

SLOVENSKI STANDARD
SIST EN 61346-1:1997**01-december-1997**

**Industrial systems, installations and equipment and industrial products -
Structuring principles and reference designations - Part 1: Basic rules (IEC 1346-
1:1996)**Industrial systems, installations and equipment and industrial products - Structuring
principles and reference designations -- Part 1: Basic rulesIndustrielle Systeme, Anlagen und Ausrüstungen und Industrieprodukte -
Strukturierungsprinzipien und Referenzkennzeichnung -- Teil 1: Allgemeine Regeln
(standards.iteh.ai)Systèmes industriels, installations et appareils, et produits industriels - Principes de
structuration et désignation de référence -- Partie 1: Règles de base**Ta slovenski standard je istoveten z: EN 61346-1:1996****ICS:**

01.110	Tehnična dokumentacija za izdelke	Technical product documentation
29.020	Elektrotehnika na splošno	Electrical engineering in general

SIST EN 61346-1:1997**en**

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English version

Industrial systems, installations and equipment and industrial products
Structuring principles and reference designations
Part 1: Basic rules
(IEC 1346-1:1996)

Systèmes industriels, installations et
appareils, et produits industriels
Principes de structuration et désignation
de référence
Partie 1: Règles de base
(CEI 1346-1:1996)

SIST EN 61346-1:1997

Industrielle Systeme, Anlagen und
Ausrüstungen und Industrieprodukte
Strukturierungsprinzipien und
Referenzkennzeichnung
Teil 1: Allgemeine Regeln
(IEC 1346-1:1996)

This European Standard was approved by CENELEC on 1995-11-28. 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, 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

Foreword

The text of document 3B/144/FDIS, future edition 1 of IEC 1346-1, prepared by SC 3B, Documentation, of IEC TC 3, Documentation and graphical symbols and ISO TC 10, Technical drawings, product definitions and related documentation, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61346-1 on 1995-11-28.

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) 1996-12-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1996-12-01

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 annexes A, B, C, D, E, F and G are informative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 1346-1:1996 was approved by CENELEC as a European Standard without any modification.

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

IEC 1082-1 NOTE: Harmonized as EN 61082-1:1993 (not modified).

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Annex ZA (normative)

**Normative references to international publications
with their corresponding European publications**

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE: When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 1346-2		Structuring principles and reference designations Part 2: Classification of objects and codes for classes (under consideration)	-	-
ISO/IEC 646	1991	Information technology - ISO 7-bit coded character set for information interchange	-	-
ISO 3166	1993	Codes for the representation of names of countries	-	-
ISO 4157-1	1980	Building drawings Part 1: Designation of buildings and parts of buildings	-	-
ISO 4157-2	1982	Technical drawings - Construction drawings Designation of buildings and parts of buildings Part 2: Designation of rooms and other areas	-	-

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**NORME
INTERNATIONALE
INTERNATIONAL
STANDARD**

**CEI
IEC**

1346-1

Première édition
First edition
1996-03

**Systèmes industriels, installations et appareils, et
produits industriels – Principes de structuration et
désignations de référence**

**Partie 1:
Règles de base**

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**Industrial systems, installations and equipment and
industrial products – Structuring principles and
reference designations**

**Part 1:
Basic rules**

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International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**INDUSTRIAL SYSTEMS, INSTALLATIONS AND EQUIPMENT
AND INDUSTRIAL PRODUCTS –
STRUCTURING PRINCIPLES AND REFERENCE DESIGNATIONS –**

Part 1: Basic rules

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters, express as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 1346-1 has been prepared by subcommittee 3B: Documentation, of IEC technical committee 3: Documentation and graphical symbols, and ISO technical committee 10: Technical drawings, product definitions and related documentation. Formal voting has taken place within IEC SC3B only. However, ISO TC10 has no objection to the publishing of this International Standard.

This standard cancels and replaces IEC 750 published in 1983.

The text of this standard is based on the following documents:

FDIS	Report on voting
3B/144/FDIS	3B/159/RVD

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

IEC 1346 consists of the following parts under the general title: Structuring principles and reference designations:

- Part 1: Basic rules
- Part 2: Classification of objects and codes for classes (*under consideration*)
- Part 3: Application guidelines (*under consideration*)
- Part 4: Discussion of some concepts used in the reference designation system (*technical report*) (*under consideration*)

Annexes A, B, C, D, E, F and G are for information only.

INTRODUCTION

In connection with the design, engineering, realization, operation, maintenance and demolition, i.e. the life-cycle of a system, it is necessary to employ a number of identification systems for different purposes, for example:

- product (article) numbering system used for identification of types of products;
- serial number system used for identification of product individuals;
- order number system used for identification of orders/contracts;
- reference designation system used for identification of objects within a system/plant.

This part of IEC 1346 deals only with the reference designation system.

The following table relates the identification systems to their contexts. The shaded areas show the context of the reference designation system and the classification provided by the letter codes. The reference designation system is also used in manufacturing or operating companies for identification of occurrences of types.

Identifications and their contexts

Context	Types ¹⁾	Occurrences ²⁾ of types	Individuals ³⁾
The technical area in general	Letter codes for generic types	Not applicable	Not applicable
Manufacturing company	Type designations, article (parts) number.	Reference designation	Serial Number
Plants / systems project	Identity No. of typicals	Reference designation	Serial number, Order number, Inventory number.
Operating company	Internal parts number	Reference designation	Inventory number (serial number)
1) Type: a class of objects having the same set of characteristics. 2) Occurrence: the use of a type in a specific position in a plant or system. 3) Individual: one specimen of a type irrespective of where it is being used.			

It should be noted that this standard provides a number of possibilities for the construction of reference designations. For most applications, however, only a subset of the possibilities given need be used.

The basic requirements and the required properties of a reference designation system that form the basis for the reference designation system described in this standard are given in annex A. It is recommended to study this annex before reading the normative clauses of this standard. The annex contains a description of the properties of the reference designation system of this standard in a comparison with the required properties. A more comprehensive discussion of the basic concepts of the reference designation system can be found in IEC 1346-4 [3]¹.

Annex E contains a reproduction of the letter codes defined in table 1 of IEC 750 [1]. This annex will be removed in later editions of this standard when IEC 1346-2 is issued.

Annex F contains a short description of the differences and similarities between the reference designation system defined in this standard and those of IEC 750 [1], ISO 3511 [4] [5], and ISO DIS 1219-2 [6]. This annex will be removed in later editions of this standard.

¹ Figures in square brackets refer to the bibliography given in annex G.

INDUSTRIAL SYSTEMS, INSTALLATIONS AND EQUIPMENT AND INDUSTRIAL PRODUCTS – STRUCTURING PRINCIPLES AND REFERENCE DESIGNATIONS –

Part 1: Basic rules

1 Scope

This part of IEC 1346 establishes general principles for describing the structure of information about systems and of the systems themselves.

Based on these principles, rules and guidance are given for the formulation of unambiguous reference designations for objects in any system.

The reference designation identifies objects for the purpose of correlating information about an object among different kinds of documents and the products implementing the system. For manufacturing, installation and maintenance purposes, the reference designation or part of it may also be shown on or near the physical part corresponding to the object.

The principles laid down are general and are intended to be applicable to all technical areas. They can be used for systems based on different technologies or for systems combining several technologies.

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2 Normative references

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The following normative documents contain provisions, which through reference in this text, constitute provisions of this part of IEC 1346. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 1346 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid normative documents.

IEC	1346-2	: 199x	<i>Structuring Principles and Reference Designations. Part 2: Classification of objects and codes for classes (under consideration)</i>
ISO/IEC	646	: 1991,	<i>Information technology - ISO 7-bit coded character set for information interchange</i>
ISO	3166	: 1993,	<i>Codes for the representation of names of countries</i>
ISO	4157-1	: 1980,	<i>Building drawings - Part 1: Designation of buildings and parts of buildings</i>
ISO	4157-2	: 1982,	<i>Technical drawings - Construction drawings - Designation of buildings and parts of buildings - Part 2: Designation of rooms and other areas</i>

3 Definitions

For the purposes of this part of IEC 1346, the following definitions apply.

3.1 object: Entity treated in the process of design, engineering, realization, operation, maintenance and demolition.

NOTES

- 1 The entity may refer to a physical or non-physical "thing", or to a set of information associated with it.
- 2 Depending on its purpose, an object may be viewed in different ways called "aspects" (see 3.3).

3.2 system: Set of interrelated objects.

NOTES

- 1 Examples of a system: a drive system, a water supply system, a stereo system, a computer.
- 2 When a system is part of another system, it may be considered as an object.

3.3 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).

3.4 function: Purpose related to an object.

3.5 product: Intended or accomplished result of labour, or of a natural or artificial process.

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NOTES

- 1 A product usually has a part number, order number, type designation, and/or a name.
- 2 A technical system or plant can be considered as a product.

3.6 structure: Organization of relations among objects of a system describing constituency–relations (consist of / is a part of).

3.7 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.

3.8 single-level reference designation: Reference designation assigned with respect to the object of which the specific object is a direct constituent.

3.9 multi-level reference designation: Reference designation derived from a structural path through an overall system.

3.10 reference designation set: Set of reference designations of which at least one unambiguously identifies the object of interest.

NOTE - Other members of the set need not necessarily identify the object of interest but other objects of which it is a constituent.

3.11 reference designation group: Set of reference designations that as a whole unambiguously identify the object of interest and where none of the reference designations in the set by themselves unambiguously identifies that object.

4 Structuring principles

4.1 General

In order for a system to be efficiently designed, manufactured, serviced or operated the system and the information about the system are normally divided into parts. Each of these parts can be further divided. This successive subdivision into parts and the organization of those parts is called structuring.

An established structure is reflected in:

- the structure of the information about the system, i.e. how the information is distributed among different documents and/or information systems;
- the structure of the contents within each document (see for example IEC 1082-1 [2]);
- the construction of reference designations (see clause 5).

It is, of course, also reflected in the system or installation itself.

A system, as well as each constituent object, can be viewed in many ways called aspects, as shown in figure 1, such as:

- what it does;
- how it is constructed;
- where it is located.

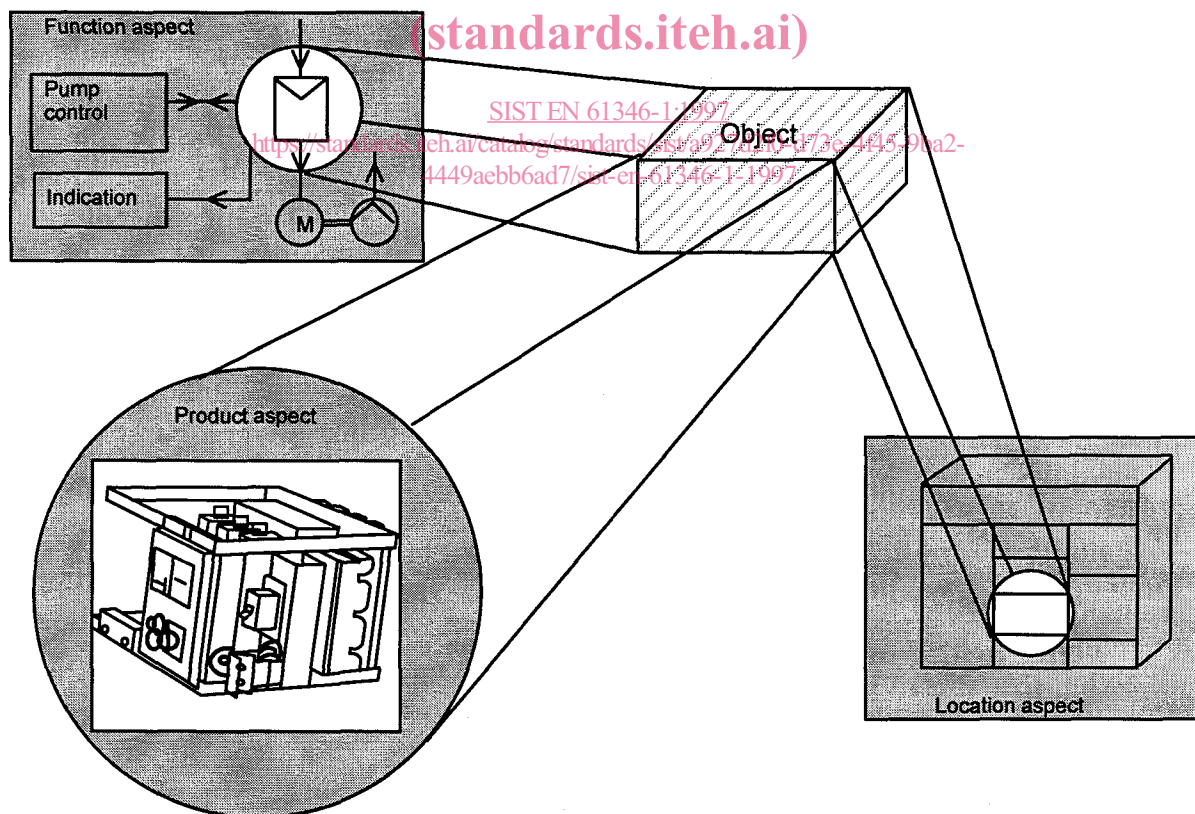


Figure 1 - Aspects of an object

The information of relevance and the structuring of objects within a system may differ considerably depending on the aspect applied. Each aspect will therefore require a separate structure.

With respect to the three types of aspects considered, this standard describes the corresponding structures:

- function-oriented structure (see 4.2);
- product-oriented structure (see 4.3);
- location-oriented structure (see 4.4).

Other types of aspects and structures exist, such as for project management and material classification, which may be the basis for other designation systems. These are not treated in this standard.

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4.2 Function-oriented structure

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.

Figure 2 illustrates a function-oriented structure.

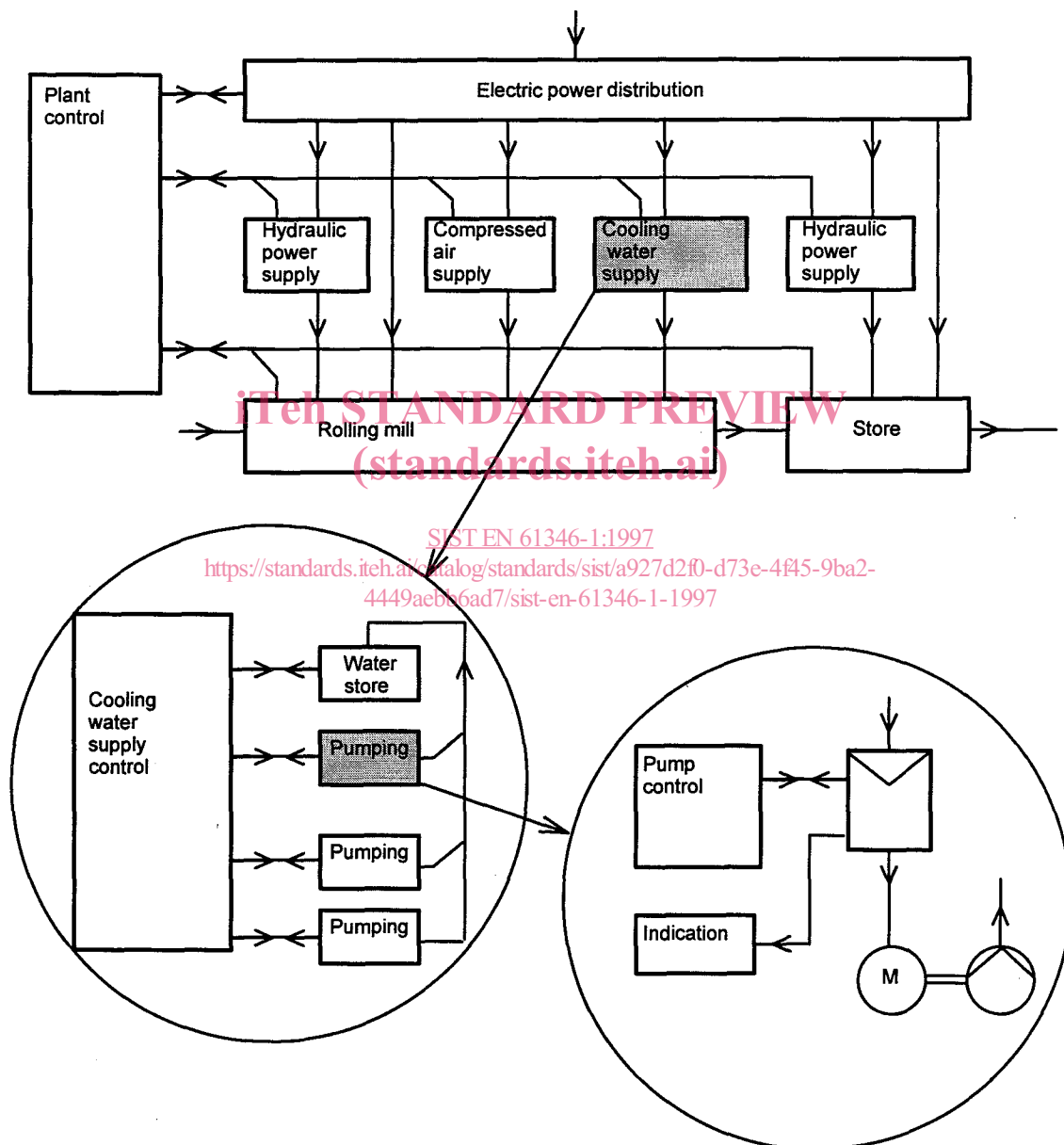


Figure 2 - Illustration of a function-oriented structure