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SLOVENSKI STANDARD
SIST EN 62023:2002

01-oktober-2002

Structuring of technical information and documentation (IEC 62023:2000)

Structuring of technical information and documentation

Strukturierung technischer Information und Dokumentation

Structuration des informations et de la documentation techniques

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Ta slovenski standard je istoveten z: EN 62023:2000

<u>**ICS:**</u>

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29.020	Elektrotehnika na splošno	Electrical engineering in general

SIST EN 62023:2002   **en**

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

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EUROPEAN STANDARD

NORME EUROPÉENNE

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EN 62023

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English version

Structuring of technical information and documentation
(IEC 62023:2000)

Structuration des informations et de la
documentation techniques
(CEI 62023:2000)

Strukturierung technischer Information
und Dokumentation
(IEC 62023:2000)

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This European Standard was approved by CENELEC on 2000-08-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

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Foreword

The text of document 3B/291/FDIS, future edition 1 of IEC 62023, prepared by SC 3B, Documentation, of IEC TC 3, Documentation and graphical symbols, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62023 on 2000-08-01.

The following dates were fixed:

– latest date by which the EN has to be implemented
  at national level by publication of an identical
  national standard or by endorsement   (dop) 2001-05-01

– latest date by which the national standards conflicting
  with the EN have to be withdrawn   (dow) 2003-08-01

Annexes designated "normative" are part of the body of the standard.
Annexes designated "informative" are given for information only.
In this standard, annex ZA is normative and annex A is informative.
Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 62023:2000 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 61346-2   NOTE: Harmonized as EN 61346-2:2000 (not modified).

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INTRODUCTION

IEC 62023 can be seen as a bridge between system structuring principles and documentation structuring principles, in that it provides

− standardization of common practice in manufacturing industry with regard to the organization of information/documentation according to the product structure by means of a main document;

− further detailing and formalization of guidance already given in IEC 61355, clause 6, by the general establishment of the main document concept with explicit referencing to complementary documents in a document set for a technical object; and

− application of the object concept from the structuring principles of IEC 61346-1 in the area of document structuring. It goes beyond the existing publications in that it shows how objects with several aspects can be kept together in a systematic way.

In Product Data Management (PDM) systems the "objects" in the product structure, which are configuration controlled information objects, correspond logically to main documents. However, although they fulfil all the requirements necessary to be documents, they are sometimes not considered as documents.

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STRUCTURING OF TECHNICAL INFORMATION AND DOCUMENTATION

1 Scope

This International Standard provides rules for the structuring of technical information and documentation, based on the use of a main document (leading document) for the keeping together of information for each object.

NOTE   For the definition of a main document, see 3.3.1.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

IEC 61082-1:1991, *Preparation of documents used in electrotechnology – Part 1: General requirements*

IEC 61346-1:1996, *Industrial systems, installations and equipment and industrial products – Structuring principles and reference designations – Part 1: Basic rules*

IEC 61346-4:1998, *Industrial systems, installations and equipment and industrial products – Structuring principles and reference designation – Part 4: Discussion of concepts*

IEC 61355:1997, *Classification and designation of documents for plants, systems and equipment*

IEC 61360-4:1997, *Standard data element types with associated classification scheme for electric components – Part 4: IEC reference collection of standard data element types, component classes and terms*

IEC 62027:2000, *Preparation of parts lists*

ISO/DIS 7200-1, —, *Technical product documentation – Document headers and title blocks – Part 1: General structure and content* [1]

3 Definitions

For the purpose of this International Standard, the following terms and definitions apply. In the definitions, terms that are defined elsewhere in this clause are shown in *italics*.

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[1] To be published.

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3.1 General terms, related to structuring

3.1.1
object
entity treated in the process of design, engineering, realization, operation, maintenance, and demolition

NOTE 1   The entity may refer to a physical or non-physical "thing" or to a set of information associated with it.

NOTE 2   Depending on its purpose, an object may be viewed in different ways called "aspects".

[IEC 61346-1, definition 3.1]

3.1.2
system
set of interrelated *objects*

NOTE 1   Examples of a system: a drive system, a water supply system, a stereo system, a computer.

NOTE 2   When a system is part of another system, it may be considered as an object.

[IEC 61346-1, definition 3.2]

3.1.3
plant
assembly of different *systems* on a specific site

[IEC 61355, definition 3.9]

3.1.4
type
class of things having common characteristics

3.1.5
aspect
specific way of selecting information on or describing a *system* or an *object* of a *system*

NOTE   Such ways may be:

– what the system or object is doing (function viewpoint);

– how the system or object is constructed (product viewpoint);

– where the system or object is located (location viewpoint).

[IEC 61346-1, definition 3.3]

3.1.6
structure
organization of relations among *objects* of a *system* describing constituency-relations (consist of/is a part of)

[IEC 61346-1, definition 3.6]

3.1.7
reference designation
identifier of a specific *object* with respect to the *system* of which the *object* is a constituent, based on one or more *aspects* of that *system*

[IEC 61346-1, definition 3.7]

3.2 General terms, related to documentation

3.2.1
document
information on a data medium

NOTE 1   The term document is not restricted to its meaning in a legal sense.

NOTE 2   Normally a document is designated in accordance with the type of information and the form of presentation, for example overview diagram, connection table, function chart.

NOTE 3   Information may appear in a static manner on paper and microform or dynamically on (video) display devices.

[IEC 61082-1, definition 2.1.1.2, modified]

3.2.2
documentation
collection of *documents* related to a given subject

[IEC 61082-1, definition 2.1.1.4, modified]

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

3.2.3
document kind
type of a *document* defined with respect to its specified content of information and form of presentation

[IEC 61355, definition 3.5]

3.2.4
document kind class
group of *document kinds* having similar characteristics concerning the content of information independent from the form of presentation

[IEC 61355, definition 3.6]

3.2.5
document set
composition of *documents* logically belonging together

[IEC 61355, definition 3.3]

3.2.6
document part
part of a *document* having a function of its own

NOTE   The concept of document parts emanates from the observation that a document can be subdivided into parts, logically and/or physically. A logical part presents information in a homogeneous form of presentation. Examples of such parts are: identification part, specification part, drawing part, revision part, administrative part, document header. Example of physical parts are: page, text block, figure, and, considering media other than paper, diskette.

3.3 Specific terms

3.3.1
main document
leading document
document representing an *object* and containing or referring to the complete information on the *object*

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3.3.2
single-level main document
main document that specifies the next subordinate *structure* level only

3.3.3
multi-level main document
main document that specifies more than one subordinate *structure* level

3.3.4
complementary document
supplementary document
referenced *document*, containing part of the information on an *object*

3.3.5
parts list body
table containing *list items* specifying the *objects* (parts, components, software, equipment, etc.), that constitutes an assembly (or subassembly) or *system* and, if necessary, reference documents
[IEC 62027, definition 3.3.2]

3.3.6
document list body
table containing *list items* specifying *documents*

3.3.7
list item
presentation as part of a table or list of an ordered set of data element *types* pertaining to one specified *object*
[IEC 62027, definition 3.3.3]

3.3.8
part number
unique identification of a *part* for a particular organization

3.3.9
document number
unique identification of a *document* for a particular organization

4 General

4.1 Basic principles of structuring of systems, installations and products

In order to design, manufacture, operate and maintain systems, installations or products efficiently, the information on these is usually divided into parts or objects. The establishing of objects and the organization of the relations among them is called structuring, and the result is called a structure.

In accordance with IEC 61346-1, different structures can be recognized depending on the aspect, for example:

- a function-oriented structure;

- a product-oriented structure;

- a location-oriented structure.

Other structures may be relevant for certain purposes.

Each information structure is formed in a tree-like, hierarchical way as shown in figure 1. In such structures, a node represents an object that is of interest from the chosen aspect. It is divided into its constituents, lower-level objects, as indicated by the branches. These constituent parts can in turn be divided into their constituent branches, etc.
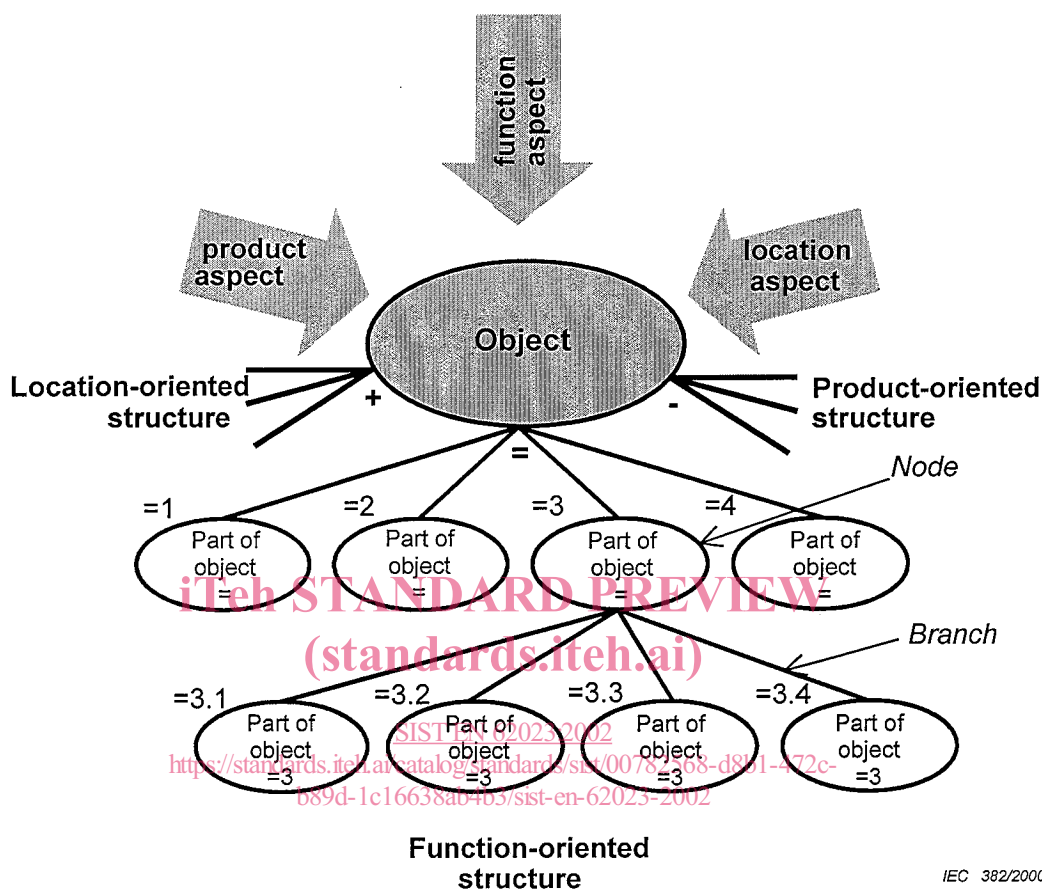

Figure 1 – General structuring of objects

The different structures suit different working tasks:

– A function-oriented structure is based on the purpose of a system. A function-oriented structure shows the subdivision of the system into constituent objects with respect to the function aspect, without necessarily taking into account the location and/or the products implementing the functions. Documents giving information based upon a function-oriented structure describe, graphically and/or textually, how the functions of the system are divided into subfunctions that are combined to fulfil the intended purpose.

– A product-oriented structure is based on the way a system is built up to become a product. A product-oriented structure shows the subdivision of the system into constituent objects with respect to the product aspect without necessarily taking into account functions and/or locations. Documents giving information based upon a product-oriented structure describe, graphically and/or textually, how a product is divided into subproducts that are manufactured, assembled, or packaged together to implement or deliver the product.