

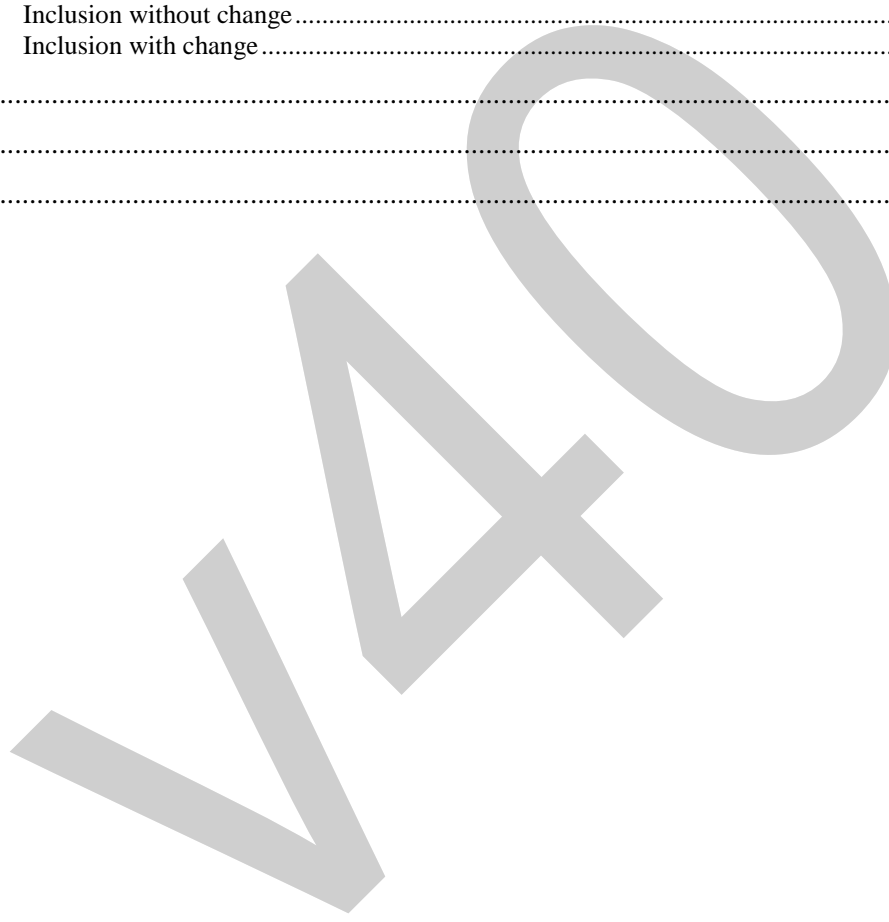
ETSI Drafting Rules (EDR)

Version adopted by the Director-General (28 September 2018)

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What are the ETSI Drafting Rules?

The present document specifies rules for the structure and drafting of documents intended to become ETSI deliverables. These rules complement the ETSI Technical Working Procedures (TWP) which are part of the ETSI Directives. (<https://portal.etsi.org/Resources/ETSIDirectives.aspx>). The ETSI Drafting Rules (EDR) are intended to ensure that ETSI deliverables are drafted in as uniform a manner as is practicable, irrespective of the technical content.

ETSI is frequently maintaining guides on the use of templates and other tools such as ETSI deliverable skeletons which include many editorial aspects such as styles, font, table and figure formatting (and many others) for documents to be processed in accordance with the ETSI Directives. These can be found on the [editHelp!](#) website.

1 ETSI deliverable

1.1 ETSI deliverable types

To draft an ETSI deliverable, one of the types defined in annex A.3 of the TWP **shall** be chosen.

For each ETSI deliverable type a pre-structured deliverable skeleton is available from the [editHelp!](#) website and **shall** be used as a basis for drafting.

1.2 Objective of an ETSI deliverable

The objective of ETSI deliverables is to define clear and unambiguous provisions in order to facilitate international and European trade and communication. To achieve this objective, an ETSI deliverable **shall**:

- be as complete as necessary within the limits specified by its scope;
- be consistent, clear and accurate;
- provide a framework for future technological development;
- be comprehensible to qualified persons who have not participated in its preparation; and
- respect the rules for the drafting of ETSI deliverables set by the present document.

1.3 Homogeneity

Uniformity of structure, of style and of terminology **shall** be maintained not only within each ETSI deliverable, but also across all ETSI deliverables. The structure of ETSI deliverables and the numbering of their clauses **shall**, as far as possible, be identical. Analogous wording **shall** be used to express analogous provisions; identical wording **shall** be used to express identical provisions.

The same term **shall** be used throughout each ETSI deliverable or series of ETSI deliverables to designate a given concept. The use of an alternative term (synonym) for a concept already defined **shall** be avoided. As far as possible, only one meaning **shall** be attributed to each term chosen.

These requirements are particularly important not only to ensure comprehension of the ETSI deliverables but also to derive the maximum benefit available through automated text-processing techniques.

1.4 Consistency

To achieve the aim of consistency within ETSI deliverables, the text of every ETSI deliverable **shall** be in accordance with the rules specified in the present document. This relates particularly to:

- standardized terminology;
- principles and methods of terminology;
- quantities, units and their symbols;
- abbreviations;

- tables and figures numbering;
- bibliographic references; and
- graphical symbols.

1.5 Equivalence of official language versions

ETSI deliverables **shall** be in the English language only.

1.6 Fitness for implementation as a national, regional or international standard

The content of an ETSI deliverable **shall** be drawn up in such a way as to facilitate its direct application and its adoption without change as a national, regional or international standard (see ETSI Rules of Procedure, Article 13.7, in [ETSI Directives](#)).

1.7 Planning

Rules for the planning of new Work Items are given in clause 1.6 of TWP. When creating new Work Items, it is useful to consider whether the end result will be one or more ETSI deliverables (e.g. multi-part deliverable).

In the case where multiple mutually related ETSI deliverables are planned, the structure of the deliverables and any interrelationships between them need to be well defined when Work Items are created as this facilitates work planning in both the Reference Body (RB) and in the Secretariat.

1.8 Subdivision of the subject matter

1.8.0 General rules on the subdivision of the subject matter

An individual ETSI deliverable **should** be prepared for each subject to be standardized. In specific cases and for practical reasons, an ETSI deliverable may be split into separate parts as a multipart deliverable. For example:

- an ETSI deliverable is likely to become too voluminous;
- subsequent portions of the content are interlinked;
- portions of the ETSI deliverable could be referred to in regulations; or
- portions of the ETSI deliverable are intended to serve for certification purposes.

This has the advantage that each part can be changed independently when the need arises.

In particular, the aspects of a product which will be of separate interest to different parties (e.g. manufacturers, operators, certification bodies, legislative bodies) **shall** be clearly distinguished, preferably as parts of an ETSI deliverable or as separate ETSI deliverables.

Such individual aspects are, for example:

- performance requirements;
- maintenance and service requirements; and
- quality assessment.

1.8.1 Subdivision of the subject matter within a series of parts

There are two systems in use for subdividing into parts:

- a) each part deals with a specific aspect of the subject and can stand alone;
- b) there are both common and specific aspects to the subject. The common aspects shall be given in part 1. Specific aspects (which may modify or supplement the common aspects and, therefore, cannot stand alone) **shall** be given in individual parts.

Where the system described in b) is used, care **shall** be taken that the references from one part to another are always to the appropriate version. There are two ways to achieve this:

- if reference is made to a particular element, the reference **shall** be specific (see clause 2.10.1.2);
- since the complete series of parts is normally under the control of the same RB the use of non-specific references (see clause 2.10.1.3) is permitted, provided that corresponding changes are implemented simultaneously in all parts.

The use of non-specific references requires a high degree of discipline by the RB responsible for the ETSI deliverable.

1.8.2 Parts and sub-parts

The number of a part **shall** be indicated by Arabic numerals, beginning with 1 (limited to two digits), following the ETSI deliverable number and preceded by a hyphen, see example 1.

EXAMPLE 1: ETSI ES 201 999-1, ETSI ES 201 999-2, ETSI EN 300 356-33, ETSI EN 300 356-34.

The number of a sub-part **shall** be indicated by Arabic numerals, beginning with 1-1 (limited to two digits), following the ETSI deliverable number and preceded by a hyphen, see example 2:

EXAMPLE 2: ETSI ES 201 999-1-1, ETSI ES 201 999-1-2, ETSI EN 300 356-33-10, ETSI EN 300 356-33-11.

Further details are given in annex B of the TWP, "Numbering of deliverables" contained in the [ETSI Directives](#).

1.9 Legal master of an ETSI deliverable

The prevailing version of an ETSI deliverable is the one made publicly available at <http://www.etsi.org/deliver> in PDF format.

1.10 Neutrality and impartiality

In order to respect the principles of neutrality and impartiality, ETSI deliverables **shall** neither promote nor endorse services, products and/or technologies of one company over another.

If it is known that only one product, service or technology is currently available and that the use of this product, service or technology is needed to fulfil the purpose of an ETSI deliverable, the rules set in clause 4 **shall** be respected.

2 Structure of an ETSI deliverable

2.0 Arrangement of elements in an ETSI deliverable

An ETSI deliverable need not contain all the normative technical elements shown in table 1 and it may contain others than those shown. Both the nature of the normative technical elements and their sequence are determined by the nature of the ETSI deliverable in question.

ETSI deliverables **shall** be drafted on the basis of the corresponding ETSI deliverable skeletons. For each ETSI deliverable type, ETSI deliverable skeletons impose the appropriate document structure.

Table 1: Typical arrangement of elements in an ETSI deliverable

Legend: **Bold type** = required element
 Unbold type = optional element
 Upright type = normative element
Italic type = informative element

Type of element	Arrangement of elements in an ETSI deliverable	Reference in the present document	Permitted content of element(s) in an ETSI deliverable	
Informative preliminary	Cover page	clause 2.1	Title ETSI deliverable type and number Version number Date of publication Disclaimer (<i>for GR, GS and PAS TS</i>) Logo(s) (<i>authorized ones</i>)	
	Table of contents	clause 2.3.1	<i>(generated content)</i>	
	<i>List of figures and/or tables</i>	clause 2.3.2	<i>(generated content)</i>	
	Intellectual Property Rights Foreword Transposition (<i>ENs only</i>) Modal verbs terminology	clause 2.4 clause 2.5 clause 2.5.1 clause 2.6	Text <i>Note(s)</i> <i>Table</i> Text	
	<i>Executive summary</i> <i>Introduction</i>	clause 2.7 clause 2.8	<i>Text</i> <i>Figure(s)</i> <i>Table(s)</i> <i>Note(s)</i>	
	Informative general	Scope <i>Informative references</i> Definition(s) Terms Abbreviations Symbols <i>Reproduction of text, signs and material legally protected</i>	clause 2.9 clause 2.10.2 clause 2.11 clause 2.11.1 clause 2.11.2 clause 2.11.3 clause 4.	Text <i>Figure(s)</i> <i>Table(s)</i> <i>Note(s)</i> <i>References</i>
Normative general		Normative references	clause 2.10.1 Normative Reference(s)	
Normative technical		Requirements	clauses 3.1 and 3.2	Text <i>Figure(s)</i> <i>Table(s)</i> <i>Note(s)</i>
		Normative annexes	clause 2.13.1	
Informative supplementary		<i>Informative guidance</i> <i>Informative annexes</i>	clause 2.13.2	<i>Text</i> <i>Figure(s)</i> <i>Table(s)</i> <i>Note(s)</i>
		<i>Bibliography</i>	clause 2.14	<i>Additional reading material</i>
	<i>Change history/Change request (history)</i> (required for HS)	clause 2.15	<i>Table</i>	
	History	clause 2.16	Table	

2.1 Cover page

The cover page **shall** contain the title of the ETSI deliverable, together with the version number and the date of publication.

The wording of the title **shall** be established by the RB. While being as concise as possible, it **shall** indicate, without ambiguity, the subject matter of the ETSI deliverable in such a way as to distinguish it from that of other ETSI deliverables, without going into unnecessary detail. Additional details **shall** be given in the scope.

The title **shall** be composed of separate elements, each as short as possible, proceeding from the general to the particular. In general, not more than the following three elements should be used:

- a) an introductory element (optional) indicating the general field to which the ETSI deliverable belongs; it should not be based on the name of the RB which drafted the ETSI deliverable, especially if this is too broad to add much value;
- b) a main element (obligatory) indicating the principal subject treated within that general field;

- c) a complementary element (optional) indicating the particular aspect of the principal subject or giving details that distinguish the ETSI deliverable from other ETSI deliverables, or other parts of the same ETSI deliverable.

The rules above also apply to multi-part deliverables. The complementary element **shall** be preceded in each ETSI deliverable part by the designation "Part #: ..." and "Sub-part #:".

The Secretariat is responsible for the final preparation of the cover page.

2.2 Second page

The content of the second page is provided by the Secretariat and **shall not** be modified. The following **shall** be filled in:

- Work Item number;
- pre-defined keywords of the ETSI deliverable.

2.3 Table of contents and list of figures and/or tables

2.3.1 Table of contents

The table of contents **shall** be generated automatically. It is a required element. The title **shall** be "Contents" and shall be unnumbered.

The Secretariat is responsible for the final layout of the table of contents.

2.3.2 List of figures and/or tables

A list of figures and/or a list of tables may be included in ETSI deliverables. If included, the respective titles **shall** be "List of figures" and/or "List of tables", **shall** be unnumbered, **shall** appear after the table of contents and **shall** be generated automatically.

The Secretariat is responsible for the final layout of the list of figures and/or tables.

2.4 Intellectual Property Rights (IPR)

The "Intellectual Property Rights (IPR)" clause is the first unnumbered clause. It is a required, informative element.

The entire text blocks **shall** be as given in the applicable ETSI deliverable skeleton available on the [editHelp!](#) website and **shall not** be modified in any way.

The Secretariat is responsible for the final layout of the IPR clause.

2.5 Foreword

2.5.0 General rules for the foreword

The "Foreword" clause is the second unnumbered clause and on the same page as the IPR clause. It is a required, informative element. It **shall not** contain requirements, figures or tables, except for the transposition table (see clause 2.5.1).

It **shall** always contain a general part, provided by the Secretariat, giving information on:

- the designation and name of the RB that prepared the ETSI deliverable; and
- information regarding the approval of the ETSI deliverable.

Optionally, a specific part of the "Foreword" clause may be provided by the RB including as many of the following as is appropriate:

- an indication of any other organization that has contributed to the preparation of the ETSI deliverable;
- a statement that the ETSI deliverable cancels and replaces other documents in whole or in part;
- a statement of significant technical changes from the previous version of the ETSI deliverable;
- the relationship of the ETSI deliverable to other ETSI deliverables or other documents;
- the existence of an electronic attachment accompanying the ETSI deliverables, if this is not mentioned elsewhere.

For multi-part deliverables, there are two options for explaining the relationship between the various parts in the series:

- a) the first part **shall** include in its "Foreword" clause an explanation of the intended structure of the series. In the "Foreword" clause of each part belonging to the series a list of known parts with their titles **shall** be provided;
- b) a specific part (part 1) **shall** provide an explanation of the intended structure of the series, together with details of the titles of the various parts and sub-parts. Each time a new part or sub-part of the ETSI deliverable is made publicly available, the Secretariat **shall** publish a new version of part 1 showing the details of the new document.

Option b) is the preferred option.

Examples and textblocks to be used can be found in the appropriate ETSI deliverable skeleton available from [editHelp!](#) website.

2.5.1 Transposition table

Each ETSI European Standard (EN) **shall** contain a transposition table as the last element in the "Foreword" clause. This element is provided by the Secretariat and its purpose is described in the TWP, clause 2.4 (see [ETSI Directives](#)).

2.6 Modal verbs terminology

The "Modal verbs terminology" clause specifies how the modal verbs **shall** be used within the ETSI deliverable (see also clause 3.2).

The "Modal verbs terminology" clause is a required informative element that appears after the "Foreword" clause. It **shall not** be numbered.

The content, provided by the Secretariat, **shall** be as given in the ETSI deliverable skeleton available from [editHelp!](#) website and **shall not** be modified.

2.7 Executive summary

The "Executive summary" clause may be used to summarize the ETSI deliverable. It should contain enough information for the readers to become acquainted with the full document without reading it. It is usually one page or shorter.

It is an optional informative element and **shall not** contain requirements.

If used, the "Executive summary" clause appears after the "Modal verbs terminology" clause and before the "Introduction" clause and **shall not** be numbered.

2.8 Introduction

The "Introduction" clause may be used to give specific information or commentary about the technical content of the ETSI deliverable, and about the reasons prompting its preparation.

It is an optional informative element and **shall not** contain requirements.

The "Introduction" clause may appear after the "Executive summary" clause (if present) and **shall not** be numbered.

2.9 Scope

The "Scope" clause **shall** start on a new page and be clause number 1 of each ETSI deliverable. It is a required informative element and **shall not** contain requirements.

The "Scope" clause defines without ambiguity the subject of the ETSI deliverable and the aspect(s) covered, thereby indicating the limits of applicability of the ETSI deliverable or particular parts of it.

In ETSI deliverables that are subdivided into parts, the "Scope" clause of each part **shall** define the subject of that part of the deliverable only.

The "Scope" clause **shall** be succinct so that it can be used as a summary for bibliographic purposes.

This element **shall** be worded as a series of statements of fact.

Forms of expression such as the following **shall** be used:

"The present document

- specifies: the functional requirements for ..."
a method of ..."
the characteristics of ...";
- establishes: a system for ..."
general principles for ...";
- gives guidelines for ...";
- gives terms and definitions ...".

Statements of applicability of the ETSI deliverable **shall** be introduced by the following wording:

- "The present document is applicable to ...".

2.10 References

2.10.0 General information on references

The "References" clause **shall** be clause number 2 of each ETSI deliverable. It is a required element and **shall not** contain requirements.

The "References" clause **shall** list all the documents cited anywhere in an ETSI deliverable including annexes. It **shall** consist of clause 2.1 "Normative references" and clause 2.2 "Informative references".

References should preferably be given to standards issued by ETSI and other recognized standardization bodies. Referencing of documents other than standards may be made provided that:

- all referenced documents are publicly available in the English language;
- when public availability cannot be guaranteed, the Secretariat **shall** obtain the right to keep the copy of the referenced document.

Reproduction of elements from other documents is deprecated (i.e. referencing is the preferred method in ETSI).

The textblock to be used for the "References" clause **shall** be as given in the appropriate ETSI deliverable skeleton available on the [editHelp!](#) website.

2.10.1 Normative references

2.10.1.0 General rules on normative references

The "Normative References" clause **shall** be numbered 2.1 and **shall** contain exclusively a numbered list of all normative references of an ETSI deliverable.

Documents may be normatively referenced provided that they contain technical requirements. This in particular means that informative documents **shall not** be normatively referenced as they do not contain any normative requirements.

The requirements from the referenced documents are effectively made integral part of the requirements set by an ETSI deliverable, even though they are actually in another document.

The requirements with a normative reference to an entire document **shall** be made only when all provisions contained in a referenced documents are relevant. If only some provisions from the referenced document are relevant, the requirements with normative references **shall** precisely point to clauses, tables or figures containing relevant requirements.

EXAMPLE: "the test method shall be as specified in clause ## of Recommendation ITU-T M.50", Recommendation ITU-T M.50 is a normative reference.

For each entry in the normative references list all information necessary to identify the referenced document **shall** be provided. This may include:

- the issuing organization;
- the document number;
- the title.

The edition, version or date of publication may (and in some cases **shall**) be provided for some documents in the normative references list (for HSs see clause 8.4).

Examples are given in the ETSI deliverable skeletons available on the [editHelp!](#) website.

2.10.1.1 Public availability of the normative references

A normative reference **shall** be publicly available in English language during the approval procedures (see clause 2.2 of TWP), at the time of publication and for the duration of the expected lifespan of the ETSI deliverable. If public availability cannot be guaranteed after publication of the ETSI deliverable has occurred, the originating body of the document **shall** be requested to provide ETSI with the right to make the copies available; the Secretariat **shall** establish and maintain a list of the referenced documents and the relevant external bodies, for document tracking and cross-referencing purposes, and keep the necessary liaison with the originating body.

As long as all normative references in an ETSI deliverable are not publicly available, the ETSI deliverable **shall not** be published or submitted to an approval process (EN Approval Process (ENAP) or Membership Approval process (MAP), see annex A.5 of TWP).

Alternatively, the text of the reference **shall** be held and made available by the Secretariat.

For references to online available material, information sufficient to identify and locate the source **shall** be provided. Preferably, the primary source of the referenced material should be referenced, in order to facilitate traceability. Furthermore, the reference should, as far as possible, remain valid for the expected life of the ETSI deliverable.

2.10.1.2 Specific normative references

A specific normative reference points to a particular revision or version of the normatively referenced document. Specific references are favoured because they lead to permanence and stability in ETSI deliverables.

ETSI Directives stipulate that ETSI ENs need to be reviewed at least every five years possibly leading to either new revisions or the withdrawal of the ETSI EN. As a consequence, any ETSI deliverable making specific references to such documents will need to be revised.

2.10.1.3 Non-specific normative references

A non-specific normative reference points to a document without giving any information on its version or revision. Such a reference implies that all future revisions and versions of the referenced document may be used. Non-specific references require additional procedures to ensure that any revisions made necessary to the ETSI deliverable by virtue of revisions made to the normatively referenced materials are considered by the appropriate RB in charge of the ETSI deliverable.

If a normative reference is non-specific, the RB in charge of the ETSI deliverable should establish a process for gaining access to all future revisions and versions of the normatively referenced material. In addition, the RB should establish a work plan for ensuring that any such new revisions and versions of the normatively referenced material do not require a substantive amendment to the ETSI deliverable referencing that document or, alternatively, for ensuring that any such needed amendments are made and approved appropriately. Any future versions incorporated by reference **shall** meet the requirements for public availability and Intellectual Property.

It may, therefore, be appropriate that an ETSI deliverable contains non-specific references, provided that the following requirements can be fulfilled:

- it is accepted that it will be possible to use future versions of the document referred to for the purposes of the referring ETSI deliverable;
- it is granted that the structure of the document referred to will not change for the specific areas which are used by the referring ETSI deliverable (e.g. the referred to document is controlled by the same RB as the referring one).

2.10.1.4 Referring to normative references (specific or non-specific)

The following form **shall** be used consistently throughout the ETSI deliverable:

- " ... shall be as specified in ETSI ES 201 001 [n], clause 3, ... ".
- " ... ETSI ES 201 001 [n], clause 3 shall apply".
- " ... ETSI ES 201 001 [n], clause 3 shall be used".

2.10.1.5 ETSI Intellectual Property Rights (IPR) policy for normative references

ETSI promotes a policy that any essential Intellectual Property Rights (IPR) embodied in normatively referenced documents be available for use in ETSI deliverables on licensing and disclosure terms that do not materially differ from the terms defined in the ETSI IPR Policy. This normative reference policy, however, does not imply any obligation on the ETSI members or RB members to investigate or ensure the availability of any essential normatively referenced IPR, under any specific licensing and disclosure terms, at the time a normative reference is provided, explicitly or implicitly, within an ETSI deliverable.

2.10.2 Informative references

The "Informative references" clause **shall** be numbered 2.2 and **shall** provide a numbered list of all informative references in an ETSI deliverable. Informative references cite documents that may be useful in implementing an ETSI deliverable or add to the reader's understanding but which are not required for conformance to the ETSI deliverable.

EXAMPLE: **"the test method is described in Recommendation ITU-T M.50"**,
Recommendation ITU-T M.50 is an **informative** reference.

It is preferable that informative references are publicly available. Current practice is that the Secretariat need not check the public availability of informative references.

Layout and display of "Informative references" clause are given in the ETSI deliverable skeletons given on the [editHelp!](#) website.

2.10.3 Reference to ETSI Partnership Projects' deliverables

In deliverables developed by an ETSI Partnership Project (EPP) and to be published by ETSI, all references to an EPP deliverable **shall** be replaced with the equivalent ETSI deliverable.

EXAMPLE: A reference to 3GPP TS 23.040 will be changed to a reference to ETSI TS 123 040.

This was a necessary step taken by ETSI due to the provision clause implemented in all EPP drafts/documents relating to liability and non implementation.

2.11 Definition of terms, abbreviations and symbols

2.11.0 General information on definitions

The "Definitions of terms, abbreviations and symbols" clause **shall** be numbered 3 and **shall** consist of clauses 3.1 "Terms", 3.2 "Symbols" and 3.3 "Abbreviations". They are required informative elements and **shall not** contain requirements.

The textblocks to be used **shall** be as given in the appropriate ETSI deliverable skeleton available on the [editHelp!](#) website.

Other useful definitions may also be added in this clause such as "Conventions" and "Notation".

2.11.1 Terms

Clause 3.1 of an ETSI deliverable provides the definitions of all the terms necessary for understanding of their use within the ETSI deliverable.

The definitions of terms **shall** follow the rules hereafter:

- not take the form of, or contain, a requirement;
- be presented in alphabetical order;
- a definition of term should be such that it can replace the term in context. Any additional information **shall** be given only in the form of examples or notes;
- if there are several notes or examples for the same definition, the notes and examples **shall** be numbered.

2.11.2 Abbreviations

The "Abbreviations" clause gives a list of abbreviations that represent a shortened or contracted form of a word or phrase used within the ETSI deliverable. Acronyms are to be considered as a form of abbreviations.

The abbreviations list **shall** contain in alphabetical order the abbreviations and their corresponding full form.

A list of abbreviations may be necessary for the understanding of the ETSI deliverable.

Entries in the "Abbreviations" clause **shall not** be numbered.

2.11.3 Symbols

The "Symbols" clause gives a list of symbols which are used within the ETSI deliverable and are necessary for the understanding of the ETSI deliverable.

The symbols list **shall** contain in alphabetical order the symbols and their corresponding explanations.

Entries in the "Symbols" clause **shall not** be numbered.

2.12 Clauses

2.12.0 General information - Clauses

From clause 4 the technical content of the ETSI deliverable **shall** be inserted.

Each clause **shall** have a title. For numbered clauses the title **shall** be placed after its number.

A clause can have numbered subdivisions, e.g. 5.1, 5.2, 5.1.1, 5.1.2, etc. This process of subdivisions may be continued as far as the sixth heading level (e.g. 6.5.4.3.2.1). If present, there **shall** be at least two numbered subdivisions.

2.12.1 Clause numbering

2.12.1.0 Clause numbering issues

The "Intellectual Property Rights (IPR)", "Foreword", "Modal verbs terminology", "Executive summary" and the "Introduction" clauses **shall** be unnumbered, other clauses **shall** be numbered.

The numbered clauses in each ETSI deliverable **shall** be numbered with Arabic numerals, beginning with 1 for the "Scope" clause.

Every attempt **shall** be made to use continuous numbering. However, if continuous numbering cannot be kept, a new element **shall** be inserted in existing text using an appropriate alphanumeric designation that does not disturb the existing numbering scheme. This applies to all elements (e.g. clauses, annexes, figures, tables, notes, lists):

EXAMPLE 1: It is necessary to update an ETSI deliverable. A new clause needs to be inserted between the existing clauses 8 and 9. A new clause 8a **shall** be inserted in preference to avoid re-numbering the existing clauses.

EXAMPLE 2: A new figure needs to be inserted between existing figures 4 and 5. A new figure 4a **shall** be inserted to avoid re-numbering of all subsequent figures.

Similarly, an existing element may be deleted and replaced with the term "Void" to minimize disruption to the numbering scheme.

EXAMPLE 3: During the updating of an ETSI deliverable, it is decided that annex C is no longer required. The title of annex C becomes "Void". Later annexes, therefore, remain unchanged.

EXAMPLE 4: It is decided to delete a note 3, so the text of note 3 becomes "Void" and there is no need to re-number note 4.

2.12.1.1 Automatic clause numbering

Automatic numbering **may be used** in ETSI deliverables.

The automatic numbering, if used, **shall** be applied anywhere in an ETSI deliverable including annexes using the appropriate ETSI styles, otherwise it may corrupt the deliverable.

2.12.2 Paragraph

A paragraph is an unnumbered subdivision of a clause.

To be able to precisely reference every paragraph, clauses **shall** have either numbered or unnumbered subdivisions.

Example 1 shows the two alternatives that **shall be used** for subdividing a clause.

EXAMPLE 1:

5	Title	5	Title
5.1	Title	Paragraph 1	
Paragraphs		Paragraph 2	
5.2	Title	...	
Paragraphs		Paragraph n	
5.3	Title	6	Test report
Paragraphs			
6	Test report		

Mixed numbered and unnumbered subdivisions **shall not** be used as they make precise paragraph referencing impossible.

Example 2 shows clause subdivision that **shall not be used**.

EXAMPLE 2:

5	Title
Paragraph 1 (text that cannot be precisely referenced)	
Paragraph 2 (text that cannot be precisely referenced)	
5.1	Title
Paragraphs	
5.2	Title
Paragraphs	
5.3	Title
Paragraphs	
6	Test report

2.13 Annexes

2.13.0 General information - Annexes

Each annex **shall**:

- start on a new page;
- be designated by a heading comprising the word "Annex" followed by a capital letter designating its serial order, beginning with "A", e.g. "Annex A" (see also clause 2.12.1);
- have its heading followed by the indication "(normative):" or "(informative):", and by the title on the next line.

EXAMPLE 1: Annex A (normative):
Title of annex A

EXAMPLE 2: Annex A (informative):
Title of annex A

Exceptions to this rule are for the ETSI deliverable types EG, GR, TR and SR which are entirely informative. Thus the addition of "(normative):" or "(informative):" after the annex identifier is superfluous and **shall not** be provided, see example 3.

EXAMPLE 3: Annex A:
Title of annex A

Numbers given to the clauses, tables, figures and mathematical formulae of an annex **shall** be preceded by the letter designating that annex followed by a full-stop (e.g. figure B.1, table C.4). The numbering **shall** start afresh with each annex. A single annex **shall** be designated "Annex A".

Clauses in annex A **shall** be designated "A.1", "A.2", "A.3", etc. (see also clause 2.12.1).

For annexes in endorsement of documents from other standards organizations, see clause 9.

For annexes in Harmonised Standards, see clause 8.5.

2.13.1 Normative annexes

For reasons of convenience it may be decided to place some part of the normative text in an annex.

Normative annexes contain provisions to which it is necessary to conform in order to be able to claim compliance to the ETSI deliverable. Their presence is optional and their status (except for EGs, GRs, TRs and SRs) **shall** be indicated in the heading of the annex.

2.13.2 Informative annexes

For reasons of convenience it may be decided to place some part of the informative text in an annex.

Informative annexes give additional information intended to assist the understanding or use of the ETSI deliverable and **shall not** contain provisions to which it is necessary to conform in order to be able to claim compliance to the ETSI deliverable. Their presence is optional and their status (except for EGs, GRs, TRs and SRs, see note in clause 2.13) **shall** be indicated in the heading of the annex.

The following annexes are optional and if present, will be displayed in the following order before the history box (see clause 2.16):

- Bibliography (see clause 2.14);
- Change history/Change request (history) (see clause 2.15).

Each of these elements **shall** start on a new page.

2.14 Bibliography

The "Bibliography" annex **shall** start on a new page and be the last annex of an ETSI deliverable or the last but one if followed by the "Change history/Change request history" annex, if any. The "Bibliography" annex is an optional informative element and **shall not** contain requirements.

The "Bibliography" annex identifies additional reading material not mentioned anywhere in an ETSI deliverable including annexes. These publications might or might not be publicly available (no check is made by the Secretariat).

The "Bibliography" annex **shall** include a list of standards, books, articles, or other sources on a particular subject which are not cited anywhere in an ETSI deliverable including annexes.

The "Bibliography" annex **shall not** include documents listed in clauses 2.1 and 2.2.

2.15 Change history/Change request (history)

The "Change history/Change request (history)" annex **shall** start on a new page and be the last annex before the "History" clause. It is an optional, informative element and **shall not** contain requirements.

The "Change history/Change request (history)" annex, if present, describes the list of changes implemented in a new version of the ETSI deliverable. It **shall** be presented as a table.

An example of a change history table can be found in the appropriate ETSI deliverable skeleton given on the [editHelp!](#) website.

2.16 History

The "History" clause **shall** start on a new page and be the final unnumbered clause of an ETSI deliverable. It is a required informative element and **shall not** contain requirements.

The "History" clause identifies the major milestones in the life of an ETSI deliverable through the means of a table. The history box **shall** be provided by the Secretariat.

If it is desired to keep a detailed record of the ETSI deliverable history (other than the major milestones) it is recommended that this is done by inserting a "Change history/Change request" annex, see clause 2.15.

An example of a history table can be found in the appropriate ETSI deliverable skeleton available on the [editHelp!](#) website.

3 Requirements and expression of provisions

3.1 Requirements

This element is optional. If present, it **shall** contain:

- a) all characteristics relevant to the aspect(s) of the product(s), process(es) or service(s) covered by the ETSI deliverable, either explicitly or by reference;
- b) the required limiting values of quantifiable characteristics.

A clear distinction **shall** be made between requirements, statements and recommendations (see also clause 3.2).

Contractual requirements concerning claims, guarantees, covering of expenses, etc. **shall not** be included.

ETSI deliverables listing characteristics for which suppliers are required to state values that are not specified by the ETSI deliverable itself **shall** specify how such values are to be measured and stated.

3.2 Verbal forms for the expression of provisions

In order to be able to claim compliance with an ETSI deliverable, the user needs to be able to identify the requirements that are obligatory. The user also needs to be able to distinguish these requirements from other provisions where there is a certain freedom of choice.

This clause is clearly stating the verbal form that **shall** be used to express a particular kind of provision, i.e. a requirement, a recommendation or a permission.

In the first column of tables 2 to 5 the verbal form that **shall** be used to express each kind of provision is given. The equivalent expressions given in the second column may be used only in exceptional cases when the form given in the first column cannot be used for linguistic reasons.

NOTE: Only singular forms are shown.

The verbal forms shown in table 2 **shall** be used to indicate requirements strictly to be followed in order to conform to the standard and from which no deviation is permitted. For example, the requirements to be followed may relate to values, actions, features to be supported and/or used or presence/absence or optional elements.

Table 2: Requirement

Verbal form	Equivalent expressions for use in exceptional cases (see note)
shall	is to is required to it is required that has to only ... is permitted it is necessary
shall not	is not allowed [permitted] [acceptable] [permissible] is required to be not is required that ... be not is not to be
<ul style="list-style-type: none"> • Do not use "must", except when used in direct citation. • Do not use "may not" or "has not" instead of "shall not" to express a prohibition. To express a direct instruction, for example referring to steps to be taken in a test method, use the imperative mode in English (e.g. "switch on the recorder").	
NOTE: "exceptional cases" means where the use of verbal form would change the meaning of the sentence or make it difficult to understand.	

The verbal forms shown in table 3 **shall** be used to indicate that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others, or that a certain course of action is preferred but not necessarily required, or that (in the negative form) a certain possibility or course of action is deprecated but not prohibited. For example, the recommendations may relate to values, actions, features to be supported and/or used or presence/absence or optional elements.

Table 3: Recommendation

Verbal form	Equivalent expressions for use in exceptional cases (see note)
should	it is recommended that ought to
should not	it is not recommended that ought not to
NOTE: "exceptional cases" means where the use of verbal form would change the meaning of the sentence or make it difficult to understand.	

The verbal forms shown in table 4 **shall** be used to indicate what is permitted by the ETSI deliverable, which can be values, actions, support and /or use of features or presence/absence of optional elements.

Table 4: Permission

Verbal form	Equivalent expressions for use in exceptional cases (see note)
may	is permitted is allowed is permissible
need not	it is not required that no ... is required
<ul style="list-style-type: none"> • Do not use "possible" or "impossible" to express permission. • Do not use "can" instead of "may" to express permission. "May" signifies permission expressed by the standard, whereas "can" whereas "can" signifies a possibility that something happens.	
NOTE: "exceptional cases" means where the use of verbal form would change the meaning of the sentence or make it difficult to understand.	

The verbal forms shown in table 5 **shall** be used for statements of possibility and capability, whether material, physical or causal.

Table 5: Possibility and capability

Verbal form	Equivalent expressions for use in exceptional cases (see note)
can	be able to there is a possibility of it is possible to
cannot	be unable to there is no possibility of it is not possible to
	<ul style="list-style-type: none"> • Do not use "may" instead of "can" to express possibility or capability. • "Can" refers to a possibility that something happens.
NOTE:	"exceptional cases" means where the use of verbal form would change the meaning of the sentence or make it difficult to understand.

The verbal forms shown in table 6 **shall** be used to indicate behaviour of equipment or sub-systems outside the scope of the ETSI deliverable in which they appear. For example, in an ETSI deliverable specifying the requirements of terminal equipment, these forms **shall** be used to describe the expected behaviour of the network or network simulator to which the terminal is connected.

Table 6: Inevitability

Verbal form	Equivalent expressions
will	-
will not	-
	<ul style="list-style-type: none"> • Distinguish from "shall"/"shall not". Use to express behaviour of equipment or systems outside the scope of the ETSI deliverable being drafted, where description of such behaviour is essential to the correct understanding of the requirements pertaining to equipment within the scope of the current ETSI deliverable.

EXAMPLE: Extract from ETSI deliverable specifying behaviour of terminal equipment: "... On expiry of timer T3, the terminal shall send a TIMEOUT message to the network and start timer T4. The network will respond with a TIMEOUT-ACKNOWLEDGE message. On receipt of a TIMEOUT-ACKNOWLEDGE message, the terminal shall stop timer T4 ..."; thus is distinguished the strong future ("the terminal shall") used for requirements and the normal future ("the network will") used to indicate expected events.

The verbal forms shown in table 7 **shall** be used to indicate statements of fact.

Table 7: Fact

Verbal form	Equivalent expressions
is	Any verb in the indicative mood, present tense.
is not	
	<ul style="list-style-type: none"> • Distinguish from "shall"/"shall not". Do not use present indicative of verbs for expressing requirements.

4 Use and reproduction of text, signs and material legally protected

4.1 General provisions

The provisions of the ETSI IPR Policy and the ETSI Guide on IPR **shall** be respected.

The use and reproduction of third parties text, signs and material legally protected should be avoided in ETSI deliverables.

If, in exceptional circumstances, the use and reproduction of third parties' rights cannot be avoided, the IPRs owner's authorization to use and reproduce their rights in ETSI deliverables **shall** be obtained.

Reference to the source and the owner **shall** always be provided in ETSI deliverables.

4.2 Trade names and trademarks

The use of trade names and/or trademarks that are asserted and/or registered by their owners for designating particular products or services should be avoided in ETSI deliverables. Instead a corresponding standard should be used or a correct designation or a generic description should be given (see example).

EXAMPLE: Instead of "ZigBee[®]" refer to IEEE 802.15.4.

If, in exceptional circumstances, the use of trademarks/tradenames cannot be avoided, their nature **shall** be indicated by the symbols [™] for any trademark or [®] for a registered trademark.

4.3 Copyrights

4.3.1 General rules on copyrights

By nature, copyrights may apply to different kind of elements/works regardless of their merits, e.g. a text, a figure, a photography, a software source code, etc.

If, in exceptional circumstances, the use of a copyrighted work cannot be avoided, their nature **shall** be indicated by the symbol ©.

4.3.2 Reproduction of third parties text

Providing a reference to a third party text **shall** be preferred to reproducing such a text. Taking into consideration that a copyright authorization may be withdrawn at any moment from the copyright holder, the reproduction of third parties texts **shall** be avoided.

The reproduction of a third party text in ETSI deliverables requires the author's authorization.

4.3.3 Reproduction of third parties software elements

Many software elements such as the source code, the object code and the graphic interfaces may be protected by copyright.

The reproduction of software elements in ETSI deliverables **shall** be avoided and in case it cannot be avoided, **shall** require to get the software owner's authorization.

In case of open source elements, the risks of contamination of ETSI deliverables **shall** be assessed before introducing such elements into ETSI deliverables.

4.3.4 Photographs

If a photograph shows a person and if there are doubts about the respect of the rights of personality of that person, a written confirmation that those rights have not been invaded and have been fully respected **shall** be obtained from the author of the photograph. If the authorization cannot be obtained the face of that person **shall** be blurred.

5 Elements of an ETSI deliverable

5.1 Figures

5.1.1 Figure usage

Figures should be used wherever appropriate to present information in an easily comprehensible form. Each figure **shall** be referred to explicitly within the text and **shall** be numbered.

5.1.2 Figure format

Figures **shall** be prepared in accordance to clause 7.2.

5.1.3 Figure numbering

Figures may be numbered sequentially throughout the ETSI deliverable without regard to the clause numbering, e.g. first figure is figure 1 and the twentieth figure is figure 20. For the numbering of figures in annexes, see clause 2.13.

Figures may also be numbered taking account of clause numbering.

EXAMPLE 1: First figure in clause 5 is figure 5.1, second figure in clause 5.1.1 is figure 5.2, third figure in clause 5.2.3 is figure 5.3.

EXAMPLE 2: First figure in clause 7 is figure 7.1, fifth figure in clause 7 is figure 7.5.

EXAMPLE 3: First figure in clause 7.3.2 is figure 7.3.2.1, fifth figure in clause 7.3.2 is figure 7.3.2.5.

One level of subdivision may only be used (e.g. figure 1 may be subdivided as 1 a), 1 b), 1 c), etc.). See also clause 2.12.1.

In an ETSI deliverable lower case figure numbering should consistently be used. If done consistently throughout an ETSI deliverable, upper case numbering may also be used.

For automatic figure numbering see clause 6.9.2.

For the generation of a list of figures see clause 2.3.2.

5.1.4 Layout of figure title

The figure title may be provided after the figure number. The figure number and optional title **shall** be below the figure.

Information on styles that **shall** be used is given in the ETSI deliverable skeletons with guidance available on the [editHelp!](#) website.

5.1.5 Notes to figures

Notes to figures **shall** be treated independently from notes integrated in the text (see clause 5.5.1) and for this reason may contain requirements. They **shall** be located the title of the relevant figure. A single note to a figure **shall** be preceded by "NOTE:". When there are several notes to the same figure, they **shall** be designated "NOTE 1:", "NOTE 2:", "NOTE 3:", etc. (see also clause 2.12.1). A separate numbering sequence **shall** be used for each figure.

Notes to a figure **shall not** be embedded in a figure itself.

5.1.6 References to figures

Every figure included in the ETSI deliverable **shall** be referred to in the text, for example using the following forms:

- "given in figure 2";
- "(see figure B.2)";
- "shown in figure A.6".

Figure references in the text **shall** use the same lower or upper case numbering as the figures.

5.2 Tables

5.2.1 Table usage

Tables should be used wherever appropriate to present information in an easily comprehensible form. Each table **shall** be referred to explicitly within the text and **shall** be numbered. If the table continues over more than one page, the column headings **shall** be repeated on all pages after the first.

The first word in the heading of each column **shall** begin with a capital letter. The units used in a given column **shall** be indicated within the column heading.

Every table included in the ETSI deliverable **shall** be referred to in the text and **shall** be consistent within an ETSI deliverable.

For automatic table numbering see clause 6.9.2.

Styles for table cells and headers defined in ETSI styles toolbar available on the [editHelp!](#) website **shall** be used.

Tables should be used wherever appropriate to present information in an easily comprehensible form. Each table **shall** be referred to explicitly within the text and **shall** therefore be numbered.

5.2.2 Notes to tables

Notes to tables **shall** be treated independently from notes integrated in the text (see clause 5.5.1) and for this reason may contain requirements. They **shall** be located within the frame of the relevant table. A single note in a table **shall** be preceded by "NOTE:". When several notes occur in the same table, they **shall** be designated "NOTE 1:", "NOTE 2:", "NOTE 3:", etc. (see also clause 2.12.1). A separate numbering sequence **shall** be used for each table.

5.3 Mathematical formulae

5.3.1 Types of equations

Equations between quantities are preferred to equations between numerical values. Equations **shall** be expressed in mathematically correct form, the variables being represented by letter symbols the meanings of which are explained in connection with the equations, unless they appear in a "Symbols and abbreviations" clause (see clauses 2.11.2 and 2.11.3). Descriptive terms, acronyms or names of quantities **shall not** be arranged in the form of an equation.

EXAMPLE:

$$\tau = \sqrt{\frac{1}{(6n^2(N-3n+1)) \sum_{j=1}^{N-3n+1} \left(\sum_{i=j}^{n+j-1} (x_{i+2n} - 2x_{i+n} + x_i) \right)^2}}$$

where:

x_j are samples of time errors data;

N is the total number of samples;

τ is the time error sampling interval;

n is the number of sampling intervals, with $n = 1, 2, \dots$, integer part ($N/3$).

5.3.2 Layout of equations

Tools that **shall** be used for editing equations are given on the [editHelp!](#) website.

5.3.3 Numbering

If it is necessary to number some or all of the formulae in an ETSI deliverable in order to facilitate cross-referencing, Arabic numbers in parentheses **shall** be used, beginning with 1.

EXAMPLE 1:

$$x^2 + y^2 < z^2 \quad (1)$$

Equations may be numbered sequentially throughout the ETSI deliverable without regard to the clause numbering, e.g. first equation is equation 1 and the twentieth equation is equation 20. For the numbering of equations in annexes see clause 2.13.

Equations may also be numbered taking account of clause numbering.

EXAMPLE 2: First equation in clause 5 is equation 5.1, second equation in clause 5.1.1 is equation 5.2, third equation in clause 5.2.3 is equation 5.3.

EXAMPLE 3: First equation in clause 7 is equation 7.1, fifth equation in clause 7 is equation 7.5.

EXAMPLE 4: First equation in clause 7.3.2 is equation 7.3.2.1, fifth equation in clause 7.3.2 is equation 7.3.2.5.

See also clause 2.12.1.

For automatic equation numbering see clause 6.9.2.

5.4 Lists

Information on how lists **shall** be managed in ETSI deliverables and examples are available on the [editHelp!](#) website.

5.5 Notes and examples

5.5.1 Notes and examples integrated in the text

Notes and examples should preferably be placed at the end of the clause, or after the paragraph, to which they refer.

Notes and examples integrated in the text **shall** only be used for giving additional information intended to assist the understanding or use of the ETSI deliverable. They **shall not** contain any information considered indispensable for the use of the ETSI deliverable. Notes and examples **shall not** contain requirements.

A single note in a clause **shall** be preceded by "NOTE:" in upper case, placed at the beginning of the first line of the text of the note. When several notes occur within the same element (e.g. clause, figure or table), they **shall** be designated "NOTE 1:", "NOTE 2:", "NOTE 3:", etc. (see also clause 2.12.1).

A single example in a clause **shall** be preceded by "EXAMPLE:" in upper case, placed at the beginning of the first line of the text of the example. When several examples occur within the same element (e.g. clause, figure or table), they **shall** be designated "EXAMPLE 1:", "EXAMPLE 2:", "EXAMPLE 3:", etc. (see also clause 2.12.1).

When there is a danger that it may not be clear where the example ends and the normal text continues, then the end of the example may be designated by "END of EXAMPLE".

Examples are given in the ETSI deliverable skeletons "with guidance text" available on the [editHelp!](#) website.

5.5.2 Footnotes to the text

Footnotes **shall not** be used in ETSI deliverables. If necessary notes integrated in the text **shall** be used.

6 Editorial layout and formatting

6.1 ETSI styles

In order to achieve greater homogeneity between ETSI deliverables, ETSI is defining a set of styles that **shall** be used in all ETSI deliverables. The ETSI styles toolbar and other tools such as ETSI deliverable skeletons include editorial aspects such as styles, fonts, table and figure formatting as well as many others and **shall** be used when determining which style to use for various elements of the ETSI deliverable.

The styles or formats pre-set in the ETSI deliverable skeletons or ETSI styles toolbar, **shall not** be altered or deleted. New styles **shall not** be added to ETSI deliverable skeletons.

6.2 Capital letters

Unnecessary use of capital letters **shall** be avoided.

EXAMPLE: "user" is preferred to "User".

6.3 Different items concerning text

Table 8 provides instructions for text formatting in ETSI deliverables.

Table 8: Text formatting instructions

Bold text	Use bold to emphasize text
Italic text	Use <i>italic</i> for citations, linguistic expressions or when a word/text/expression is extracted from a specific context.
Non-breaking spaces	Use non-breaking spaces (°) or non-breaking hyphens (-) in order to avoid unexpected wrap around between two words and/or numbers (e.g. 50°cm, 1°000, clause°6, etc.). These characters appear as normal spaces () or hyphens (-) when printed out.
Quotation marks	Use only straight quotation marks ("...").
Underlined text	Do not use underlined text in order to avoid confusion with web links and revision marks.
Spaces after punctuation	Do not put more than one space after a full stop. Do not precede comma (,), semicolon (;), colon (:), full stop (.), question mark (?) or exclamation mark (!) by spaces.
Tabulation	Do not use spaces in place of tabs when indentation/alignment is required; this can cause text to be misaligned.

6.4 Dimensions and tolerances

Dimensions and tolerances **shall** be indicated in an unambiguous manner. The examples are given on the [editHelp!](#) website.

In order to avoid misunderstanding, tolerances on percentages **shall** be expressed in a mathematically correct form.

For "scientific units" (e.g. "s" for second(s)), please refer to the "Use of English guide" given on the [editHelp!](#) website.

6.5 Quantities, units, symbols and signs

The units in which any values are expressed **shall** be indicated.

6.6 Representation of numbers and numerical values

The decimal sign **shall** be a comma. The thousand separator **shall** be a space.

If a value less than 1 is written in decimal form, the decimal sign **shall** be preceded by a zero.

Each group of three digits reading to the left of a decimal sign **shall** be separated by a space from preceding digits or following digits respectively, except for four-digit numbers designating years.

For clarity, the symbol \times or a lower case x (rather than a point or any other symbol) **shall** be used to indicate multiplication of numbers and numerical values.

The exception are vector values because it makes a difference whether multiplying with a "•" (scalar value) or with a "×" (vector value).

To express numbers of items (as opposed to numerical values of physical quantities), the numerals one to nine **shall** be spelled out in full.

A number and its unit, including the percentage sign (%) **shall** be separated with a non-breaking space, even if the unit is not abbreviated.

A number preceded by an unary operator (sign) **shall not** be separated by an intervening space, except for \leq , \geq , $>$, $<$.

A non-breaking space **shall** be inserted both before and after binary operators (+, -, \times , etc.).

The examples on representation of numbers and numerical values are given on the [editHelp!](#) website.

6.7 Referencing the ETSI deliverable as a whole in its own text

6.7.1 Referencing the single deliverable

The form "the present document ..." **shall** be used.

6.7.2 Referencing a multi-part deliverable

The following formulation **shall** be used:

For a specific part:

- "ETSI EN 300 256-2 is ...".

For various specific parts:

- "ETSI EN 300 256-7 to ETSI EN 300 256-9 are....".
- "ETSI EN 300 256-5 and ETSI EN 300 256-8 are ...".

For all parts:

- "All parts of ETSI EN 300 256 ..."

6.7.3 Referencing elements of text

Use, for example, the following forms:

- "in accordance with clause 3";
- "according to clause 3.1";
- "as specified in clause 3.1 b)";
- "details as given in clause 3.1.1";

- "see annex B";
- "the requirements given in clause B.2";
- "see the note in table 2";
- "see example 2 in clause 6.6.3";
- "see note 3 in clause 6.6.1".

If there is a need to refer to an unnumbered list item, the following formulation **shall** be used:

- "as specified in clause 3.1, second list item".

Lower case letter should be used. The use of lower and upper case letters **shall** be consistent throughout an ETSI deliverable including annexes.

References **shall not** be made to page numbers.

The terms that **shall** be used to designate the divisions and subdivisions that an ETSI deliverable may have are shown in table 9.

Table 9: Names of divisions and subdivisions

Term	Example of numbering
part	ES 201 111-1
sub-part	ES 201 111-1-2
clause	1
clause	1.1
clause	1.1.1
annex	A
clause	A.1
clause	A.1.1
paragraph	
subclause	

The terms "paragraph" and "subclause" may be used in exceptional cases (e.g. where the EDR, if applied, would change the meaning of the sentence or make it difficult to understand).

EXAMPLE: "... is described in the remaining subclauses of this clause".

6.8 Pagination

Unnecessary forced pagination, (i.e. use of hard page breaks) **shall not** be used.

6.9 Numbering

6.9.1 Page numbering, page headers and footers

The ETSI deliverable skeleton supplies fields for automatic page numbering and the identification of the ETSI deliverable in the page header. These fields **shall not** be changed.

6.9.2 Sequence numbering and bookmarking

Sequence numbering should be used for automatic numbering of **sets of items** within an ETSI deliverable, especially if the document is long and/or contains numerous references, tables, figures, equations, etc.

Sequence numbers may also be bookmarked, in order to facilitate cross-referencing throughout the text: it avoids renumbering cross-references and guarantees their accuracy.

Use the following sequence identifiers (**Insert/Field/Numbering Seq** and type in the relevant sequence identifier).

Table 10: Sequence numberings

Sequence	Bookmark name	Description
seq equ	equ_xx	for equations (note 1)
seq fig	fig_xx	for figures (note 1)
seq ref	ref_xx	for normative references
seq refi	ref_xx	for informative references
seq tab	tab_xx	for tables (note 1)

NOTE 1: Reset the sequence numbering to one for the first item of each annex of an ETSI deliverable by using the switch **lr1** (e.g. **{ seq fig lr1 }**).

NOTE 2: "xx" represents the identifier for the particular object concerned, e.g. "fig_ProcessControl" or "ref_en300466". Do not use bookmarks of the form "fig_fig1". You can use underscores as separators in sequence identifiers if necessary.

Thus the title of a table will be read:

Table { seq tab }: Table title

Bookmark each entry in a sequence (select it and use **Insert/Bookmark/Add**), using a bookmark name of the form shown in table 10. You can then refer to the table, figure, reference, etc. from the text by inserting a sequence field citing the same sequence identifier and the particular bookmark required. For example, table 10 has been bookmarked "tab_Seq_Num". Thus a reference to this table from the text is read:

... see table { seq tab tab_Seq_Num } ...

7 Use of specialised technical languages

7.1 Common aspects of using technical languages

Different technical languages may be used in ETSI deliverables. The nonexhaustive list of example languages is:

- Program code in any programming language
- Abstract Syntax Notation One (ASN.1)
- Unified Modelling Language (UML)
- Extended Markup Language (XML)
- Testing and Test Control Notation version 3 (TTCN-3)
- Tree and Tabular Combined Notation (TTCN-2)
- Specification and Description Language (SDL)
- Message Sequence Chart (MSC)

Most technical languages have a textual syntax. Small examples of such code may be embedded in the text of the ETSI deliverables. Complete or large pieces of code in one of the above languages **shall** be included in an electronic attachment, in which case the ETSI deliverable **shall** contain an annex that **shall** mention the name of the electronic attachment. Such an annex may be normative or informative.

Some of the above languages also have a graphical syntax. Examples of diagrams may be included in the ETSI deliverable. Complete specifications including graphics may be included in an electronic attachment, in which case the ETSI deliverable **shall** contain an annex that **shall** mention the electronic attachment. Such an annex may be normative or informative.

The Secretariat should be able to edit such graphics and therefore the appropriate sources should be made available before publication.

The text to be used when files are attached to an ETSI deliverable can be found in the appropriate ETSI deliverable skeleton given on the [editHelp!](#) website.

7.2 SDL and MSC diagrams

For small examples SDL and MSC diagrams may be embedded in ETSI deliverables as pictures.

Complete models may be included in electronic attachments in their native SDL/MSD tool format.

7.3 Program code, ASN.1 modules, XML code

As program code, ASN.1 and XML are text based, see clause 7.1 on the way to include them in ETSI deliverables.

XML code may, in addition, be stored at the URI referenced in the XML code. XML code which uses the ETSI root URI <http://uri.etsi.org/xxxxx/> (where xxxxx is the five-digit number obtained by removing the first digit of the ETSI deliverable number, and any part or sub-part numbers) may, upon request, be stored by the Secretariat at the appropriate location in the <http://uri.etsi.org> space.

7.4 Testing and Test Control Notation (formerly Tree and Tabular Combined Notation (TTCN))

Provide TTCN as separate file(s):

- for TTCN-2 attach the TTCN.MP.
- for TTCN-3 attach the TTCN-3 files and other related modules, as well as the HTML documentation of the TTCN-3 files.

The textblock to be used in case of ATs using TTCN-3 can be found in the appropriate ETSI deliverable skeleton given on the [editHelp!](#) website.

8 Harmonised Standards

8.1 General directions

The appropriate ETSI deliverable skeleton to assist the structuring and drafting of a HS is given on the [editHelp!](#) website.

The elements necessary for the drafting of a HS are briefly summarized below:

- a) the HS **shall** be an EN produced in accordance with the EDR;
- b) the EN **shall** be identified as a HS, the reference of which is intended to be published in the Official Journal of the European Union (OJEU) referencing the relevant Directive. This identification **shall** be made in the "Foreword" clause;
- c) the HS **shall** have appropriate transposition periods specified. A HS confers presumption of conformity when it has been published in the OJEU. The OJEU citation gives the date of cessation of presumption of conformity of a previous standard. This is usually taken to be the date of withdrawal (dow) supplied by the standardization body;
- d) the HS **shall** include all technical specifications necessary for demonstrating presumption of conformity of the products and phenomena within its scope;
- e) methods of measurement may be included in the HS, or may be normatively referenced in the text;
- f) the HS **shall** contain an informative annex identifying the technical specifications with the essential requirements of the relevant Directive (see clause 8.5) as well as a change history.

NOTE 1: ETSI Guide EG 201 399 gave guidance on the production of HSs for all radio equipment and telecommunication terminal equipment under Directive 1999/5/EC (the R&TTE Directive). The R&TTE Directive is now repealed with effect from 13th June 2016. This guide is given on the [editHelp!](#) website.

NOTE 2: ETSI Guide EG 203 336 gives guidance on the production of HSs for application under Directive 2014/53/EC which is applied from 13th June 2016. This guide is given on the [editHelp!](#) website.

8.2 Foreword of a Harmonised Standard

For the content of the foreword, see clause 2.5. The text block to be used in the foreword of a HS **shall** be as given in the ETSI HS skeleton given on the [editHelp!](#) website.

8.3 EMC statements

ETSI TC ERM WG EMC is responsible for standardization and statements that may be required to be included in any ETSI deliverables regarding the EMC performance.

There are a number of EMC standards from both ETSI and CENELEC that have been cited in the OJEU in connection with both the EMC Directive (2014/30/EU) and the RED (2014/53/EU). Such HS may be used to demonstrate compliance with some or all of the essential requirements of the EMC Directive or the essential requirements of Article 3.1(b) of the RED (2014/53/EU).

If it is desired to give the user of the ETSI deliverable some guidance on EMC matters, the following text may be used in all ETSI deliverables (either as a separate clause or as the final element of the "Scope" clause):

Requirements for EMC are outside the scope of the present document. Lists of relevant standards cited under the EMC Directive and the RED Directive can be found at:

- https://ec.europa.eu/growth/single-market/european-standards/harmonised-standards/electromagnetic-compatibility_en; and
- https://ec.europa.eu/growth/single-market/european-standards/harmonised-standards/red_en.

8.4 Normative references in a Harmonised Standard

Normative references in HS **shall** be specific (identified by date of publication and/or edition number or version number). See clauses 2.10, 2.10.1.1 and 2.10.1.2.

8.5 Annex of a Harmonised Standard

The HS **shall** include a table identifying the relationship between the normative clauses of the standard and the essential requirements of Directive YYYY/DD/LL in an annex (see also clauses 2.13 and 2.13.1).

The textblock and the table to be used in the annex of the HS **shall** be as given in the ETSI HS skeleton available on the [editHelp!](#) website.

8.6 The EN title in the official languages

Prior to publication in the OJEU, the title of a HS **shall** be available in all of the official languages.

The translated titles of HS are provided to ETSI by the relevant National Standards Organisation (NSO) prior to submission to the European Commission for citation in the OJEU.

9 Endorsement of documents from other standards organizations

9.0 General information - Endorsement

In the case that an ETSI deliverable would become almost identical to (i.e. with or without modifications use the entirety of) a document from another standards organization, a RB may decide to prepare an ETSI deliverable defining only the differences, if any, between that document (commonly called "endorsed document") and the ETSI deliverable.

Such an ETSI deliverable, commonly called "endorsement", **shall** be drafted in accordance with the EDR, in addition to clauses 9.2, 9.3 and 9.4.

Two kinds of endorsements are possible:

- endorsement without modifications;
- endorsement with modifications.

In both cases the endorsed text **shall** be introduced by a clause titled "Endorsement notice".

9.1 Endorsement notice

The "Endorsement notice" clause is unnumbered and located after the "Definitions, symbols and abbreviations" clause. The "Endorsement notice" clause is a required normative element.

The preferred method of endorsement is defined in clauses 9.2 and 9.3.

In exceptional circumstances and in justified cases only, the methods defined in clause 9.5 may be used.

9.2 Endorsement without modifications

If the endorsed document is referred to without modifications, the title of the ETSI deliverable should be as close as possible to the title of the endorsed document, while still complying with the provisions of clause 2.1 and it **shall** be dated.

EXAMPLE:

Endorsement of ITU-T Recommendation Q.1215 (1993): "Physical plane for intelligent network CS1", gives the following ETSI deliverable title:

**Intelligent Network (IN);
Physical plane for intelligent network
Capability Set 1 (CS1)**

[ITU-T Recommendation Q.1215 (1993)]

9.3 Endorsement with modifications

If the endorsed document is referred to with modifications (technical and/or editorial), the title of the ETSI deliverable **shall** clearly indicate that this is the case and **shall** be dated (see example).

EXAMPLE:

Endorsement of ITU-T Recommendation G.957 (1993): "Optical interfaces for equipment and systems relating to the synchronous digital hierarchy", gives the following ETSI deliverable title:

**Transmission and Multiplexing (TM);
Optical interfaces for equipments and
systems relating to the Synchronous Digital
Hierarchy (SDH)**

[ITU-T Recommendation G.957 (1993), modified]

Throughout the ETSI deliverable, the modifications **shall** be presented in an order following the sequence of clauses of the endorsed document. General modifications **shall** precede specific modifications.

The use of underlining and striking out for the presentation of the modifications **shall** be used.

9.4 Annex in endorsement document

Designation of the serial order of an annex **shall** be with two letters, the first letter always being Z (i.e. ZA, ZB, ZC, etc.), in order to avoid confusion with any annexes of the endorsed document.

9.5 Reproduction of text from other standards organizations in endorsements

9.5.1 General and copyright

In exceptional and justified cases, it may be desired to reproduce all or part of an endorsed document, in which case the ETSI deliverable **shall** be drafted according to either clause 9.5.2 or 9.5.3, and **shall** take into full consideration the following copyright requirements, unless the owner of the endorsed document agrees to make the document available for easy download from a website, the owner's, ETSI's or a third party site:

- a signed agreement between ETSI and the organization owning the copyright of the endorsed document **shall** be in place;
- the signed agreement **shall** permit ETSI to reproduce and make publicly available the deliverables of the other organization, either in part or in full;
- the resulting document becomes an ETSI deliverable with the ETSI copyright and it may be desired by ETSI to modify the contents of the endorsed document either at the time of initial publication or later. It is implicit therefore that the signed agreement **shall** permit ETSI to modify the text of endorsed documents.

9.5.2 Inclusion without change

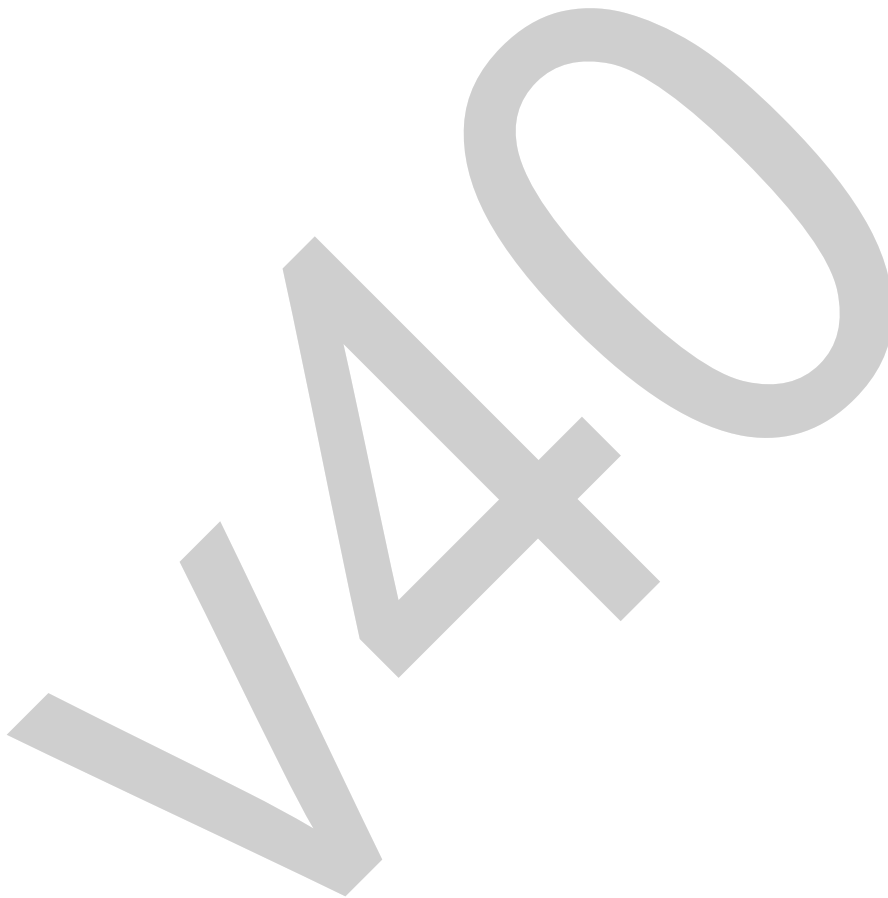
The ETSI deliverable (an endorsement without modification) **shall** be drafted in accordance with the EDR, in particular in accordance with clause 9.2.

ETSI **shall not** modify the endorsed document in any way and **the entire unchanged PDF copy of the endorsed document shall** be attached to the ETSI deliverable.

9.5.3 Inclusion with change

The ETSI deliverable (an endorsement with modification) **shall** be drafted in accordance with the EDR, in particular in accordance with clauses 9.3 and 9.4.

ETSI may modify the endorsed document and **the entire (modified) document shall** be included in the resulting ETSI deliverable (irrespective of whether it is all or part of the document which is being endorsed).



Glossary

bibliography: list of standards, books, articles, or other sources on a particular subject which are not cited anywhere in an ETSI deliverable including annexes

informative element: provides additional information intended to assist the understanding or use of the ETSI deliverable, but which can be removed without changing its technical substance

informative reference: reference that is not necessary for the implementation of the ETSI deliverable and that only assist the user in understanding it

informative reference clause: clause listing all informative references in the ETSI deliverable

instruction: provision that conveys an action to be performed (ISO/IEC Guide 2: 1996, definition 7.3)

normative element: sets out the provisions to which it is necessary to conform in order to be able to claim compliance to an ETSI deliverable

normative reference: reference cited in a requirement of an ETSI deliverable and therefore necessary for the implementation of the ETSI deliverable

normative reference clause: clause listing all normative references in an ETSI deliverable

provision: expression in the content of an ETSI deliverable that takes the form of a statement, an instruction, a recommendation or a requirement

NOTE: Provisions are distinguished by the form of wording they employ; e.g. instructions are expressed in the imperative mood, recommendations by the use of the auxiliary "should" and requirements by the use of the auxiliary "shall" (see clause 3.2).

publicly available: document which is available either free of charge or under reasonable and non-discriminatory terms to the public

NOTE 1: Even prior to publication ETSI deliverables are made publicly available during the various stages of the relevant approval procedures. The specific status of a publicly available ETSI deliverable is indicated in its History clause.

NOTE 2: This may also be true for other standardization bodies whose documents are referenced in ETSI deliverables and this is taken into account during the preparation of ETSI deliverables.

EXAMPLE 1: An EN submitted to a Public Enquiry in the frame of the EN Approval Process is made publicly available.

EXAMPLE 2: If it is necessary to become a member of an organisation to obtain a document, the referenced document is not considered as publicly available.

published: ETSI deliverable made available at <http://www.etsi.org/deliver> following successful completion of all relevant approval procedures

NOTE: The last line in the History box of a published ETSI deliverable will contain the word "Publication".

recommendation: expression in the content of a document conveying that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others, or that a certain course of action is preferred but not necessarily required, or that (in the negative form) a certain possibility or course of action is deprecated but not prohibited

NOTE: Table "3" specifies the verbal forms for the expression of recommendations.

reference: document, URI or URL cited anywhere in an ETSI deliverable including annexes

Reference Body: Technical Committee (TC), an ETSI Project (EP), an ETSI Partnership Project (EPP), a Special Committee (SC) or an Industry Specification Group (ISG)

requirement: expression in the content of a document conveying criteria to be fulfilled if compliance with the document is to be claimed and from which no deviation is permitted

NOTE: Table "2" specifies the verbal forms for the expression of requirements.

ETSI deliverable document: pre-structured document that serves as a starting point for drafting a new ETSI deliverable.

standard: document, established by consensus and approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context

NOTE 1: This definition of standard is taken from ISO/IEC Guide 2: 2018

NOTE 2: This definition is different from the definition of STANDARD (always in capital letters) used throughout other parts of ETSI Directives.

statement: expression, in the content of a deliverable that conveys information

NOTE: This definition is taken from ISO/IEC Guide 2: 2018.

Acronyms

ASN.1	Abstract Syntax Notation no. 1
EDR	ETSI Drafting Rules
EN	European Standard
EG	ETSI Guide
EMC	ElectroMagnetic Compatibility
EN	European Standard
ENAP	EN Approval Process
EP	ETSI Project
EPP	ETSI Partnership Project
ES	ETSI Standard
GR	ETSI Group Report
GS	ETSI Group Specification
HS	Harmonised Standard
IPR	Intellectual Property Rights
ISG	ETSI Industry Specification Group
MAP	Membership Approval Process
MSC	Message Sequence Charts
NSO	National Standards Organisation
OJEU	Official Journal of the European Union
PAS	Publicly Available Specification
PDF	Portable Document Format
RB	Reference Body
R&TTE	Radio equipment & Telecommunications Terminal Equipment
RED	Radio Equipment Directive
SC	ETSI Special Committee
SDL	Specification and Description Language
SR	ETSI Special Report
TC	ETSI Technical Committee
TR	ETSI Technical Report
TS	ETSI Technical Specification
TTCN-2	Tree and Tabular Combined Notation version 2
TTCN-3	Testing and Test Control Notation version 3
TTCN	any version of TTCN
TWP	ETSI Technical Working Procedures
UML	Unified Modelling Language
URI	Uniform Resource Identifier
URL	Uniform Resource Locator
WNV	Weighted National Vote
XML	Extended Markup Language

History

Document history		
V1.1.1	April 1998	Published as TR 101 262 (Withdrawn)
V1.2.1	September 2000	Published as SR 001 262 (Withdrawn)
V1.3.1	April 2001	Published as SR 001 262 (Withdrawn)
V1.4.1	September 2001	Published as SR 001 262 (Withdrawn)
V1.5.1	February 2002	Published as SR 001 262 (Withdrawn)
V1.6.1	July 2002	Published as SR 001 262 (Withdrawn)
V1.7.1	November 2002	Published as SR 001 262 (Withdrawn)
V1.8.1	December 2003	Published as SR 001 262 (Withdrawn)
V2.0.0	July 2004	Published as SR 001 262 (Withdrawn)
	June 2007	Published in the ETSI Directives (v22, July 2007)
	June 2007	Published unchanged in the ETSI Directives (v23, December 2007)
	April 2008	Published in the ETSI Directives (v24, May 2008)
	January 2009	Published in the ETSI Directives (v25, January 2009)
	January 2009	Published unchanged in the ETSI Directives (v26, July 2009)
	October 2009	Published in the ETSI Directives (v27, May 2010)
	January 2011	Published in the ETSI Directives (v28, May 2011)
	January 2012	Published in the ETSI Directives (v29, January 2012)
	January 2013	Published in the ETSI Directives (v30, January 2013)
	April 2013	Published in the ETSI Directives (v31, April 2013)
	April 2013	Published unchanged in the ETSI Directives (v32, October 2013)
	May 2014	Published in the ETSI Directives (v33, May 2014)
	December 2014	Published in the ETSI Directives (v34, December 2014)
	June 2015	Published in the ETSI Directives (v35, December 2015)
	June 2015	Published unchanged in the ETSI Directives (v36, June 2016)
	June 2015	Published unchanged in the ETSI Directives (v37, April 2017)
	June 2015	Published unchanged in the ETSI Directives (v38, February 2018)
	September 2018	Published in the ETSI Directives (v39, September 2018) What are the ETSI Drafting Rules clause, clauses 1.1, 4, 5.6, 5.7, 7 and 7.5 updated to remove partially or entirely information already available from editHelp! Website, ETSI deliverable skeletons or ETSI Directives. Clauses 1.2, 1.4a, 2.10, 2.11, 3.2, 4, 6, 7, 8.5 and Glossary updated to reflect current practice. Clauses 1.4, 2.10.1.2, 3.3, 5.8 and 7.3 updated to remove irrelevant text. Clause 7.3 deleted.
	September 2018	Published unchanged in the ETSI Directives (v40, April 2019)