

API Document Format and Style Manual

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Introduction

To implement API Policy 602 and further the international use of API publications, this manual establishes the preferred API style for the preparation of new and revised standards. This manual is not intended to be a guide to the procedural development of standards. This information can be found in the Procedures for Standards Development published by the API Standards Department.

Although based on the requirements of the ISO/IEC Directives—Part 2, the guidelines in this manual are not intended for use in preparing a draft ISO standard. ISO project leaders should refer to the Directives for this purpose as well as the adopted ISO/TC 67 (which publishes most of the API-based ISO standards) editorial protocols covering SI units, product specification levels, normative references, and references to quality and certification systems.

1 Scope

This document covers only the most basic information about the API format as it has been adapted to API layout and U.S. conventions, and should be used as a guide by API standards development committees. These guidelines are intended to ensure that API standards are presented as uniform as practicable, irrespective of the technical content.

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

API MPMS Chapter 15, *Guidelines for the Use of the International System of Units (SI) in the Petroleum and Allied Industries*

API Policy 602, *Voluntary Industry Standards Program*

API *Procedures for Standards Development*

3 Terms and Definitions

For the purposes of this document, the following definitions apply:

3.1

consensus

General agreement, characterized by the absence of sustained opposition to substantial issues by any important part of the concerned interests, and by a process that involves seeking to take into account the views of all parties and to reconcile any conflicting arguments.

3.2

informative elements

Elements that

- a) identify the document, introduce its content and explain its background, development, and its relationship with other documents; or
- b) provide additional information intended to assist the understanding or use of the document.

3.3

normative elements

Elements that describe the scope of the document, and which set out provisions that are required to implement the standard.

3.4

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 1 specifies the verbal forms for the expression of requirements.

3.5

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 disapproved of but not prohibited.

NOTE Table 2 specifies the verbal forms for the expression of recommendations.

3.6

statement

Expression in the content of a document conveying information.

NOTE Table 3 specifies the verbal forms for indicating a course of action permissible within the limits of the document. Table 4 specifies the verbal forms to be used for statements of possibility and capability.

4 General Principles

4.1 Document Types

4.1.1 Bulletin

Documents that convey technical information on a specific subject or topic and are generally issued on a one-time basis, are not standards, and are not addressed by these procedures.

4.1.2 Code

A document intended for adoption by regulatory agencies or authorities having jurisdiction.

4.1.3 Recommended Practice

A document that communicates proven industry practices.

4.1.4 Specification

A document that prescribes technical requirements to be fulfilled by a product, process, or service.

4.1.5 Standard

A document, established by consensus, 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. Standards typically include elements of both specifications and recommended practices.

NOTE For the purposes of this document, the term "standard" is used as a generic description for all document types.

4.1.6 Technical Report

See bulletin.

4.2 Expression of Provisions

4.2.1 General

Every document contains terms that express the provisions the reader needs to demonstrate compliance with the requirements. A document does not in itself impose any obligation upon anyone to follow it. However, such an obligation may be imposed, for example, by legislation or by a contract. Consistent use of the correct verbal form in every provision avoids ambiguity and simplifies the task of the user of the standard. The user will know exactly what has to be done to claim conformance with the standard, what should be done to facilitate the procedure, and what can be done if desired. The verbal forms necessary to express these provisions are specified as being “shall” (requirement), “should” (recommendation), “may” (permission) and “can” (possibility and capability). These terms are defined as:

- a) shall—is used to indicate that a provision is mandatory;
- b) should—is used to indicate that a provision is not mandatory, but recommended as good practice;
- c) may—is used to indicate that a provision is optional;
- d) can—is used for statements of possibility or capability.

See Annex A for additional information and examples to help in the writing of API standards.

4.2.2 Requirements

Table 1 summarizes the verbal forms of expression that shall be used to indicate requirements to be followed in order to conform to the document and from which no deviation is permitted.

Table 1—Verbal Forms to Express Requirements

Verbal Form	Equivalent Expressions for use in <u>Exceptional</u> Cases ^a
shall ^b	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
<p>NOTE 1 Do not use “may” when “can” is meant.</p> <p>NOTE 2 Do not use “may not” when “shall not” is meant.</p> <p>NOTE 3 See ISO Directives, Part 2, Annex G for negatives of these verbal forms and further explanation.</p>	
<p>^a The equivalent expressions given the second column shall be used only in exceptional cases when the form given in the first column cannot be used for linguistic reasons.</p> <p>^b Do not use “must” as an alternative for “shall” (this will avoid any confusion between the requirements of a document and jurisdictional regulatory obligations).</p>	

Avoid using vague expressions that are not truly informative and may cause the reader to make an incorrect judgment call. Words like “very”, “all”, “every”, “never”, “excessive”, “slightly”, “approximately”, “nearly”, or “significant” are not useful.

4.2.3 Recommendations

Table 2 summarizes the verbal forms that shall be used to indicate

- a) that among several possibilities one is recommended as particularly suitable, without mentioning or excluding the others,
- b) or that a certain course of action is preferred but not necessarily required,
- c) or that (in the negative form) a certain possibility or course of action is discouraged but not prohibited.

Table 2—Verbal Forms to Express Recommendations

Verbal form	Equivalent Expressions for use in <u>Exceptional</u> Cases ^a
should	it is recommended that ought to
should not	it is not recommended that ought not to
a The equivalent expressions given the second column shall be used only in exceptional cases when the form given in the first column cannot be used for linguistic reasons.	

4.2.4 Permission

Table 3 summarizes the verbal forms that shall be used to indicate a course of action permissible within the limits of the document.

Table 3—Verbal Forms to Express Permission

Verbal form	Equivalent Expressions for use in <u>Exceptional</u> Cases ^a
may	is permitted to is allowed is permissible
need not	it is not required that no . . . is required
Do not use "possible" or "impossible" in this context. Do not use "can" instead of "may" in this context. NOTE "May" signifies permission expressed by the document, whereas "can" refers to the ability of a user of the document or to a possibility open to him/her.	
a The equivalent expressions given the second column shall be used only in exceptional cases when the form given in the first column cannot be used for linguistic reasons.	

4.2.5 Possibility and Capability

Table 4 summarizes the verbal forms that shall be used for statements of possibility and capability, whether material, physical, or causal.

Table 4—Verbal Forms to Express Possibility and Capability

Verbal form	Equivalent Expressions for use in <u>Exceptional</u> Cases ^a
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
NOTE See note in Table 3.	

4.3 Homogeneity

Uniformity of structure, of style, and of terminology shall be maintained not only within each document, but also within a series of associated documents. The structure of associated documents and the numbering of their sections 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 document or series of associated documents 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.

4.4 Units and Quantities

4.4.1 Units

In recognition of the international use and applicability of API standards, measured and calculated values should be expressed in metric units (SI) and U.S. customary units (USC). When citing units in dual units the SI unit should be listed first with the corresponding USC unit listed either in parentheses in the text or on separate, tables, figures, datasheets or in separate annexes.

Do not use periods within measurements (lb, ft, s) except inches (in.). See API *MPMS* Chapter 15 for guidelines on the API-preferred units for quantities involved in the petroleum industry.

4.4.2 Quantities

The following rules should be observed:

- for numbers between –1.0 and 1.0, a zero shall be placed in front of the decimal;
- for clarity, the symbol \times shall be used to indicate multiplication rather than a decimal point;
- in general text, isolated number less than 10 should be spelled out. However, in equations, tables, figures and other display elements numerals should be used;
- the value of a quantity is expressed by a numeral followed by a space and the appropriate unit symbol;

- e) if tolerances are provided, the unit shall be given with both the basic value and the tolerance (1.50 mm ± 0.05 mm);
- f) ranges should repeat the unit (2 psi to 12.5 psi);

NOTE Dashes should not be used since they can be misinterpreted as subtraction signs.

- g) the abbreviation for inches should include a period (in.) to avoid confusion with the word "in".

5 Document Structure

5.1 General

Final formatting is performed by API staff before publication, therefore, it is unnecessary for a committee to make the document look like a published document. However, the amount of staff effort required to prepare the document for publication can be reduced if the committee adopts the proper numbering format when the draft is prepared.

5.2 Normative and Informative Sections

Normative text denotes information that is required to implement the standard. Informative text is provided for information only.

The standard shall contain normative text in the main sections of the document, including footnotes to tables (see Annex B), and in normative annexes. Informative text shall be placed in notes (to text, tables, and figures), in footnotes within text, and in informative annexes.

5.3 Subdivision of Subject Matter

5.3.1 Descriptions of Divisions and Subdivisions

Terms to be used to designate the divisions and subdivisions of a document are shown in Table 2.

Table 2—Names of Divisions and Subdivisions

Term	Example of Numbering
Part ^a	9999-1
Section	1
Subsection	1.1
Subsection	1.1.1
Paragraph	(no number)
Annex	A
^a See ISO/IEC Directives, Part 2, Section 5.1.2 and 5.2.1 for more information on the subdivision of subject matter in a series of parts.	

5.3.2 Part

An individual document shall be prepared for each subject to be standardized, and published as a complete entity. However, in specific cases and for practical reasons, the document may be split into separate parts under the same number if, for example,

- a) the document is likely to become too voluminous,
- b) subsequent portions of the content are interlinked,
- c) portions of the document could be referred to in regulations, or
- d) portions of the document are intended to serve for certification purposes.

This has the advantage that each part can be changed separately when the need arises. In particular, the aspects of a product which will be of separate interest to different parties (e.g. manufacturers, certification bodies, legislative bodies) shall be clearly distinguished, preferably as parts of a document or as separate documents.

Such individual aspects are, for example,

- health and safety requirements,
- performance requirements,
- maintenance and service requirements,
- installation rules, and
- quality assessment.

The terms which shall be used to designate the divisions and subdivisions that a document may have are shown in Table 1. See ISO/IEC Directives Part 2, Section 5.1.2 for additional information on dividing a document into separate parts.

5.3.3 Section

A section is the basic component in the subdivision of the content of a document. The sections in each document or part shall be numbered with Arabic numerals, beginning with 1 for the “Scope” section. The numbering shall be continuous up to but excluding any annexes.

Each section shall have a title, placed immediately after its number, on a line separate from the text that follows it.

5.3.4 Subsection

A subsection is a numbered subdivision of a section. A primary subsection (e.g. 5.1, 5.2, etc.) may be subdivided into secondary subsections (e.g. 5.1.1, 5.1.2, etc.), and this process of subdivision may be continued as far as the fifth level (e.g. 5.1.1.1.1.1, 5.1.1.1.1.2, etc.).

A subsection shall not be created unless there is at least one further subsection at the same level. For example, text in Section 10 shall not be designated subsection “10.1” unless there is also a subsection “10.2”.

Each primary subsection should preferably be given a title, which shall be placed immediately after its number, on a line separate from the text that follows it. Secondary subsections may be treated in the same way. Within a section or subsection, the use of titles shall be uniform for subsections at the same level, e.g. if 10.1 has a title, 10.2 shall also have a title. In the absence of titles, key terms or phrases (composed in distinctive type) appearing at the beginning of the text of the subsection may be used to call attention to the subject matter dealt with. Such terms or phrases shall not be listed in the table of contents.

5.3.5 Paragraph

A paragraph is an unnumbered subdivision of a section or subsection.

Hanging paragraphs, such as those shown in Table 3 shall be avoided since reference to them is ambiguous.

Table 3—Examples of Hanging Paragraphs

Incorrect	Correct
<p>5 Designation</p> <p>The quick brown fox jumps over the lazy dog.</p> <p>The quick brown fox jumps over the lazy dog.</p> <p>The quick brown fox jumps over the lazy dog.</p> <p>5.1 XXXXXXXXXXXX</p> <p>The quick brown fox jumps over the lazy dog.</p> <p>5.2 XXXXXXXXXXXX</p> <p>The quick brown fox jumps over the lazy dog.</p> <p>The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog.</p> <p>6 Test Report</p>	<p>5 Designation</p> <p>5.1 General</p> <p>The quick brown fox jumps over the lazy dog.</p> <p>The quick brown fox jumps over the lazy dog.</p> <p>The quick brown fox jumps over the lazy dog.</p> <p>5.2 XXXXXXXXXXXX</p> <p>The quick brown fox jumps over the lazy dog.</p> <p>5.3 XXXXXXXXXXXX</p> <p>The quick brown fox jumps over the lazy dog.</p> <p>The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog.</p> <p>6 Test Report</p>

5.3.6 Annex

5.3.6.1 General

Annexes shall appear in the order in which they are cited in the text. Each annex shall 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”. The annex heading shall be followed by the indication “(normative)” or “(informative)”, and by the title, each on a separate line. Numbers given to the sections, subsections, tables, figures and mathematical formulae of an annex shall be preceded by the letter designating that annex followed by a full-stop. The numbering shall start afresh with each annex. A single annex shall be designated “Annex A”.

EXAMPLE Sections in Annex A are designated “A.1”, “A.2”, “A.3”, etc.

5.3.6.2 Normative Annexes

Normative annexes give provisions additional to those in the body of the document. Their presence is optional. An annex's normative status (as opposed to informative—see 5.3.6.3) shall be made clear by the way in which it is referred to in the text, by an indication in the table of contents and under the heading of the annex.

5.3.6.3 Informative Annexes

5.3.6.3.1 Informative annexes give additional information intended to assist the understanding or use of the document. They shall not contain requirements, except as described in 5.3.6.3.2. Their presence is optional. An annex's informative status (as opposed to normative—see 5.3.6.2) shall be made clear by the way in which it is referred to in the text, by an indication in the table of contents and under the heading of the annex

5.3.6.3.2 Informative annexes may contain optional requirements. For example, a test method that is optional may contain requirements but there is no need to comply with these requirements to claim compliance with the document.

5.3.7 Bibliography

A bibliography, if present, shall appear after the last annex. See 6.6.9 for additional information.

6 Document Elements

6.1 Lists

Lists in a subsection may be ordered or unordered, however, ordered lists are recommended to facilitate ease of reference. An ordered list of items within a subsection should be presented in outline form, with items lettered a), b), c), etc. If a further subdivision of the items is necessary, 1), 2), 3); i), ii), iii); dashed subdivision items; etc., should be used to form a tiered list.

Only one ordered list may be presented in any subsection to avoid confusing cross-references. Dashed lists can be used instead of an ordered list, where applicable. Closing punctuation should be omitted in lists of short items or phrases. Punctuation should be used for sentences. Bullets (•) shall not be used in unordered lists to avoid confusion with bullets used to denote a purchaser's decision (see 6.6.7.2).

Annex C provides examples of ordered and unordered lists.

6.2 Tables

6.2.1 Usage

Tables should be used when they are the most efficient means of presenting information in an easily comprehensible form. All tables shall be called out (referred to) in the text of the document.

A table within a table is not permitted. Subdivision of a table into subsidiary tables is not permitted.

See Annex B for details on creating tables.

6.2.2 Designation

Tables shall be designated "Table" and numbered consecutively with Arabic numerals, beginning with 1. This numbering shall be independent of the numbering of the sections and of any figures. A single table shall be designated "Table 1".

Tables included in annexes shall include the identifying letter of the annex in which they appear.

EXAMPLE The first table in Annex A would be identified as Table A.1.

For documents maintained under the continuous maintenance option, a table may be identified by the section number preceding the table number, separated by a period.

EXAMPLE Tables in Section 4 of document would be identified as Table 4.1, Table 4.2, Table 4.3, etc.

6.3 Figures

6.3.1 Usage

Figures should be used when they are the most efficient means of presenting information in an easily comprehensible form. All figures shall be called out (referred to) in the text of the document.

Figures included in annexes shall include the identifying letter of the annex in which they appear.

See Annex D for details on creating figures.

6.3.2 Designation

Figures shall be designated "Figure" and numbered with Arabic numerals, beginning with 1. This numbering shall be independent of the numbering of the sections and of any tables. A single figure shall be designated "Figure 1".

Figures included in annexes shall include the identifying letter of the annex in which they appear.

EXAMPLE The first figure in Annex A would be identified as Figure A.1.

For documents maintained under the continuous maintenance option, a figure may be identified by the section number preceding the figure number, separated by a period.

EXAMPLE Figures in Section 4 of document would be identified as Figure 4.1, Figure 4.2, Figure 4.3, etc.

6.4 Equations

6.4.1 General

Equations should be presented consistently throughout the document. The equation shall be introduced with a phrase or sentence followed by the equation on the next line. The equation shall be followed on the next line with the list of variables and their definitions in the order in which they appear in the equation.

EXAMPLE 1

The maximum allowable residual unbalance per plane (journal) shall be calculated as follows:

$$U = \frac{4W}{N}$$

where

U is the unbalance per plane in oz-in.;

W is the load per journal in lb;

N is the rotative speed in r/min.

EXAMPLE 2

For insulated vessels, the environment factor for insulation is given as follows:

In SI units:

$$F = \frac{k (904 - T_f)}{66,570 \delta_{\text{ins}}}$$

In USC units:

$$F = \frac{k (1660 - T_f)}{21,000 \delta_{\text{ins}}}$$

where

k is the thermal conductivity of insulation at mean temperature, expressed in W/m·K (Btu·in./h·ft²·°F);

δ_{ins} is the thickness of insulation, expressed in meters (inches);

T_f is the temperature of vessel contents at relieving conditions, expressed in °C (°F).

6.4.2 Numbering

If it is necessary to number some or all of the formulae in a document in order to facilitate cross-reference, Arabic numbers in parentheses shall be used, beginning with 1:

$$w_{\text{max}} = m_1 / (m_1 + m_2) \times 100 \% \quad (1)$$

The numbering shall be continuous and independent of the numbering of sections, tables and figures. Subdivision of formulae [e.g. (2a), (2b), etc.] is not permitted.

6.5 References

6.5.1 General

References to a particular portion of text shall be used instead of repetition of the original source material. Repetition involves the risk of error or inconsistency and increases the length of the document. However, if it is considered necessary to repeat such material., its source shall be identified precisely.

References shall be made in the forms indicated in 6.5.2 through 6.5.7 and shall not be made to page numbers.

6.5.2 References to Elements of Text

Use, for example, the following forms:

— “in accordance with Section 3”;

— “according to 3.1”;

- “as specified in 3.1 b”;
- “details as given in 3.1.1”;
- “see Annex B”;
- “the requirements given in B.2”;
- “see the Note in Table 2”;
- “see 6.6.3, Example 2”;
- “see 3.1, Equation (3)”.

It is unnecessary to use the term “subsection”.

6.5.3 References to Figures and Tables

Every figure and table included in the document shall normally be referred to in the text.

Use, for example, the following forms:

- “shown in Figure A.6”;
- “(see Figure 3)”;
- “given in Table 2”;
- “(see Table B.2)”.

6.5.4 References to other Documents

6.5.4.1 General

References to other documents may be undated or dated. All normative references, undated and dated, shall be given in the “Normative References” section (see 6.6.4).

6.5.4.2 Undated References

Undated references may be made only to a complete document or a part thereof and only in the following cases:

- a) if it is accepted that it will be possible to use all future changes of the referenced document for the purposes of the referring document;
- b) for informative references.

Undated references shall be understood to include all amendments to and revisions of the referenced document.

Use the following forms:

- “... as specified in API 5L and API 5L3 ...”;

— “ ... see API 653 ... ”.

6.5.4.3 Dated References

Dated references are references to a specific edition, indicated by the year of publication. References to specific sections or subsections, tables, and figures of another document shall always be dated.

NOTE In this context a part is regarded as a separate document.

Use the following forms:

- “ ... evaluate using the methods specified in API MPMS Chapter 13.2, 1st Edition ... ” (dated reference to a published document);
- “ ... as specified in API 1104, 20th Edition, Table 1, ... ” (dated reference to a specific table in another published document).

NOTE For documents without an edition number, the year of publication may be used.

6.6 Order of Sections within a Document

6.6.1 Foreword

The foreword shall appear in each document. It shall not contain requirements, recommendations, figures or tables. It is a general description of the contents of the standard.

The foreword consists of a specific part and a general part. The specific part (supplied by the committee) should contain any specific information a committee wants to convey to the public such as a statement of significant technical changes from any previous edition of the document or the relationship of the document to other documents. The general part (supplied by API staff) gives information relating to the document such as the committee responsible for preparing the document, the effective date, terms of use, and contact information to submit suggested revisions.

6.6.2 Introduction

The introduction is an optional preliminary element used, if required, to give specific information or commentary about the technical content of the document, and about the reasons prompting its preparation. It shall not contain requirements.

The introduction shall not be numbered unless there is a need to create numbered subdivisions. In this case, it shall be numbered 0, with subsections being numbered 0.1, 0.2, etc. Any numbered figure, table, displayed formula or footnote shall be numbered normally beginning with 1.

6.6.3 Scope

This element shall appear at the beginning of each document and define without ambiguity the subject of the document and the aspects covered, thereby indicating the limits of applicability of the document or particular parts of it. It shall not contain requirements.

In documents that are subdivided into parts, the scope of each part shall define the subject of that part only.

The scope shall be succinct so that it can be used as a summary for bibliographic purposes and the API Publications Catalog (www.api.org/publications).

6.6.4 Normative References

This optional element shall give a list of the referenced documents cited in the document in such a way as to make them indispensable for the application of the document. References may be general or specific. It is recommended that general references be used unless there are technical reasons why a specific edition must be referenced. When a general reference is to all parts of a document, the publication number shall be followed by the indication “(all parts)” and the general title of the series of parts. For specific references, each shall be given with its edition number (or year of publication). The year of publication or dash shall not be given for undated references.

The list shall be introduced by the following wording:

“The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document applies (including any addenda/errata).”

6.6.5 Terms and Definitions

This is an optional element giving definitions necessary for the understanding of certain terms used in the document. The following introductory wording shall be used where all terms and definitions are given in the document itself:

“For the purposes of this document, the following terms and definitions apply.”

In the case where terms defined in one or more other documents also apply (for example, in the case of a series of associated documents where Part 1 specifies the terms and definitions for several or all of the parts), the following introductory wording shall be used, altered as necessary:

“For the purposes of this document, the terms and definitions given in . . . and the following apply.”

Rules for the presentation of terms and definitions are provided in Annex E.

6.6.6 Symbols and Abbreviations

This is an optional element giving a list of the symbols and abbreviations necessary for the understanding of the document. Unless there is a need to list symbols in a specific order to reflect technical criteria, all symbols should be listed in alphabetical order in the following sequence:

- upper case Latin letter followed by lower case Latin letter (A, a, B, b, etc.);
- letters without indices preceding letters with indices, and with letter indices preceding numerical ones (*B, b, C, C_m, C₂, c, d, d_{ext}, d_{int}, d₁, etc.*);
- Greek letters following Latin letters (*A, B, . . . Z, α, β, . . . z, etc.*);
- any other special symbols.

For convenience, this element may be combined with the Terms and Definitions element in order to bring together terms and their definitions, abbreviated terms, symbols, and perhaps units under an appropriate composite title, for example “Terms, Definitions, Abbreviations, Symbols, and Units”.

See E.5 for additional information on symbols and abbreviated terms.

6.6.7 Requirements

6.6.7.1 General

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

- a) all characteristics relevant to the aspects of the products, processes or services covered by the document, either explicitly or by reference;
- b) the required limiting values of quantifiable characteristics;
- c) for each requirement, either a reference to the test method for determining or verifying the values of the characteristic, or the test method itself.

A clear distinction shall be made between requirements, statements and recommendations. Contractual requirements (concerning claims, guarantees, covering of expenses, etc.) and legal or statutory requirements shall not be included.

In some product standards, it may be necessary to specify that the product shall be accompanied by warning notices or by instructions to the installer or user, and to specify their nature. On the other hand, requirements concerning installation or use as such shall be included in a separate part or a separate document, since they are not requirements applicable to the product itself.

Documents listing characteristics for which suppliers are required to state values not specified by the document itself shall specify how such values are to be measured and stated.

6.6.7.2 Use of Bullets to Indicate Purchaser Decision

A bullet (●) in the margin at the beginning of a subsection or paragraph can be used to indicate that either a decision is required or further information is to be provided by the purchaser. This information should be indicated on the datasheet(s), otherwise it should be stated in the quotation request or in the order.

Each bulleted item in the text should have a provision in a datasheet for the purchaser's decision. The datasheet item does not require a bullet in the text. Items on the datasheet that require the purchaser to read the text in order to make a decision or to allow him to find additional technical information on the item should include a reference to the applicable numbered paragraph.

Bullets appear when the wording "when specified", "if specified", or "the purchaser will specify" appears in the paragraph. A bullet is not required for "unless otherwise specified" or when a decision has been previously made and the phrase "when XXX has been specified" is used.

In order to indicate to the user the special meaning of the margin bullet, the following text shall be included in the Introduction of all documents using bullets:

"A bullet (●) at the beginning of a subsection or paragraph indicates that either a decision is required or further information is to be provided by the purchaser."

Optionally, the following phrase can be added for the purpose of relating bulleted provisions to datasheets or orders:

"This information should be indicated on the datasheet(s), otherwise it should be stated in the quotation request or in the order."

6.6.8 Annexes

Annexes should appear in the order in which they are referenced in the body of the standard (e.g. the first annex mentioned should be Annex A, the second Annex B, and so on). Note that this rule means that normative and informative annexes will be intermixed. An exception to this rule is the bibliography (see 6.6.9). The bibliography shall be the last annex of the standard (in instances where an index exists, all annexes would precede the index). See 5.3.6 for more information on annexes.

6.6.9 Bibliography

6.6.9.1 A bibliography, if present, shall appear after the last annex. The bibliography should include the following:

- a) referenced documents that are cited in an informative manner;
- b) referenced documents that are bibliographic or background material in the preparation and application of the document.

6.6.9.2 If bibliographic items are cited in text, figures, or notes, the citation shall be placed at the point where reference is made and shall be numbered consecutively. Lists of bibliographic references are normally arranged either alphabetically by the first element or in numeric sequence corresponding to the order of citation in the text.

6.6.9.3 Documents already listed in the normative references section shall not be included in the bibliography.

6.7 Other Informative Elements

6.7.1 General

There are other informative elements in API standards that are used to assist the reader in understanding the concepts presented in the document. These include

- a) notes,
- b) examples,
- c) cautionary statements, and
- d) footnotes.

These elements shall not contain requirements or any other information indispensable for the use of the document.

6.7.2 Notes

Explanatory statements may be used in the text for emphasis or to offer informative suggestions about the technical content of the standard. These notes provide additional information to assist the reader with a particular passage and shall not include mandatory requirements.

Notes shall not contain requirements, instructions or recommendations; they are informative only. A rule of thumb—you should be able to delete the note without damaging the validity of the document.

A single note in a section or subsection shall be preceded by “NOTE”, placed at the beginning of the first line of the text of the note. When several notes occur within the same section or subsection, they shall be designated “NOTE 1”, “NOTE 2”, “NOTE 3”, etc.

6.7.3 Examples

A single example in a section or subsection shall be preceded by “EXAMPLE”, placed at the beginning of the first line of the text of the example. When several examples occur within the same section or subsection, they shall be designated “EXAMPLE 1”, “EXAMPLE 2”, “EXAMPLE 3”, etc.

6.7.4 Warning and Cautionary Statements

Warnings call attention to the use of materials, processes, methods, procedures, or limits that have to be followed precisely to avoid injury or death. Cautions call attention to methods and procedures that may cause damage to equipment. A warning is more important than a caution. If both are to be written for the same related section or subsection, the warning shall precede the caution.

Warnings and cautions should start with a clear instruction, followed with a short explanation (if necessary). If the warning or caution is of a general nature (and is applicable throughout the text), it should be placed at the start of the text. This avoids the necessity of repeating the same warning or caution frequently throughout the text. Warnings and cautions shall not be placed in informative text or notes. See ISO/IEC Guide 51 for more details regarding the inclusion of safety aspects in standards.

6.7.5 Footnotes

Footnotes to the text give additional information; their use shall be kept to a minimum. A footnote shall not contain requirements or any information considered indispensable for the use of the document. Footnotes to tables and figures follow different rules (see B.2.5 and D.4). Footnotes to the text shall be placed at the foot of the relevant page and be separated from the text by a short thin horizontal line on the left of the page. Footnotes to the text shall normally be distinguished by Arabic numerals, beginning with 1, followed by one parenthesis and forming a continuous numerical sequence throughout the document: 1), 2), 3), etc. The footnotes shall be referred to in the text by inserting the same numerals, as superscripts, after the word or sentence in question: 1) 2) 3) etc. In certain cases, for example in order to avoid confusion with superscript numbers, one or more asterisks or other appropriate symbols may be used instead: *, **, ***, etc.; †, ‡, etc.

6.8 Use of Trade Names

Generally, it is not acceptable to include proper names or trademarks of specific companies or organizations in the text of a publication. It is not acceptable to include manufacturer lists, service provider lists, or similar material in the text of a standard.

Where a sole source exists for essential equipment, materials or services necessary to determine compliance with the standard, it is permissible to supply the name and address of the source in a footnote or informative annex as long as the words “or the equivalent” are added to the reference.

In connection with standards that relate to the determination of whether products or services conform to one or more standards, the process or criteria for determining conformity can be standardized as long as the description of the process or criteria is limited to technical and engineering concerns and does not include what would otherwise be a commercial term or proper name.

Wherever a term/phrase appears that is a registered trademark the following text shall be included as a footnote:

"This term is used as an example only, and does not constitute an endorsement of this product by API."

Annex A **(informative)**

Writing Tips

A.1 General

This annex provides guidelines and examples to help maintain consistency in written materials produced by API committees and staff. It covers some of the common rules, however, it is not meant to be all-inclusive. The most important point to remember is to be consistent when drafting or revising a document.

A.2 Capitalization

The full rules of capitalization for English are complicated. The rules have also changed over time, generally to capitalize fewer terms; to the modern reader. It is an important function of English style guides to describe the complete current rules, although there is some variation from one guide to another. Basic conventions of capitalization are provided in the following list.

- Capitalize formal names of tests (Charpy Impact Test).
- Capitalize major words and all other words of four letters or more, in headings, titles, and subtitles outside reference lists, for example, "A Study of No-Win Strategies."
- Capitalize names of conditions, groups, effects, and variables only when definite and specific. (Group A was the control group; an Age \times Weight interaction showed lower weight with age.)
- Capitalize the first word after a comma or colon if, and only if, it begins a complete sentence. For example, "This is a complete sentence, so it is capitalized." As a counter example, "no capitalization here."
- Do not capitalize generic names of tests (Stroop color test). "Stroop" is a name, so it remains capitalized.
- Capitalize nouns before numbers, but not before variables (Trial 2, trial x).

A.3 Hyphenation

A definitive collection of hyphenation rules does not exist. There is a wide range of variation in the use of hyphens to join compound words. No rules govern all combinations, and the possible combinations are virtually limitless, so many of them will not be found in the dictionary. General rules to consider are provided in the following.

- Do not hyphenate common prefixes (posttest, prewar, multiphase, nonsignificant) unless needed for clarity (pre-existing).
- Do not hyphenate foreign, letter, numeral terms (a priori hypothesis, Type A behavior) when the meaning is clear without it (least squares solution, heart rate scores).
- Do not hyphenate if a noun comes first (a therapy was client centered, results of t tests).

- Hyphenate adjectival phrases (role-playing technique, high-anxiety group, two-way analysis).
- Hyphenate compound adjectives preceding nouns (client-centered therapy, t-test scores) unless the compound adjective involves a superlative (best written paper).
- Hyphenate if the base is an abbreviation or compounded (pre-UCS, non-college bound).
- Hyphenate if the base word is capitalized or a number (pre-Freudian, post-1960).
- Hyphenate if the words could be misunderstood without a hyphen (re-pair, un-ionized, co-worker).
- If in doubt, consult a recently published dictionary. Standards change. For example, "data base" is now "database," "data sheet" is now "datasheet," and "life-style" is now "lifestyle."

A.4 Use of Numbers

The following are general guidelines for the use of numbers in text:

- Spell out numbers that are less than 10, not precise measurements, and not grouped with numbers over 10 (one-tailed t test, eight items, nine pages, three-way interaction, five trials).
- Use numerals for numbers 10 and above, or numbers under 10 grouped with numbers 10 and above (for example, from 6 to 12 hours of sleep).
- Spell out common fractions and common expressions (one-half, Fourth of July).
- When a number is at the beginning of a sentence it is always spelled-out. If this rule produces a result that looks awkward, it may be better to rewrite the sentence to avoid starting with a number.
- Use numerals for exact statistical measures, scores, sample sizes, and sums (multiplied by 3, or 5 % of the sample). Another example: "We studied 30 subjects, all two-year-olds, and they spent an average of 1 hr 20 min per day crying."
- To make plurals out of numbers, add s only, with no apostrophe (the 1950s).
- Use combinations of written and Arabic numerals for back-to-back numbers (five 4-point scales).
- Use combinations of numerals and written numbers for large sums (over 3 million people).
- Use the percent symbol (%) only with figures (5 %) not with written numbers (five percent).

A.5 Common Misuse of Words in English

The following are common misuses of some English words:

- "Affect" is usually a verb, which means "to influence", as in: Will bad grammar affect my grade?
- "Criteria" is a plural noun; "criterion" is the singular form of "criteria".

EXAMPLE "These criteria are . . ." and "This criterion is . . ."

— "Data" is a plural noun; "datum" is the singular form of "data".

EXAMPLE "These data are . . ." and "This datum is . . ."

— "Effect" is usually a noun, which means "result", as in: cause and effect relationship.

— To "insure" means that money is paid by the insurance company if the event that is insured against occurs.

— To "assure" is to convince or promise someone.

— To "ensure" is to do something that will cause a particular result or outcome.

— Avoid an isolated use of the word "this", as in:

This is discussed later.

Instead, add a word to specifically indicate what "this" refers to:

- this feature;
- this circuit;
- this problem;
- this approach.

— The word "that" properly introduces restrictive sections, while "which" introduces nonrestrictive sections. A more helpful statement of the rule is:

- use which, which is always preceded by a comma, when introducing nonessential information.
- use that, never preceded by a comma, when introducing essential information.

EXAMPLE 1 *Resistors, which often have pretty color bands, are common elements in electronic circuits.* In this example, "pretty color bands" are irrelevant to the functioning of the circuit or whether resistors are commonly used.

EXAMPLE 2 *A resistor that has smoke rising from it is in danger of failing.* Here, "that has smoke rising from it" identifies specific resistor(s) that are essential to the meaning of the sentence.

— "Its" is a possessive form, meaning to own or possess. Some people want to make a possessive form of *it* by adding an apostrophe-s. However, "it's" is not possessive; it's a contraction of "it is" or "it has" (the apostrophe means that letters or characters have been omitted.)

— "There" refers to a place (indicates where) or can be used as a pronoun that introduces a clause or sentence; "their" is a plural possessive noun.

EXAMPLE 1 Put your wet gloves over there near the fireplace. (indicates where)

EXAMPLE 2 Their schedules all have Monday, Wednesday, and Friday classes. (possessive)

- The term "and/or" should be avoided and, wherever possible, the statement should be rewritten to clarify the meaning.

EXAMPLE The statement "nuts, or screws, and/or bolts" can be rewritten to read: "nuts, or screws, or bolts, or a combination thereof."

A.6 Needless words

Omit needless words. Many words can be omitted from a first draft without affecting the meaning of sentences. The following italicized words are examples of needless words:

- a) *definitely* proved;
- b) orange *in color*;
- c) *viable* alternative (it is not an alternative if it is nonviable!);
- d) worst-case *maximum possible* error;
- e) because *of the fact that*.

Annex B

(normative)

Tables

B.1 Usage

B.2 Table Designation and Layout

B.2.1 Designation

Tables should be given a number and a concise title and should be cited in the text with the word "Table" followed by the number. This numbering shall be independent of the numbering of the sections and of any figures. A single table shall be designated "Table 1". The table title and designation shall be centered horizontally above the table as shown in the following example:

Table #—Mechanical Properties

B.2.2 Headings

The first word in the heading of each column or row shall begin with a capital letter. The units used in a given column shall generally be indicated under the column heading.

EXAMPLE 1

Type	Linear Density kg/m (lb/ft)	Inside Diameter mm (in.)	Outside Diameter mm (in.)

As an exception to this rule, when all units are the same, a suitable statement (e.g. "Dimensions in millimeters") shall instead be placed above the right-hand corner of the table.

EXAMPLE 2

Dimensions in millimeters			
Type	Length	Inside Diameter	Outside Diameter

Tables with subheadings shall be presented as shown in Example 3.

EXAMPLE 3

Dimension	Type		
	A	B	C

B.2.3 Layout

Whenever possible, tables should be organized to fit on a single page. When a table must carry over for more than one page, complete column headings should be repeated at the top of successive pages. The table number and title should be repeated at the top of the page as follows:

Table #—Mechanical Properties (*continued*)

B.2.4 Notes to Tables

Notes in tables shall be treated independently from notes integrated in the text (see 6.7.2). They shall be located within the frame of the relevant table and shall precede table footnotes (see the following Example). A single note in a table shall be preceded by “NOTE”, placed at the beginning of the first line of the text of the note. When several notes occur in the same table, they shall be designated “NOTE 1”, “NOTE 2”, “NOTE 3”, etc. A separate numbering sequence shall be used for each table.

Notes to tables shall not contain requirements or any information considered indispensable for the use of the document. Any requirements relating to the content of a table shall be given in the text, in a footnote to the table or as a paragraph within the table. It is not necessary that notes in tables are referenced in the body of the table.

EXAMPLE

Dimensions in millimeters			
Type	Length	Inside Diameter	Outside Diameter
A	l_1^a	d_1	
B	l_2	$d_2^{b\ c}$	
A paragraph containing a requirement.			
NOTE 1 Table note.			
NOTE 2 Table note.			
a Table footnote.			
b Table footnote.			
c Table footnote.			

B.2.5 Footnotes to Tables

Footnotes to tables shall be treated independently from footnotes to the text (see 6.7.5). They shall be located within the frame of the relevant table, and shall appear at the foot of the table (see the example in B.2.4).

Footnotes to tables shall be distinguished by superscript lower case letters, beginning with “a”. The footnotes shall be referred to in the table by inserting the same superscript lower case letter.

Footnotes to tables may contain requirements.

Annex C (normative)

Lists

Lists may be introduced by a sentence (see Example 1), a complete grammatical proposition followed by a colon (see Example 2), or by the first part of a proposition (without a colon—see Example 3), completed by the items in the list.

Each item in a list shall be preceded by a dash or a bullet or, if necessary for identification, by a lower case letter followed by a parenthesis. If it is necessary to subdivide further an item in the latter type of list, Arabic numerals followed by a parenthesis shall be used (see Example 1).

EXAMPLE 1 The following basic principles shall apply to the drafting of definitions.

- a) The definition shall have the same **grammatical form** as the term:
 - 1) to define a verb, a verbal phrase shall be used;
 - 2) to define a singular noun, the singular shall be used.
- b) The **preferred structure** of a definition is a basic part stating the class to which the concept belongs, and another part enumerating the characteristics that distinguish the concept from other members of the class.
- c) The **definition of a quantity** shall be formulated in accordance with the provisions of ISO 31-0:1992, Section 2.2. This means that a derived quantity may be defined by means of other quantities only. No unit shall be used in the definition of a quantity.

EXAMPLE 2 No switch is required for any of the following categories of apparatus:

- apparatus having a power consumption not exceeding 10 W under normal operating conditions;
- apparatus having a power consumption not exceeding 50 W, measured 2 min after the application of any of the fault conditions;
- apparatus intended for continuous operation.

EXAMPLE 3 Vibrations in the apparatus may be caused by

- unbalance in the rotating elements,
- slight deformations in the frame,
- the rolling bearings, and
- aerodynamic loads.

To aid comprehension, it may be preferable not to continue a sentence after the end of the type of list given in Example 3. Key terms or phrases may be composed in distinctive type to call attention to the subject matter dealt with in the various list items (see Example 1). Such terms or phrases shall not be

listed in the table of contents; if it is necessary that they be included in the table of contents, they shall not be presented as list items but as subsection titles.

Annex D

(normative)

Figures

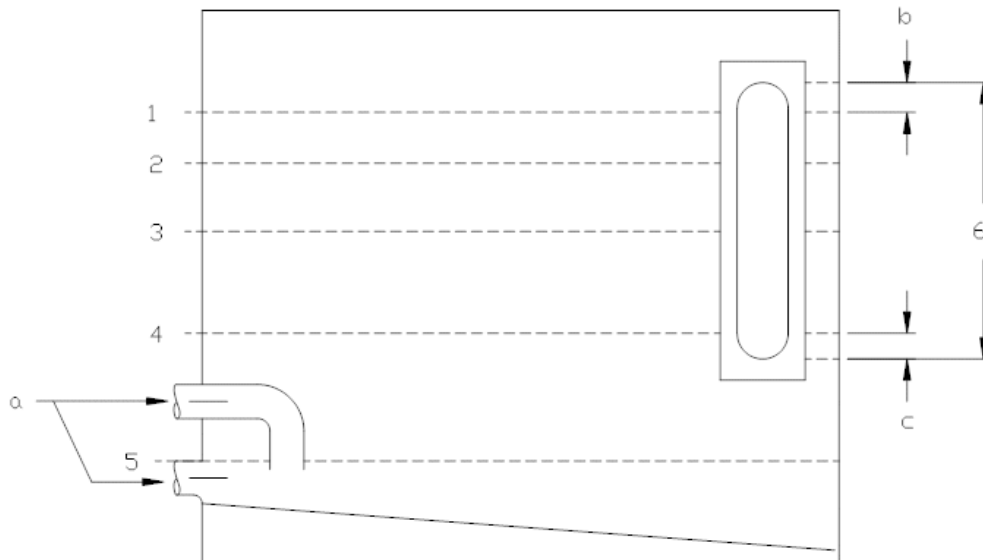
D.1 General

Figures may be graphs, charts, diagrams, schematic drawings, or photographs. All figures shall be called out (referred to) in the text of the document.

D.2 Layout

D.2.1 The figure designation and title shall be centered horizontally below the figure. Textual descriptions should be replaced by item references and explained in a key, or figure footnote depending on their content. In graphs, labeling on the axes should not be replaced by item references to avoid any confusion between the number representing the item reference and a number representing a value on the axis. Labeling of curves, lines, etc. on the graphs should be replaced by item references.

EXAMPLE



Key

- 1 rundown level
- 2 maximum operating level
- 3 minimum operating level
- 4 suction-loss level
- 5 pump suction level
- 6 manufacturer's standard glass length

Sensing elements for determining reservoir levels shall be made of austenitic stainless steel.

NOTE A manufacturer's standard gauge glass may be used in this arrangement with the bottom of the gauge no less than 50 mm below the minimum operating level and with any excess length being above maximum operating level.

- a alternative pump suction arrangements
- b 50 mm (2 in.) minimum
- c 25 mm (1 in.) minimum

Figure 1—Reservoir Levels and Oil Level Glass Details

D.2.2 When a figure is continued over several pages, it may be useful to repeat the figure designation, followed by the title (optional) and by "*continued*", as in the following example:

Figure #— (*continued*)

Any statements concerning units shall be repeated on all pages after the first, where applicable.

D.3 Notes to Figures

Notes to figures shall be treated independently from notes in the text (see 6.7.2). They shall be located immediately above the figure title and shall precede figure footnotes.

A single note in a figure shall be preceded by "NOTE" and placed at the beginning of the first line of the text of the note. When several notes occur in the same figure, they shall be designated "NOTE 1", "NOTE 2", "NOTE 3", etc. A separate numbering sequence shall be used for each figure. See the example in D.2.1.

Notes to figures shall not contain requirements or any information considered indispensable for the use of the document. Any requirements relating to the content of a figure shall be included in the text, in a footnote to the figure, or as a paragraph between the figure and its title. It is not necessary to reference notes to figures.

D.4 Footnotes to Figures

Footnotes to figures shall be treated independently from footnotes to the text (see 6.7.5). They shall be located immediately above the figure title.

Footnotes to figures shall be distinguished by superscript lower case letters, beginning with "a". The footnotes shall be referred to in the figure by inserting the same superscript lower case letter. See the example in D.2.1.

Footnotes to figures may contain requirements.

Annex E **(normative)**

Drafting Terms and Definitions

E.1 General

A definitions section, typically Section 3 (unless the standard does not contain references), is provided for those not already familiar with the terminology in question. Definitions should appear in alphabetical order and the term defined should be written out completely. Each term should be numbered as a subsection of the definitions section.

Each definition should be a brief, self-contained description of the term in question and shall not contain any other information, such as requirements and elaborative text. The term should not be used in its own definition.

The form of a definition shall be such that it can replace the term in context. Additional information shall be given only in the form of examples or notes (see E.4.3).

E.2 Choice of Concepts to be Defined

Any term that is not self-explanatory or commonly known and which can be differently interpreted in different contexts shall be clarified by defining the relevant concept.

Common dictionary or current technical terms shall be included only if they are used with a specific meaning in the relevant context.

Trade names (brand names) and archaic and colloquial terms shall be avoided.

Obsolete terms may be included after the preferred term but their nature shall be indicated (see E.4.2).

E.3 Avoidance of Duplications and Contradictions

Before a term and a definition are established for a concept, it should be determined that no other term and definition for that concept exist in another recognized industry standard.

If the concept is used in several documents, it should be defined in the most general of those documents, or in an independent terminology standard. The other documents should then refer to this standard, without repeating the definition of the concept.

E.4 Presentation

E.4.1 Layout

The preferred term (set in bold type) shall be placed on a new line, after its reference number, starting with a lower case letter except for any capital letters required by the normal written form in running text. The definition shall be placed on a new line.

3.2

administrative controls

Procedures intended to ensure that personnel actions do not compromise the overpressure protection of the equipment.

E.4.2 Synonyms

The preferred term (set in bold type) shall be followed by the non-preferred term on a new line (set in normal type).

3.14

burning velocity

flame velocity

Speed at which a flame front travels into an unburned combustible mixture.

Obsolete or superseded terms (set in bold type) shall each be placed on a new line, after the preferred term, and shall be followed by in indication of their status in parentheses.

5.38

radix

base (obsolete)

Positive integer by which the weight of any digit place is multiplied to obtain the weight of the digit place with the next higher weight.

E.4.3 Examples and Notes

Examples of term usage and notes concerning entries shall be presented as shown.

3.1.122

riser system

Comprises the riser and all integrated components including subsea and surface equipment.

EXAMPLE In tubing hanger mode, the system includes all components from tubing hanger to the top drive; in tree mode, the system includes all components from the wellhead to the top drive.

3.1.86

lower marine riser package

LMRP

Upper section of a two-section subsea BOP stack consisting of the hydraulic connector, annular BOP, ball/flex joint, riser adapter, jumper hoses for the choke, kill and auxiliary lines and subsea control modules.

NOTE The LMRP interfaces with the BOP stack.

E.5 Acronyms, Abbreviations, and Symbols

E.5.1 General

E.5.1.1 This subsection applies to acronyms, abbreviations, and symbols only. If the standard makes extensive use of acronyms, abbreviations, or symbols, subsection(s) within the definitions section may be provided. If acronyms and abbreviations are included in the definitions section, the section title should be "Terms, Definitions, Acronyms, Abbreviations, and Symbols." Subsections 3.1, 3.2, and 3.3 would be titled "Definitions" and "Acronyms and Abbreviations", and "Symbols" respectively.

E.5.1.2 The acronyms, abbreviations, and symbols subsection is not meant to take the place of the definitions section. If a definition is needed, the term should be added to the definitions section as well. Acronyms, abbreviations and, followed by the full term only, should be listed in alphanumeric order.

E.5.1.3 Technical abbreviations and acronyms should be used to save time and space, but only if their meaning is unquestionably clear to the reader. The first use should be spelled out, followed by the abbreviation or acronym itself in parentheses. SI and USC units are not considered abbreviations and should not be included in a list of abbreviations and acronyms.

E.5.2 Layout

The acronym or abbreviation (set in bold type) shall be placed on a new line, after its reference number. The definition shall be placed on a new line. starting with a lower case letter, except for any capital letters required by the normal written form in running text, and shall not be followed by a period.

3.2.1

MAWP

maximum allowable working pressure

Bibliography

- [1] API, *Procedures for Standards Development*
- [2] ISO/IEC Directives, Part 2: *Rules for the Structure and Drafting of International Standards*
- [3] ISO/IEC Guide 51, *Safety Aspects—Guidelines for their Inclusion in Standards*