:DataObjectFormat signed property directly derived from its XML Schema definition.

TA id: XADES_SCH/DOF/1

Normative source: [1] - Clause 5.2.4

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of xades:DataObjectFormat element in terms of its children is as follows: xades:Description?, xades:ObjectIdentifier?, xades:MimeType?, xades:Encoding?.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/DOF/2

Normative source: [1] - Clause 5.2.4

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The set of attributes (leaving apart the attributes declaring namespaces) of one instance of xades:DataObjectFormatType is as follows: ObjectReference.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/DOF/DESC/1

Normative source: [1] - Clause 5.2.4

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:Description element does not have any children.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/DOF/DESC/2

Normative source: [1] - Clause 5.2.4

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:Description element does not have any attributes.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/DOF/MIM/1

Normative source: [1] - Clause 5.2.4

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:MimeType element does not have any children.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/DOF/MIM/2

Normative source: [1] - Clause 5.2.4

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:MimeType element does not have any attributes.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/DOF/ENC/1

Normative source: [1] - Clause 5.2.4

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:Encoding element does not have any children.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/DOF/ENC/2

Normative source: [1] - Clause 5.2.4

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:Encoding element does not have any attributes.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/DOF/ENC/3

Normative source: [1] - Clause 5.2.4

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The value of the xades:Encoding element is a valid URI Reference.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/DOF/OBREF/3

Normative source: [1] - Clause 5.2.4

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The value of the attribute ObjectReference is a valid URI Reference.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

A.3.6 Testing xades:SignatureProductionPlaceV2 element

This clause defines test assertions for xades:SignatureProductionPlace signed property directly derived from its XML Schema definition.

TA id: XADES_SCH/SPP/1

Normative source: [1] - Clause 5.2.5

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of xades:SignatureProductionPlace element in terms of its children is as follows: xades:City?, xades:StreetOrProvince?, xades:StateOrProvince?, xades:PostalCode?, xades:CountryName?.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SPP/2

Normative source: [1] - Clause 5.2.5

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:SignatureProductionPlace does not contain any attribute (leaving apart the attributes declaring namespaces).

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

A.3.7 Testing xades:SignerRoleV2 element

TA id: XADES_SCH/SIGROLEV2/1

Normative source: [1] - Clause 5.2.6

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of xades:SignerRoleV2 element in terms of its children is as follows: xades:ClaimedRoles?, xades:CertifiedRolesV2?, xades:SignedAssertions?.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SIGROLE/2

Normative source: [1] - Clause 5.2.6

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:SignerRoleV2 does not contain any attribute (leaving apart the attributes declaring namespaces).

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SIGROLE/CLATTRS/1

Normative source: [1] - Clause 5.2.6

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of xades:ClaimedRoles element in terms of its children is as follows: (xades:ClaimedRole)+.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/SIGROLE/CLATTRS/2
Normative source: [1] - Clause 5.2.6
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The xades:ClaimedRoles element does not contain any attribute (leaving apart the attributes declaring namespaces).
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/SIGROLE/CERTATTRS/1
Normative source: [1] - Clause 5.2.6
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The inner structure of xades:CertifiedRolesV2 element in terms of its children is as follows: (xades:CertifiedRole)+.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/SIGROLE/CERTATTRS/2
Normative source: [1] - Clause 5.2.6
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The xades:CertifiedRoles element does not contain any attribute (leaving apart the attributes declaring namespaces).
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/SIGROLE/CERTATTRS/CERTATTR/1
Normative source: [1] - Clause 5.2.6
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The inner structure of xades:CertifiedRole element in terms of its children is as follows: (xades:X509AttributeCertificate || xades:OtherAttributeCertificate).
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/SIGROLE/CERTATTRS/CERTATTR/2
Normative source: [1] - Clause 5.2.6
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: xades:CertifiedRole element does not have any attribute.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/SIGROLE/SIGASS/1
Normative source: [1] - Clause 5.2.6
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The inner structure of xades:SignedAssertions element in terms of its children is as follows: (SignedAssertion)+.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/SIGROLE/SIGASS/1
Normative source: [1] - Clause 5.2.6
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: xades:SignedAssertions element does not have any attribute.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

A.3.8 Testing xades:CounterSignature

The structure of a xades:CounterSignature element shall be tested as defined in the rest of the present annex A if the countersignature is a XAdES signature.

A.3.9 Testing xades:AllDataObjectsTimeStamp

The structure of xades:AllDataObjectsTimeStamp element shall be tested as specified in clause A.1.4.

A.3.10 Testing xades:IndividualDataObjectsTimeStamp

The structure of xades:IndividualDataObjectsTimeStamp element shall be tested as specified in clause A.1.4.

A.3.11 Testing xades:SignaturePolicyIdentifier

A.3.11.1 Testing xades:SignaturePolicyIdentifier element

This clause defines test assertions for xades:SignaturePolicyIdentifier signed property directly derived from its XML Schema definition.

TA id: XADES_SCH/SIGPOL/1

Normative source: [1] - Clause 5.2.9

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of xades:SignaturePolicyIdentifier element in terms of its children is as follows: (xades:SignaturePolicyId ||xades:SignaturePolicyImplied).

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SIGPOL/2

Normative source: [1] - Clause 5.2.9

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:SignaturePolicyIdentifier element does not contain any attribute (leaving apart the attributes declaring namespaces).

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SIGPOL/SIGPOLID/1

Normative source: [1] - Clause 5.2.9

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of xades:SignaturePolicyId element in terms of its children is as follows: xades:SigPolicyId,ds:Transforms?,xades:SigPolicyHash,xades:SigPolicyQualifiers?.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SIGPOL/SIGPOLID/2

Normative source: [1] - Clause 5.2.9

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:SignaturePolicyId element does not contain any attribute (leaving apart the attributes declaring namespaces).

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SIGPOL/SIGPOLID/QUALS/1

Normative source: [1] - Clause 5.2.9

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of xades:SigPolicyQualifiers element in terms of its children is as follows: (xades:SigPolicyQualifier+).

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SIGPOL/SIGPOLID/QUALS/2

Normative source: [1] - Clause 5.2.9

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:SigPolicyQualifiers element does not contain any attribute (leaving apart the attributes declaring namespaces).

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SIGPOL/SIGPOLID/QUALS/3
Normative source: [1] - Clause 5.2.9
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: xades:SigPolicyQualifier element contains either a xades:SPURI, OR a xades:SPUserNotice, OR a xadesenv111:SPDocSpecification OR other XML elements.
Prescription level: **mandatory**
Tag: XAdES baseline and extended signatures

The structure of xades:SigPolicyId child element shall be tested as specified in clause A.1.1.

The structure of xades:SigPolicyHash child element shall be tested as specified in clause A.1.5.3.

A.3.11.2 Testing xades:SPURI qualifier

This clause defines test assertions for xades:SPURI qualifier directly derived from its XML Schema definition.

TA id: XADES_SCH/SIGPOL/SIGPOLID/QUALS/SPURI/1
Normative source: [1] - Clause 5.2.9
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The xades:SPURI element does not have any children.
Prescription level: **mandatory**
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SIGPOL/SIGPOLID/QUALS/SPURI/2
Normative source: [1] - Clause 5.2.9
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: xades:SPURI element does not contain any attribute (leaving apart the attributes declaring namespaces).
Prescription level: **mandatory**
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SIGPOL/SIGPOLID/QUALS/SPURI/3
Normative source: [1] - Clause 5.2.9
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The value of xades:SPURI element is a valid URI Reference.
Prescription level: **mandatory**
Tag: XAdES baseline and extended signatures

A.3.11.3 Testing xades:SPUserNotice qualifier

This clause defines test assertions for xades:SPUserNotice qualifier directly derived from its XML Schema definition.

TA id: XADES_SCH/SIGPOL/SIGPOLID/QUALS/SPUSNOT/1
Normative source: [1] - Clause 5.2.9
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The inner structure of xades:SPUserNotice element in terms of its children is as follows: xades:NoticRef?, xades:ExplicitText?.
Prescription level: **mandatory**
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SIGPOL/SIGPOLID/QUALS/SPUSNOT/2
Normative source: [1] - Clause 5.2.9
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The xades:SPUserNotice element does not have any attribute.
Prescription level: **mandatory**
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SIGPOL/SIGPOLID/QUALS/SPUSNOT/3
Normative source: [1] - Clause 5.2.9
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The inner structure of xades:NoticeRef element in terms of its children is as follows: xades:Organization, xades:NoticeNumbers.
Prescription level: **mandatory**
Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/SIGPOL/SIGPOLID/QUALS/SPUSNOT/4

Normative source: [1] - Clause 5.2.9

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:NoticeRef element does not contain any attribute (leaving apart the attributes declaring namespaces).

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/SIGPOL/SIGPOLID/QUALS/SPUSNOT/5

Normative source: [1] - Clause 5.2.9

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:Organization element does not have any children.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/SIGPOL/SIGPOLID/QUALS/SPUSNOT/6

Normative source: [1] - Clause 5.2.9

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:Organization element does not contain any attribute (leaving apart the attributes declaring namespaces).

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/SIGPOL/SIGPOLID/QUALS/SPUSNOT/7

Normative source: [1] - Clause 5.2.9

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of xades:NoticeNumbers element in terms of its children is as follows: (xades:int)*.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/SIGPOL/SIGPOLID/QUALS/SPUSNOT/8

Normative source: [1] - Clause 5.2.9

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:NoticeNumbers element does not contain any attribute (leaving apart the attributes declaring namespaces).

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/SIGPOL/SIGPOLID/QUALS/SPUSNOT/9

Normative source: [1] - Clause 5.2.9

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:int element does not have any children.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/SIGPOL/SIGPOLID/QUALS/SPUSNOT/10

Normative source: [1] - Clause 5.2.9

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:int element does not contain any attribute (leaving apart the attributes declaring namespaces).

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/SIGPOL/SIGPOLID/QUALS/SPUSNOT/11

Normative source: [1] - Clause 5.2.9

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:ExplicitText element does not have any children.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/SIGPOL/SIGPOLID/QUALS/SPUSNOT/12

Normative source: [1] - Clause 5.2.9

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:ExplicitText element does not contain any attribute (leaving apart the attributes declaring namespaces).

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

A.3.11.4 Testing xadesv141:SPDocSpecification qualifier

The structure of xadesv141:SPDocSpecification element shall be tested as specified in clause A.1.2.

A.3.12 Testing xadesv141:SignaturePolicyStore

This clause defines test assertions for xades:SPUserNotice qualifier directly derived from its XML Schema definition.

TA id: XADES_SCH/SIGPOL/SIGPOLSTO/1

Normative source: [1] - Clause 5.2.10

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of xadesv141:SignaturePolicyStore element in terms of its children is as follows: xadesv141:SPDocSpecification, (xadesv141:SignaturePolicyDocument || xadesv141:SigPolDocLocalURI).

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SIGPOL/SIGPOLSTO/2

Normative source: [1]- Clause 5.2.10

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The set of attributes (leaving apart the attributes declaring namespaces) of one instance of xadesv141:SignaturePolicyStore is as follows: Id?.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SIGPOL/SIGPOLSTO/SPOLDOC/1

Normative source: [1] - Clause 5.2.10

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xadesv141:SignaturePolicyDocument element does not contain any children.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SIGPOL/SIGPOLSTO/SPOLDOC/2

Normative source: [1]- Clause 5.2.10

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xadesv141:SignaturePolicyDocument element does not contain any attribute (leaving apart the attributes declaring namespaces).

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SIGPOL/SIGPOLSTO/SPOLDOCLOCALURI/1

Normative source: [1] - Clause 5.2.10

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xadesv141:SigPolDocLocalURI element does not contain any children.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SIGPOL/SIGPOLSTO/SPOLDOCLOCALURI/2

Normative source: [1]- Clause 5.2.10

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xadesv141:SigPolDocLocalURI element does not contain any attribute (leaving apart the attributes declaring namespaces).

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/SIGPOL/SIGPOLSTO/SPOLDOCLOCALURI/3

Normative source: [1]- Clause 5.2.10

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The value of xadesv141:SigPolDocLocalURI element is a valid URI Reference.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

A.3.13 Testing xades:SignatureTimeStamp

The structure of xades:SignatureTimeStamp element shall be tested as specified in clause A.1.4.

A.3.14 Testing xadesv141:CompleteCertificateRefsTypeV2 and xadesv141:AttributeCertificateRefsV2 content

This clause defines test assertions for contents of xadesv141:CompleteCertificateRefsTypeV2 and xadesv141:AttributeCertificateRefsV2 instances, directly derived from its XML Schema definition. These test assertions shall be checked when testing xadesv141:CompleteCertificateRefsV2, and xadesv141:AttributeCertificateRefsV2.

Below follows the generic assertions to be tested on xadesv141:CompleteCertificateRefs elements.

TA id: XADES_SCH/CCERTREFS/1

Normative source: [1] - Clause A.1.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of one instance of xadesv141:CompleteCertificateRefsTypeV2 type in terms of its children is as follows: xadesv141:CertRefs.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CCERTREFS/2

Normative source: [1] - Clause A.1.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The set of attributes (leaving apart the attributes declaring namespaces) of one instance of xades:CompleteCertificateRefsTypeV2 is as follows: Id?.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

The structure of xadesv141:CertRefs child element shall be tested as specified in clause A.1.5.

A.3.15 Testing xades:CompleteRevocationRefsType content

A.3.15.1 Testing root element

This clause defines test assertions for contents of xades:CompleteRevocationRefsType and xades:AttributeRevocationRefs instances, directly derived from its XML Schema definition. These test assertions shall be checked when testing xades:CompleteRevocationRefs, and xades:AttributeRevocationRefs.

TA id: XADES_SCH/CREVREFS/1

Normative source: [1] - Clause A.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of one instance of xades:CompleteRevocationRefsType type in terms of its children is as follows: xades:CRLRefs?, xades:OCSPRef?, OtherRefs?.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CREVREFS/2

Normative source: [1] - Clause A.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The set of attributes (leaving apart the attributes declaring namespaces) of one instance of xades:CompleteRevocationRefsType is as follows: Id?.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

A.3.15.2 Testing xades:CRLRefs

Below follows the generic assertions to be tested on xades:CRLRefs elements.

TA id: XADES_SCH/CREVREFS/CRLREFS/1

Normative source: [1] - Clause A.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of xades:CRLRefs element in terms of its children is as follows: (xades:CRLRef)+.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CREVR- Clause EFS/CRLREFS/2

Normative source: [1] A.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:CRLRefs element does not contain any attribute (leaving apart the attributes declaring namespaces).

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CREVREFS/CRLREFS/CRLREF/1

Normative source: [1] - Clause A.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of xades:CRLRef element in terms of its children is as follows: xades:DigestAlgAndValue, xades:CRLIdentifier?.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CREVREFS/CRLREFS/CRLREF/2

Normative source: [1] - Clause A.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The xades:CRLRef element does not contain any attribute (leaving apart the attributes declaring namespaces).

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CREVREFS/CRLREFS/CRLREF/CRLID/1

Normative source: [1] - Clause A.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of xades:Identifier element in terms of its children is as follows: xades:Issuer, xades:IssueTime, xades:Number?.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CREVREFS/CRLREFS/CRLREF/CRLID/2

Normative source: [1] - Clause A.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The set of attributes (leaving apart the attributes declaring namespaces) of one instance of xades:CRLIdentifierType is as follows: URI?.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CREVREFS/CRLREFS/CRLREF/CRLID/3

Normative source: [1] - Clause A.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The value of the URI attribute is a valid URI Reference.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CREVREFS/CRLREFS/CRLREF/CRLID/ISS/1

Normative source: [1] - Clause A.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:Issuer element does not have any children.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/CREVREFS/CRLREFS/CRLREF/CRLID/ISS/2
Normative source: [1] - Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: xades:Issuer element does not have any attribute
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/CREVREFS/CRLREFS/CRLREF/CRLID/ISST/1
Normative source: [1] - Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: xades:IssueTime element does not have any children.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/CREVREFS/CRLREFS/CRLREF/CRLID/ISST/2
Normative source: [1] - Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: xades:IssueTime element does not have any attribute
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/CREVREFS/CRLREFS/CRLREF/CRLID/ISST/3
Normative source: [1] - Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The value of xades:IssueTime element is an UTC time.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/CREVREFS/CRLREFS/CRLREF/CRLID/NUM/1
Normative source: [1] - Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: xades:Number element does not have any children.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/CREVREFS/CRLREFS/CRLREF/CRLID/NUM/2
Normative source: [1] - Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: xades:Number element does not have any attribute
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

The structure of xades:DigestAlgAndValue child element shall be tested as specified in clause A.1.5.3.

A.3.15.3 Testing xades:OCSPRefs

Below follows the generic assertions to be tested on xades:OCSPRefs elements.

TA id: XAdES_SCH/CREVREFS/OCSPREFS/1
Normative source: [1] - Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The inner structure of xades:OCSPRefs element in terms of its children is as follows: (xades:OCSPRef)+.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/CREVREFS/OCSPREFS/2
Normative source: [1] - Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: xades:OCSPRefs element does not contain any attribute (leaving apart the attributes declaring namespaces).
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/CREVREFS/OCSPPREFS/OCSPPREF/1

Normative source: [1] - Clause A.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of xades:OCSPPref element in terms of its children is as follows: xades:OCSPIIdentifier, xades:DigestAlgAndValue?.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/CREVREFS/OCSPPREFS/OCSPPREF/2

Normative source: [1] - Clause A.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:OCSPPref element does not contain any attribute (leaving apart the attributes declaring namespaces).

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/CREVREFS/OCSPPREFS/OCSPPREF/OCSPID/1

Normative source: [1] - Clause A.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of one instance of xades:OCSPIIdentifierType in terms of its children is as follows: xades:ResponderID, xades:ProducedAt.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/CREVREFS/CRLREFS/OCSPPREF/OCSPID/2

Normative source: [1] - Clause A.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The set of attributes (leaving apart the attributes declaring namespaces) of one instance of xades:OCSPIIdentifierType is as follows: URI?.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/CREVREFS/CRLREFS/OCSPPREF/OCSPID/3

Normative source: [1] - Clause A.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The value of the URI attribute is a valid URI Reference.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/CREVREFS/OCSPPREFS/OCSPPREF/OCSPID/RESPID/1

Normative source: [1] - Clause A.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of one instance of xades:ResponderIDType in terms of its children is as follows: choice(xades:ByName, xades:ByKey).

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/CREVREFS/CRLREFS/OCSPPREF/OCSPID/RESPID/2

Normative source: [1] - Clause A.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: Instances of xades:ResponderIDType does not contain any attribute (leaving apart the attributes declaring namespaces).

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XAdES_SCH/CREVREFS/OCSPPREFS/OCSPPREF/OCSPID/RESPID/BYNAME/1

Normative source: [1] - Clause A.1.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: xades:ByName element does not have any children.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CREVREFS/CRLREFS/OCSPPREF/OCSPID/RESPID/BYNAME/2
Normative source: [1] - Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: xades:ByName element does not have any attribute.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CREVREFS/OCSPPREFS/OCSPPREF/OCSPID/RESPID/BYKEY/1
Normative source: [1] - Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: xades:ByKey element does not have any children.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CREVREFS/CRLREFS/OCSPPREF/OCSPID/RESPID/BYKEY/2
Normative source: [1] - Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: xades:ByKey element does not have any attribute.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CREVREFS/OCSPPREFS/OCSPPREF/OCSPID/PRODAT/1
Normative source: [1] - Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: xades:ProducedAt element does not have any children.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CREVREFS/CRLREFS/OCSPPREF/OCSPID/PRODAT/2
Normative source: [1] - Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: xades:ProducedAt element does not contain any attribute (leaving apart the attributes declaring namespaces).
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CREVREFS/CRLREFS/OCSPPREF/OCSPID/PRODAT/3
Normative source: [1] - Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The value of xades:ProducedAt element is an UTC time.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

The structure of xades:DigestAlgAndValue child element shall be tested as specified in clause A.1.5.3.

A.3.15.4 Testing xades:OtherRefs

Below follows the generic assertions to be tested on xades:OtherRefs elements.

TA id: XADES_SCH/CREVREFS/OTHERREFS/1
Normative source: [1] - Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The inner structure of one instance of xades:OtherRefs in terms of its children is as follows: (xades:OtherRef)+.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CREVREFS/OTHERREFS/2
Normative source: [1] - Clause A.1.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: xades:OtherCertStatusRefs element does not contain any attribute (leaving apart the attributes declaring namespaces).
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

A.3.16 Testing xadesv141:SigAndRefsTimeStampV2

The structure of xadesv141:SigAndRefsTimeStampV2 element shall be tested as specified in clause A.1.4.

A.3.17 Testing xadesv141:RefsOnlyTimeStampV2

The structure of xadesv141:RefsOnlyTimeStampV2 element shall be tested as specified in clause A.1.4.

A.3.18 Testing xades:CertificateValuesType content

This clause defines test assertions for xades:CertificateValuesType instances' content, directly derived from its XML Schema definition. These test assertions shall be checked when testing xades:CertificateValues, and xades:AttrAuthoritiesCertValues.

TA id: XADES_SCH/CERTVALS/1

Normative source: [1] - Clause 5.4.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of one instance of xades:CertificateValuesType in terms of its children is as follows: (xades:EncapsulatedX509Certificate || xades:OtherCertificate)*.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/CERTVALS/2

Normative source: [1] - Clause 5.4.1

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The set of attributes (leaving apart the attributes declaring namespaces) of one instance of xades:CertificateValuesType is as follows: Id?.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

The structure of xades:EncapsulatedX509Certificate child element shall be tested as specified in clause A.1.3.

A.3.19 Testing xades:RevocationValuesType content

This clause defines test assertions for xades:RevocationValuesType instances' content, directly derived from its XML Schema definition. These test assertions shall be checked when testing xades:Revocation, and xades:AttributeRevocationValues elements.

TA id: XADES_SCH/REVVALS/1

Normative source: [1] - Clause 5.4.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of one instance of xades:RevocationValuesType in terms of its children is as follows: xades:CRLValues?, xades:OCSPValues?, xades:OtherCertStatusValues?.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/REVVALS/2

Normative source: [1] - Clause 5.4.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The set of attributes (leaving apart the attributes declaring namespaces) of one instance of xades:RevocationValuesType is as follows: Id?.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/REVVALS/CRLVAL/1

Normative source: [1] - Clause 5.4.2

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of one instance of xades:CRLValuesType in terms of its children is as follows: xades:EncapsulatedCRLValue+.

Prescription level: mandatory

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/REVVALS/CRLVAL/2
Normative source: [1] - Clause 5.4.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: An instance of xades:CRLValuesType does not have any attribute.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/REVVALS/OCSPVAL/1
Normative source: [1] - Clause 5.4.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The inner structure of one instance of xades:OCSPValuesType in terms of its children is as follows: xades:EncapsulatedOCSPValue+.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/REVVALS/OCSPVAL/2
Normative source: [1] - Clause 5.4.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: An instance of xades:OCSPValuesType does not have any attribute.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/REVVALS/OTHERVAL/1
Normative source: [1] - Clause 5.4.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The inner structure of one instance of xades:OtherCertStatusValuesType in terms of its children is as follows: xades:OtherValue+.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/REVVALS/OTHERVAL/2
Normative source: [1] - Clause 5.4.2
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: An instance of xades:OtherCertStatusValuesType does not have any attribute.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

The structure of xades:EncapsulatedCRLValue child element shall be tested as specified in clause A.1.3.

The structure of xades:EncapsulatedOCSPValue child element shall be tested as specified in clause A.1.3.

A.3.20 Testing xadesv141:TimeStampValidationData

TA id: XADES_SCH/TSTVAL/1
Normative source: [1] - Clause 5.5.1
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The inner structure of one instance of xadesv141:TimeStampValidationDataType type in terms of its children is as follows: xades:CertificateValues?, xades:RevocationValues?.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/TSTVAL/2
Normative source: [1] - Clause 5.5.1
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The set of attributes (leaving apart the attributes declaring namespaces) of one instance of xadesv141:TimeStampValidationDataType type is as follows: noOrder(Id?,URI?).
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/TSTVAL/3
Normative source: [1] - Clause 5.5.1
Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]
Predicate: The value of the URI attribute is a valid URI Reference.
Prescription level: mandatory
Tag: XAdES baseline and extended signatures

The structure of `xades:CertificateValues` child element shall be tested as specified in clause A.3.18.

The structure of `xades:RevocationValues` child element shall be tested as specified in clause A.3.19.

A.3.21 Testing `xadesv141:ArchiveTimeStamp`

The structure of `xadesv141:ArchiveTimeStamp` element shall be tested as specified in clause A.1.4.

A.3.22 Testing `xadesv141:RenewedDigests`

TA id: XADES_SCH/RENDIGS/1

Normative source: [1] - Clause 5.5.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The inner structure of one instance of `xadesv141:RenewedDigestsType` type in terms of its children is as follows: `ds:DigestMethod`, `xadesv141:RecomputedDigestValue+`.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/RENDIGS/2

Normative source: [1] - Clause 5.5.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The set of attributes (leaving apart the attributes declaring namespaces) of one instance of `xadesv141:RenewedDigestsType` type is as follows: `Id?`.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/RENDIGS/RECDIG/1

Normative source: [1] - Clause 5.5.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: `xadesv141:RecomputedDigestValue` element does not have any children.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

TA id: XADES_SCH/RENDIGS/RECDIG/2

Normative source: [1] - Clause 5.5.3

Target: XAdES signature generator claiming conformance to XAdES signatures either as specified in [1] or in [2]

Predicate: The set of attributes (leaving apart the attributes declaring namespaces) of `xadesv141:RecomputedDigestValue` element is as follows: `Order`.

Prescription level: **mandatory**

Tag: XAdES baseline and extended signatures

History

Document history		
V1.1.1	June 2016	Publication