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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

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

This draft is submitted to a parallel vote in ISO and in IEC.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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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

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IEC 81346-2 has been prepared by IEC technical committee 3: Documentation, graphical symbols and representations of technical information, in cooperation with ISO technical committee 10: Technical product documentation. It is an International Standard.

It is published as a double logo standard.

This document has been given the status of a horizontal document in accordance with the ISO/IEC Directives, Part 1.

This third edition cancels and replaces the second edition published in 2019. This edition constitutes a technical revision.

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

a) existing class definitions have been reviewed and further clarified;

b) Table 2 in this document has been updated to include the information from Table 3 in the previous edition;

c) Table 2 in this document has been further updated with the addition of new classes, modification of class names, and identification of obsolete classes;

d) Table 4 in the previous edition is moved to become Table 5 in this document and has been updated with the addition of new classes, modification of class names, and identification of obsolete classes;

e) additional examples have been added to several classes;

f) new classification schemes for construction complexes and construction entities have been added as Table 3 and Table 4, respectively, intended to replace the classification tables in ISO 81346-10:2022, Annex C;

g) the former Clause 7 "Classification of objects applicable for infrastructure" and the former Annex C "Object classes related to objects in a generic infrastructure" have been deleted following the publication of ISO 81346-10, ISO 81346-12 and IEC 81346-14;

h) the former Annex D "Comparison between Tables 1, 2 and 3 of IEC 81346-2:2019 and Tables 1 and 2 of IEC 81346-2:2009" has been deleted as this document is a revision of IEC 81346-2:2019 and therefore not necessary to maintain.

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

Draft	Report on voting
3/XX/FDIS	3/XX/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

NOTE In this document, the following print types are used:

– italic type is used in the classification schemes to indicate the name of the parent class when used in the definition of a subclass;

– bold type is used in the classification schemes to indicate the class codes;

– a grey colour is used in the classification schemes to indicate that a class is considered to be obsolete, i.e. that the class should no longer be used;

– in Table 2, Table 4 and Table 5, the table headings and rows for the entry classes and subclasses (except for Table 4) are given different colours to increase the readability of the tables.

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 webstore.iec.ch in the data related to the specific document. At this date, the document will be

– reconfirmed,
– withdrawn, or
– revised.

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 established 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.

1 Scope

This part of 81346 International Standard, published jointly by IEC and ISO, establishes classification schemes with defined object classes and their associated letter codes. The codes are 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 also a horizontal publication intended for use by technical committees in the 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 81346-1:2022, *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 81346-1:2022 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 11179-3:2023, 3.2.5, modified – Examples have been deleted.]

3.3
class of object
set of objects characterized by the same inherent function (3.1)

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 12006-2:2015, 3.1.4.

3.6
activity space
space (3.4) 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]

3.7
construction complex
aggregate of one or more construction entities (3.8) intended to serve at least one function or user activity

Note 1 to entry: A construction complex can be analysed and the construction entities that go to make it up, can be identified; e.g. an airport typically is composed of the construction entities runway, control tower, terminal building, aircraft hangar, etc. A business park typically is composed of a number of buildings, access roads and landscaping (each a construction entity in its own right). A motorway from A to B typically is composed of service stations, the motorway pavement, bridges, embankments, landscaping, etc.

[SOURCE: ISO 12006-2:2015, 3.4.1]

3.8
construction entity
independent unit of the built environment with a characteristic form and spatial structure, intended to serve at least one function or user activity

Note 1 to entry: A construction entity is the basic unit of the built environment. It is recognizable as a physically independent construction even though a number of construction entities can be seen as parts of a particular construction complex. Ancillary works such as access roads, landscaping, service connections, can be regarded as part of a construction entity. Conversely, when ancillary works are of sufficient scale they can be regarded as construction entities in their own right.

[SOURCE: ISO 12006-2:2015, 3.4.2, modified – the words "might" and "may" have been replaced by "can".]

3.9
infrastructure
system of facilities, equipment and services needed for the operation of society or an organization

[SOURCE: ISO 9000:2015, 3.5.2, modified – "an organization" has been replaced by "society or an organization".]