

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

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 81346-2:2009 sisaldab Euroopa standardi EN 81346-2:2009 ingliskeelset teksti.

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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
(IEC 81346-2:2009)**

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
(CEI 81346-2:2009)

Industrielle Systeme, Anlagen
und Ausrüstungen und Industrieprodukte -
Strukturierungsprinzipien
und Referenzkennzeichnung -
Teil 2: Klassifizierung von Objekten
und Kennbuchstaben für Klassen
(IEC 81346-2:2009)

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CENELEC

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

Central Secretariat: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 3/945/FDIS, future edition 1 of IEC 81346-2, prepared by IEC TC 3, Information structures, documentation and graphical symbols, and ISO TC 10, Technical product documentation, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 81346-2 on 2009-08-01.

This European Standard supersedes EN 61346-2:2000.

EN 81346-2:2009 includes the following technical changes with respect to EN 61346-2:2000:

- all rules concerning the application of letter codes have been removed as these should be included in another publication dealing with the application of letter codes within reference designations.

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) 2010-05-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2012-08-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 81346-2:2009 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

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 81346-1	- ¹⁾	Industrial systems, installations and equipment and industrial products - Structuring principles and reference designations - Part 1: Basic rules	EN 81346-1	2009 ²⁾
ISO 14617-6	2002	Graphical symbols for diagrams - Part 6: Measurement and control functions	-	-

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

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INTRODUCTION

0.1 General

The aim of this part of IEC 81346 is to establish classification schemes for objects with associated letter codes which can be applied throughout all technical areas, e.g. electrical, mechanical and civil engineering as well as all branches of industry, e.g. energy, chemical industry, building technology, shipbuilding and marine technology. The letter codes are intended for use with the rules for the construction of reference designations in accordance with IEC 81346-1.

Annex A illustrates how objects may be classified according to their intended purpose or task related to a generic process.

Annex B illustrates how objects may be classified according to their position in an infrastructure.

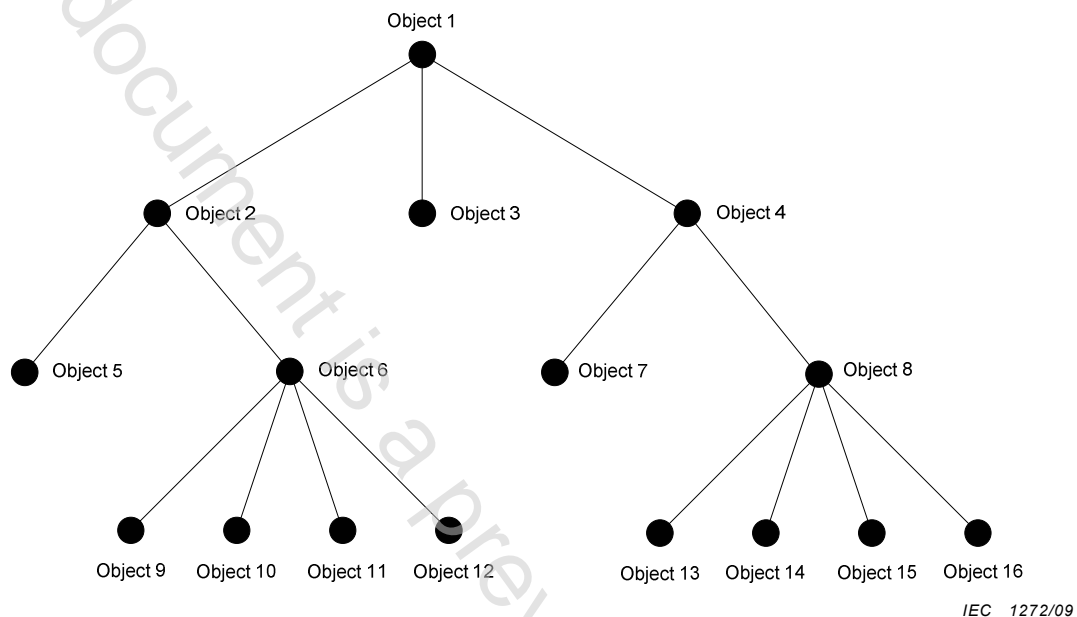
0.2 Basic requirements for this standard

The basic requirements were developed during the preparation of IEC 61346-2 Ed. 1, and accepted by vote by the national committees.

NOTE These basic requirements concern the development of the letter code classification system in this standard and not its application. They are therefore not normative vis-à-vis the application of this standard.

- (1) Letter codes shall be based on a classification scheme.
- (2) A classification scheme is the set of definitions for the types of objects (for example, a classification scheme for function types containing the definition of the different function types of objects).
- (3) A classification scheme shall allow for hierarchical classification of types of objects, i.e. subclasses and superclasses.
- (4) A letter code for a type of object shall be independent of the actual position of the instances of that type of object in a system.
- (5) Distinct classes shall be defined on each level of the classification scheme.
- (6) The definitions of the classes of a particular level within a classification scheme shall have a common basis (for example, a classification scheme that, on one level, classifies objects according to colour shall not contain classes that classify objects by shape). The basis, however, may vary from one level to another.
- (7) A letter code should indicate the type of object and not an aspect of this object.
- (8) A classification scheme shall allow for expansion in order to take into account future development and needs.
- (9) A classification scheme shall be usable within all technical areas without favouring a specific area.
- (10) It shall be possible to use the letter codes consistently throughout all technical areas. The same type of object should preferably have only one letter code independent of the technical area where it is being used.
- (11) It should be possible to indicate in a letter code from which technical area the object originates, if this is wanted.
- (12) A classification scheme should reflect the practical application of letter codes.
- (13) Letter codes should not be mnemonic, as this cannot be implemented consistently throughout a classification scheme and for different languages.
- (14) Letter codes shall be formed using capital letters from the Latin alphabet, excluding I and O due to possible confusion with the digits 1 (one) and 0 (zero).

- (15) Different classification schemes shall be allowed and be applicable for the same type of object.
- (16) Objects may be classified for example according to function types, shapes, colours, or material. This means that the same type of object may be assigned different letter codes according to the different classification schemes.
- (17) Objects that are directly constituents of another object using the same aspect shall be assigned letter codes according to the same classification scheme as shown in Figure 1. See also Figure A.1.



Objects 2, 3, and 4, which are direct constituents of object 1, shall be assigned letter codes from the same classification scheme.

Objects 5 and 6, which are direct constituents of object 2, shall be assigned letter codes from the same classification scheme.

Objects 7 and 8, which are direct constituents of object 4, shall be assigned letter codes from the same classification scheme.

Objects 9, 10, 11, and 12, which are direct constituents of object 6, shall be assigned letter codes from the same classification scheme.

Object 13, 14, 15, and 16, which are direct constituents of object 8, shall be assigned letter codes from the same classification scheme.

Figure 1 – Constituent objects

- (18) If products from different manufacturers are combined into a new product, the constituents of this product may be assigned codes according to different classification schemes.

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 International Standard 81346, published jointly by IEC and ISO defines classes and subclasses of objects based on a purpose- or task-related view of the objects, together with their associated letter codes to be used in reference designations.

The classification is applicable for objects in all technical areas, e.g. electrical, mechanical and civil engineering as well as all branches of industry, e.g. energy, chemical industry, building technology, shipbuilding and marine technology, and can be used by all technical disciplines in any design process.

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.

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

ISO 14617-6:2002 *Graphical symbols for diagrams – Part 6: Measurement and control functions*

3 Terms and definitions

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

4 Classification principles

4.1 General

The principle of classification of objects is based on viewing each object as a means for performing an activity often with input and output (see Figure 2). In this respect, the internal structure of an object is not important.

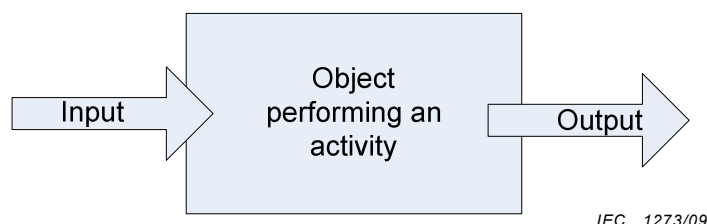


Figure 2 – The basic concept