

TECHNICAL SPECIFICATION

Guidelines for the inclusion of documentation aspects in product standards

(standards.iteh.ai)

IEC/TS 62666:2010

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**GUIDELINES FOR THE INCLUSION OF DOCUMENTATION ASPECTS
IN PRODUCT STANDARDS**

FOREWORD

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The main task of IEC technical committees is to prepare International Standards. In exceptional circumstances, a technical committee may propose the publication of a technical specification when

- the required support cannot be obtained for the publication of an International Standard, despite repeated efforts, or
- the subject is still under technical development or where, for any other reason, there is the future but no immediate possibility of an agreement on an International Standard.

Technical specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC 62666, which is a technical specification, has been prepared by IEC technical committee 3: Information structures, documentation and graphical symbols.

The text of this technical specification is based on the following documents:

| Enquiry draft | Report on voting |
|---------------|------------------|
| 3/994/DTS | 3/1006/RVC |

Full information on the voting for the approval of this technical specification can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- transformed into an International standard,
- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this technical specification may be issued at a later date.

INTRODUCTION

This technical specification is developed in response to expressed needs for guidelines for the inclusion of requirements for documentation in product and system standards.

The body of the publication is written with Product Committee Secretaries, PT- and MT-members, etc. in mind as the target group, providing some basic information on documentation principles and explanations and justification as to why the references to documentation standards should be made. It is assumed that experts developing product standards do not necessarily have relevant documentation aspects as their primary interest. As a consequence, the text may be found by some to be too “educative” for a standard. However, in a guideline it may be more appropriate.

The two annexes are examples intended to be used as templates for how texts should be included in product standards.

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GUIDELINES FOR THE INCLUSION OF DOCUMENTATION ASPECTS IN PRODUCT STANDARDS

1 Scope

This technical specification provides guidelines to ensure consistency with respect to the specification of requirements for information, documentation and graphical symbols in IEC publications provided by system or product committees.

NOTE 1 For guidelines regarding inclusion of graphical symbols to be used on equipment, please refer to IEC 62648.

NOTE 2 This publication is based on and customizes IEC Guide 108 without deviation.

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.

ISO 9000:2005, *Quality management systems – Fundamentals and vocabulary*

ISO 9001:2008, *Quality management systems – Requirements*

NOTE Details of other documents referenced in this technical specification are provided in the Bibliography at the end of the publication.

3 Terms and definitions

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

NOTE 1 In the definitions, terms that are defined elsewhere in this clause are shown in *italics*.

NOTE 2 An alphabetical index, including these terms as well, is contained at the end of the publication.

NOTE 3 Definitions taken over from other International Standards are not necessarily cited verbatim, but are adapted to the form required for definitions according to the ISO/IEC Directives.

3.1 knowledge

body of understanding and skills

NOTE The “body of understanding” can e.g. consist of facts, concepts and instructions.

3.2 information

knowledge that is communicated

3.3 data

representation of *information* in a formalized manner suitable for communication, interpretation or processing

NOTE *Data* can be processed by humans or by automatic means.

3.4**data carrier**

material on which *data* can be stored

3.5**medium**

means of representing *data* on a *data carrier*

3.6**data element type****DET**

unit of *data* for which the identification, description and value representation have been specified

[IEC 61360-1:2009, definition 2.3]

3.7**document**

fixed and structured amount of *information* that can be managed and interchanged as a unit between users and systems

NOTE 1 This unit may not necessarily be human perceptible. *Information* is usually stored as *data* on a *data medium*.

[IEC 82045-1:2001, definition 3.2.3 modified]

NOTE 2 “users” refers in this definition to users of *information* and “systems” refers to systems managing *information* and *documentation*.

3.8**document kind**

type of *document* defined with respect to its specified content of *information* and form of presentation.

[IEC 61355-1:2008, definition 3.6]

3.9**document set**

collection of different *documents* which is intended to be treated as a unit

NOTE Document sets may consist of *documents* and composite *documents*.

[IEC 61355-1:2008, definition 3.4]

3.10**documentation**

collection of *documents* related to a given subject

NOTE 1 This may include technical, commercial and/or other *documents*.

NOTE 2 The term may refer to objects in the sense of IEC 81346 or to other things to be addressed.

NOTE 3 A documentation can consist of documents, composite documents and document sets.

NOTE 4 The number and kinds of documents in a documentation can differ according to purpose.

[IEC 61355-1:2008, definition 3.5]

3.11**domain**

distinguished part of an abstract or physical space where something exists

NOTE A domain can be e.g. an organization or a country or a part of it.

[IEC 62507-1, definition 3.2]

3.12

object

entity treated in a process of development, implementation, usage and disposal

NOTE 1 The object may refer to a physical or non-physical “thing”, i.e. anything that might exist, exists or did exist.

NOTE 2 The object has *information* associated to it.

[IEC 81346-1:2009, definition 3.1]

3.13

characteristic property

defined parameter suitable for the description and differentiation of *objects*

[IEC/PAS 62569-1:2009, definition 3.1.6]

3.14

identifier

attribute associated with an *object* to unambiguously identify it in a specified *domain*

NOTE In an identification system several types of identifiers may be required.

[IEC 62507-1, definition 3.8]

3.15

identification number

ID

string of characters representing the value of the *identifier*

NOTE 1 It is practice that although the term says “number” the string can contain other types of characters as well.

NOTE 2 Note that the term “*identifier*” as being an attribute and the term “*identification number*” as being the value of that attribute are here considered different things, but they are often mixed in existing definitions.

NOTE 3 *Identification numbers* are often required to be unique (an *object* shall have one number only). This is an unnecessarily strong requirement, it is sufficient if they are unambiguous within a specified *domain*. An *object* may have more than one *identification number*.

Furthermore, it is assumed in the definition that an organization may be responsible for more than one *identification number domain*. This is a commonly occurring situation when organizations are merged, etc.

[IEC 62507-1, definition 3.5]

3.16

horizontal standard

standard on fundamental principles, concepts, terminology or technical characteristics, relevant to a number of technical committees and of crucial importance to ensure the coherence of the corpus of standardization documents

[IEC Guide 108:2006, definition 3.1]

3.17

product publication

publication covering a specific product or group of related products

NOTE 1 In this technical specification, the term *product* includes items such as *process*, *service*, *installation* and combinations thereof, commonly known as *systems*.

¹ To be published.

[IEC Guide 108:2006, definition 3.2, modified]

NOTE 2 “product publication” refers in this definition to publications issued by IEC. The same term is sometimes used by product manufacturers with a different meaning.

3.18 commissioning

procedures prior, or related, to the handing over of a product ready for putting into service, including final acceptance testing, the handing over of all documentation relevant to the use of the product and, if necessary, instructing personnel

[IEC 82079-1², definition 3.2]

4 Principal guidelines

4.1 Adaptation to the needs of the system or product

Documentation is a result of development and engineering of a system or a product. Its major purpose is to enable the system or product to be manufactured and supplied to users for intended use.

The provision of information in the form of documentation is an integral part of any delivery of a system or product, one purpose being to transfer knowledge of the system or product from the supplier to the user.

The documents accompanying the system or the product are a subset of the total number of documents on it. Documents for manufacturing and results of testing are examples of other kinds of documents. The information accompanying the system or the product should promote correct and safe application and use of the system or product for the remaining part of its lifecycle.

Product standards should therefore specify required

- information, and
- documentation.

The primary requirement concerns the information needs and the structuring of this information so that required information can be easily accessed by users.

A secondary requirement is how this information is “packaged” and presented in the form of a logically related collection of documents, i.e. the documentation for the system or product on relevant media.

The requirements concerning the documentation and the amount of documents needed depend on the complexity of the system or product as well as on the intended use and the kinds of users expected to use the system or product, and may thus vary. The specified requirements in the system or product standard should therefore be adapted to the needs in the actual case.

4.2 Adaptation to the structure of the publication

In a product publication, the requirements on information and documentation should preferably be collected in one clause with subclauses for information and documentation requirements respectively.

² In preparation.

The requirements should be included by referencing to the relevant specialized documentation standards where available, in order to keep the content of the references up to date with actual development of these standards.

For the sake of understanding and promotion, the referencing should not only be made by listing standard identification numbers of such standards but should also be accompanied by some introductory information for explanation and justification of each reference.

If there are special documentation requirements not yet covered by existing standards, these should be incorporated as text in the system or product standard. In such cases the relevant IEC or ISO committee should also be informed about the missing information for due consideration of revision of existing standards or development of new ones.

NOTE Before making such a proposal, consideration should be given to the fact that the terminology used in the documentation standards, for example names of document types, may be different compared to the terminology used among experts in the product committee. The database IEC 61355 (<http://std.iec.ch/iec61355>) contains the recommended terminology, but also a number of synonyms, and suggestions on how to deal with these. This may be helpful for finding out if such a situation is present.

Clause 5 provides information on the requirements covered in available documentation standards. The purpose of this clause is to make readers aware of the content in order to decide whether or not the requirements are relevant for the actual product publication.

Annex A is intended as a template for a clause covering “Technical documentation” in a product standard for a comprehensive system or equipment (for example industrial plant or installation), which requires comprehensive documentation. In this case the product may also be expected to be modified by the user during its remaining lifetime and its documentation is therefore to be updated and maintained by the user. In this case, the amount of required technical documents can be high.

Annex B is intended as a template for a clause covering “Technical documentation” in a product standard for a relatively simple (from the user’s perspective) consumer product that requires a simple installation or no installation at all. The supplied documentation is not intended to be updated nor maintained by the user, and it therefore focuses on the activities to be performed by the end user. In this situation, the amount of technical documents needed can be expected to be low.

Note that these annexes are examples only which can be reduced as well as extended for a specific purpose.

All IEC deliverables should be prepared in accordance with the ISO/IEC Directives, Part 2. Subclause 6.6.5 of the directives, regarding the use of figures, including drawings, diagrams and graphical symbols in publications, is based on, and also refers to publications described below, i.e. the requirements on documentation in product standards are also applicable to the publications themselves.

5 Requirements to be covered

5.1 Information requirements

The general purpose of the documentation of a system or a product is to enable its development, provide information for its manufacturing or assembly, document in test reports its required properties or performance and transfer knowledge of the system or product from the supplier to the user.

The purpose of that part of the documentation accompanying a delivered system or product is to provide the information necessary for the remaining activities in its lifecycle, i.e. usually for the installation and application, operation and maintenance, and disassembly and recycling of the system or product.