SLOVENSKI STANDARD
SIST EN IEC 81346-2:2019

01-november-2019

Nadomešča:
SIST EN 81346-2:2009

Industrijski sistemi, inštalacije in oprema ter industrijski izdelki - Načela strukturiranja in referenčne oznake - 2. del: Razvrščanje objektov v razrede in njihove kode (IEC 81346-2:2019)

Industrial systems, installations and equipment and industrial products - Structuring principles and reference designations - Part 2: Classification of objects and codes for classes (IEC 81346-2:2019)

Industrielle Systeme, Anlagen und Ausrüstungen und Industrieprodukte - Strukturierungsprinzipien und Referenzkennzeichnung - Teil 2: Klassifizierung von Objekten und Kennbuchstaben für Klassen (IEC 81346-2:2019)

Systèmes industriels, installations et appareils, et produits industriels - Principes de structuration et désignations de référence - Partie 2: Classification des objets et codes pour les classes (IEC 81346-2:2019)

Ta slovenski standard je istoveten z: **EN IEC 81346-2:2019**

ICS:

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

SIST EN IEC 81346-2:2019 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 81346-2

August 2019

ICS 01.110; 29.020

Supersedes EN 81346-2:2009 and all of its amendments and corrigenda (if any)

English Version

Industrial systems, installations and equipment and industrial products - Structuring principles and reference designations - Part 2: Classification of objects and codes for classes (IEC 81346-2:2019)

Systèmes industriels, installations et appareils, et produits industriels - Principes de structuration et désignations de référence - Partie 2: Classification des objets et codes pour les classes
(IEC 81346-2:2019)

Industrielle Systeme, Anlagen und Ausrüstungen und Industrieprodukte - Strukturierungsprinzipien und Referenzkennzeichnung - Teil 2: Klassifizierung von Objekten und Kennbuchstaben für Klassen
(IEC 81346-2:2019)

This European Standard was approved by CENELEC on 2019-07-23. 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.

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CENELEC

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

The text of document 3/1393/FDIS, future edition 2 of IEC 81346-2, prepared by IEC/TC 3 "Information structures and elements, identification and marking principles, documentation and graphical symbols" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 81346-2:2019.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2020-04-23
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-07-23

This document supersedes EN 81346-2:2009 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 81346-2:2019 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60898 (series)	NOTE	Harmonized as EN 60898 (series)
ISO 12006-2:2015	NOTE	Harmonized as EN ISO 12006-2[1] (not modified)

[1] Under preparation. Stage at the time of publication: prEN ISO 12006-2:2019.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 81346-1	2009	Industrial systems, installations and equipment and industrial products - Structuring principles and reference designations - Part 1: Basic rules	EN 81346-1	2009

IEC 81346-2

Edition 2.0 2019-06

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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HORIZONTAL STANDARD
NORME HORIZONTALE

Industrial systems, installations and equipment and industrial products – Structuring principles and reference designations – Part 2: Classification of objects and codes for classes

Systèmes industriels, installations et appareils, et produits industriels – Principes de structuration et désignations de référence – Partie 2: Classification des objets et codes pour les classes

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CONTENTS

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

Part 2: Classification of objects and codes for classes

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of 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, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 81346-2 has been prepared by IEC technical committee 3: Information structures and elements, identification and marking principles, documentation and graphical symbols, in cooperation with ISO technical committee 10: Technical product documentation.

It is published as a double logo standard.

It has the status of a horizontal standard in accordance with IEC Guide 108.

This second edition cancels and replaces the first edition published in 2009. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) The entry classes of the classification scheme have been defined to reflect the “inherent function” of the object classified;

b) The classes are defined to align with the principles of ISO 22274 and ISO 704;

c) A three-level classification scheme has been defined, which provides a greater flexibility for the designer in some technical fields;

d) Classes are defined by their definition and provided with a preferred term. Examples are provided if needed;

e) A separate classification scheme for spaces has been provided.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
3/1393/FDIS	3/1402/RVD

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

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

A list of all parts in the IEC 81346 series, published under the general title *Industrial systems, installations and equipment and industrial products – Structuring principles and reference designations*, can be found on the IEC website.

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

The aim of this document is to establish classification schemes for objects with assigned letter codes for the defined classes, which can be applied throughout all technical areas, e.g. electric, mechanical, process and civil engineering as well as all branches of industry, e.g. energy, chemical, construction, automotive, shipbuilding and marine. The letter codes are intended for use with the rules for the construction of reference designations in accordance with IEC 81346-1 and other parts of the ISO/IEC 81346 series. The letter codes can also be used ”stand-alone” as a generic type designation where a type of component is to be indicated, for example in specifications.

The classification scheme in Clause 5 of this document is an enumerative and faceted classification scheme with the inherent function as the entry class. It is made in accordance with the rules in ISO 704 and the guidelines in ISO 22274.

At the entry level, as shown in Table 1, the inherent function is used to narrow down the areas of applicability of the individual classes to a manageable size. For the sub-divisions of the entry classes, faceted approaches are applied to specify the nature of the concepts contained in the leaf classes.

By applying this method, this document provides stable class codes for objects (including systems and system elements), which are independent of how the objects are used or applied in any design during the entire lifecycle.

Any class is defined by its definition only. Users should select the appropriate class for their object to be classified based on the definition, and not rely upon the class name or the examples.

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

Part 2: Classification of objects and codes for classes

1 Scope

This part of IEC 81346 establishes classification schemes with defined object classes and their associated letter codes, and is primarily intended for use in reference designations and for designation of generic types.

The classification schemes are applicable for objects in all technical disciplines and all branches of industry.

This document is a horizontal publication also intended for use by technical committees in preparation of publications related to reference designations in accordance with the principles laid down in IEC Guide 108.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

IEC 81346-1:2009, *Industrial systems, installations and equipment and industrial products – Structuring principles and reference designations – Part 1: Basic rules*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 81346-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
inherent function
function of an object, independent of any application of the object

Note 1 to entry: Inherent is regarded as existing in something as a permanent, essential, or characteristic attribute.

3.2
classification scheme
descriptive information for an arrangement or division of objects into groups based on criteria such as characteristics, which the objects have in common

Note 1 to entry: A classification scheme is a concept system used for classifying some objects.

[SOURCE: ISO/IEC 11179-1:2015, 3.3.4, modified – examples deleted.]

3.3
class of object
set of objects characterized by the same inherent function

3.4
space
limited three-dimensional extent defined physically or notionally

[SOURCE: ISO 12006-2:2015, 3.1.8]

3.5
type-of relation
relation between two classes where the characteristics defining one of the classes includes that of the other class and at least one additional delimiting characteristic

Note 1 to entry: This term corresponds to the term "generic relation" defined in ISO 1087-1:2000, 3.2.21.

3.6
part-of relation
relation between two classes where one of the classes constitutes the whole and the other class a part of that whole

Note 1 to entry: This term corresponds to the term "partitive relation" defined in ISO 1087-1:2000, 3.2.22.

Note 2 to entry: Part-of relation is also known as partitive relation, part-whole relation or whole-part relation.

Note 3 to entry: See also IEC 81346-1.

3.7
activity space
space defined by the spatial extension of an activity

Note 1 to entry: A spatial extension of an activity, for example, a table or a bed, and the activity space around them.

[SOURCE: ISO 12006-2:2015, 3.1.9]

3.8
built space
space defined by built or natural environment or both, intended for user activity or equipment

Note 1 to entry: A built space is, for example, a room defined by floor, ceiling, and wall, or a footpath, or power-line corridor defined by a natural forest.

Note 2 to entry: Spaces occupied by construction elements are known as construction spaces, and are handled as properties of construction elements themselves.

[SOURCE: ISO 12006-2:2015, 3.4.4]

4 Classification principles

4.1 General

The purpose of classifying is to distinguish among objects in a collection based on differentiation of characteristics of interest. Classes are organized in type-of relations and are defined by different values of a specific characteristic of interest.

The classification in this document is made with an entry class based on function in a broad sense. This is in accordance with ISO 22274:2013, 5.4.4 which recommends an enumerative and faceted classification system with an entry class.

When a class code is applied in a reference designation, the purpose is to classify the occurrence of the object, not the individual, as described in IEC 81346-1:2009, 4.8 and Table 1 (general rules). In such a situation, the object is generally specified and assigned its inherent function in the design stage of the project. Classes can also be used by manufacturers to show multiple potential use of a product. In this way, the classification can enhance searchability.

The class name (preferred term) assigned to the classes and the examples of terms provided in this document are based on the inherent function of an object, i.e. independent of any application.

This classification scheme ensures a life cycle stable class code, as the stable object occurrence is classified by the stable inherent function of the object occurrence: A stake is a stake, a door is a door and so on, no matter what individual is used to realize the occurrence.

Objects related to a class may be considered as a discrete collection of objects, and may therefore be further classified into sub-classes based on the differentiation of a specific characteristic. In this document, this has resulted in a classification scheme starting with classes representing general types based on function in a broad sense (1st letter code), continuing into classes representing types that are more specialized in two steps, represented by 2nd and 3rd class code.

All examples and terms in the classification scheme of this document are recognized as being used to name a member of their class. As different branches have different usage of terminology, the same example or term might occur in different classes.

4.2 Relation between classification and composition

IEC 81346-1 defines rules on how an object may be structured into its constituent objects resulting in a composition hierarchy. For the purpose of classifying objects, this document defines classes and codes that results in a classification hierarchy, see Figure 1, which is a copy of Figure 2 in 4.2 of ISO 12006-2:2015.

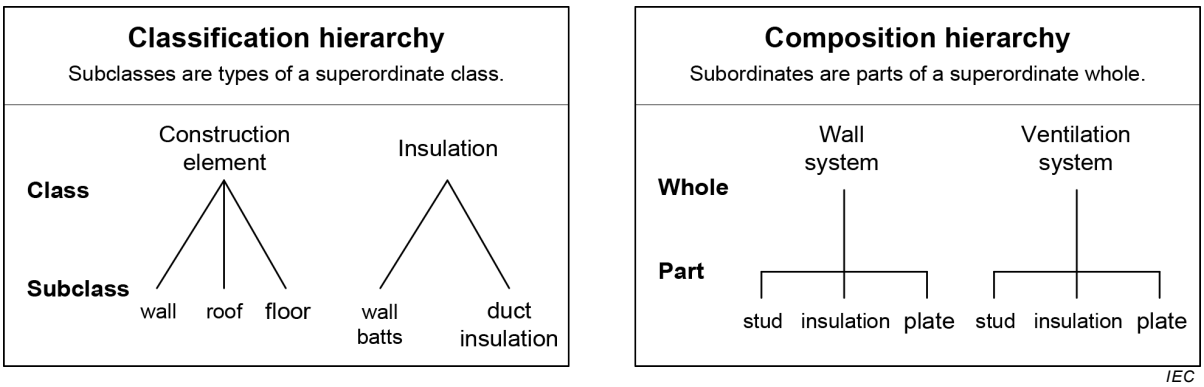

Figure 1 – Illustration of a classification hierarchy and a composition hierarchy

4.3 Classification schemes of this document

This document provides different classification schemes of objects primarily intended for use in reference designations, based on the basic requirements given in Annex E. The provided classification schemes are:

- inherent function of objects, see Clause 5;
- spaces, see Clause 6;
- infrastructure objects, see Clause 7.

The content of any class is determined by the definition of the class only. A preferred term determines the class in daily use and forms part of the definition of subclasses. The classification tables of this document are considered to be complete, and therefore no "miscellaneous" or "other" classes are present. If no appropriate class for an object-of-interest can be found on a sub or sub-sub level, objects shall be classified to the higher level i.e. to the sub-class or entry class.

This document provides classification schemes with multiple classification levels. The user may choose to apply letter codes using

- a single letter, representing the entry class; or
- two letter code, representing a sub-class in the scheme; or
- three letter code, representing a sub-sub-class in the scheme.

5 Classification scheme for the inherent function of objects

5.1 General

The classification scheme defined in this clause is based on the inherent function of objects.

The classification scheme has a hierarchical classification structure that constitute three levels from top to lower.

The entry classes and their respective subclasses are defined considering the inherent function of objects, based on the knowledge of the use of objects in existing designs, and the classification schemes defined in IEC 81346-2:2009.

NOTE 1 When the classification scheme shown in Table 1 and Table 2 refer to high voltage (HV) or low voltage (LV), high voltage is considered to be any voltage > 1 000 V AC or > 1 500 V DC. Low voltage is considered to be any voltage ≤ 1 000 V AC or ≤ 1 500 V DC. These voltage limits are in accordance with IEC 61140.

NOTE 2 In Annex D the difference between the classification scheme and classes in IEC 81346-2:2009 and the classification scheme and classes of this publication is given.

5.2 Entry classes

Table 1 defines the entry classes for the classification scheme for inherent function of objects.