

English Version

Industrial systems, installations and equipment and industrial
products -Classification and designation of information -Part 1:
Basic rules and classification of information
(IEC 81355-1:2024)

Systèmes industriels, installations et matériels et produits
industriels -Classification et désignation des informations-
Partie 1: Règles de base et classification des informations
(IEC 81355-1:2024)

Industrielle Systeme, Installationen, Ausrüstungen und
Industrieprodukte -Klassifikation und Zuordnung von
Informationsinhalten -Teil 1: Grundregeln
(IEC 81355-1:2024)

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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

European foreword

The text of document 3/1651/FDIS, future edition 1 of IEC 81355-1, prepared by TC3 "Documentation, graphical symbols and representations of technical information" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 81355-1:2025.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2026-01-31 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2028-01-31 document have to be withdrawn

This document supersedes EN 61355-1:2008 and all of its amendments and corrigenda (if any).

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The text of the International Standard IEC 81355-1:2024 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 standard indicated:

IEC 62023:2011 NOTE Approved as EN 62023:2012 (not modified)

IEC 82045-1:2001 NOTE Approved as EN 82045-1:2001 (not modified)

IEC 82045-2:2004 NOTE Approved as EN 82045-2:2005 (not modified)

ISO 19650-1:2018 NOTE Approved as EN ISO 19650-1:2018 (not modified)

Version française

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Industrial systems, installations and equipment and
industrial products - Classification and designation of
information - Part 1: Basic rules and classification of
information
(IEC 81355-1:2024)

La présente Norme Européenne a été adoptée par le CENELEC le 2025-01-10. Les membres du CENELEC sont tenus de se soumettre au Règlement Intérieur du CEN/CENELEC, qui définit les conditions dans lesquelles doit être attribuée, sans modification, le statut de norme nationale à cette Norme Européenne.

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Europäisches Komitee für Elektrotechnische Normung
European Committee for Electrotechnical Standardization

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

Avant-propos européen

Le texte du document 3/1651/FDIS, future édition 1 de IEC 81355-1, préparé par le CE 3 de IIEC, "Structures d'informations, documentation et symboles graphiques", a été soumis au vote parallèle IEC-CENELEC et approuvé par le CENELEC en tant que EN IEC 81355-1:2025.

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- date limite à laquelle ce document doit être mis en application au (dop) 2026-01-31
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- date limite à laquelle les normes nationales conflictuelles doivent être (dow) 2028-01-31
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Dans la version officielle, ajouter dans la Bibliographie la note suivante pour la norme indiquée:

IEC 62023:2011 NOTE Approuvée comme EN 62023:2012(non modifiée)

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IEC 82045-2:2004 NOTE Approuvée comme EN 82045-2:2005(non modifiée)

ISO 19650-1:2018 NOTE Approuvée comme EN ISO 19650-1:2018(non modifiée)



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Edition 1.0 2024-12

INTERNATIONAL STANDARD

NORME INTERNATIONALE



HORIZONTAL STANDARD
NORME HORIZONTALE

Industrial systems, installations and equipment and industrial products -
Classification and designation of information -
Part 1: Basic rules and classification of information

Systèmes industriels, installations et matériels et produits industriels -
Classification et désignation des informations -
Partie 1: Règles de base et classification des informations



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Edition 1.0 2024-12

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

INDUSTRIAL SYSTEMS, INSTALLATIONS AND EQUIPMENT AND INDUSTRIAL PRODUCTS - CLASSIFICATION AND DESIGNATION OF INFORMATION -

Part 1: Basic rules and classification of information

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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IEC 81355-1 has been prepared by IEC technical committee 3: Documentation, graphical symbols and representations of technical information, in close cooperation with ISO technical committee 10: Technical product documentation.

It is published as a double logo standard and has the status of a horizontal publication in accordance with IEC Guide 108.

This edition cancels and replaces the second edition of IEC 81355-1 published in 2008. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to IEC61355-1:2008:

- a)focusing on classification of information rather than classification of document kinds;
- b)introduced a classification scheme based on inherent content of information;
- c)introduced a distinction between an information container and a document,the latter being for human perception;
- d)introduction of information kind classification code(ICC),replacing document kind classification code(DCC);
- e)introduced structuring of information containers;
- f) introduced an information model of the concepts dealt with;
- g)introduced a conversion table for merging from the use of DCC to the use of ICC.

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

Draft	Report on voting
3/1651/FDIS	3/1680/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.In ISO,the standard has been approved by 9 members out of 10 having cast a vote.

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

A list of all parts in the IEC 81355 series,published under the general title *Industrial systems, installations and equipment and industrial products -Classification and designation of information*,can be found on the IEC website.

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.

In this document,italic type is used as follows:

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- in the description of the EXPRESS model,entity names and attribute identifiers.

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.

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INTRODUCTION

Information is necessary for all activities during the life cycle of industrial systems, installations, equipment and industrial products. It may be produced in any phase or activity. Information may be received from and delivered to other parties, and different parties may need different information for the same object, depending on what is most suitable for their need.

This document is based on IEC 61355-1:2008 and the IEC 61355 DB standards, but it is now a new joint ISO and IEC document. As a new joint document, this document clarifies key concepts related to information and the designation of sets of information exchanged between parties, as represented by the focus on classification of information and the shift in focus from "documents" to "information containers".

Notably the paper-based presentation of information that was used as a basis for classification in IEC 61355-1:2008 is no longer present in this document. Instead, this document provides "information kind classification codes (ICC)" to be used in the designation of information containers, thereby replacing the previous "document kind class codes (DCC)" of IEC 61355-1:2008.

One aim of this document is to support the unambiguous exchange of information for the purpose of communication and understanding between parties. For this purpose, what the set of information is called in daily life is disregarded. Instead, the basis of understanding is based on a classification of the kind of information managed and exchanged between parties.

Another aim of this document is to set up rules for a specific method of correlating information and objects, i.e., to indicate to which object a specific set of information relates. For this purpose, a concept for designation of information containers is provided. Also, a concept for relating information containers to one or more objects is provided. By this, support is also provided for the structuring, storage and retrieval of information based on the information content of an information container and the object to which the information relates.

**INDUSTRIAL SYSTEMS, INSTALLATIONS
AND EQUIPMENT AND INDUSTRIAL PRODUCTS-
CLASSIFICATION AND DESIGNATION OF INFORMATION-**

Part 1: Basic rules and classification of information

1 Scope

This part of the 81355 International Standard, published jointly by IEC and ISO, provides rules and guidelines for the classification and designation of information containers based on their inherent content. This document is applicable for information used in the life cycle of a system, e.g., industrial plants, construction entities and equipment.

This document defines classes of information and their information kind classification code (ICC). The defined classes and codes provided are used as values associated with metadata, e.g., in information management systems (see IEC 82045-1 and IEC 82045-2).

The rules, guidelines and classes are general and are applicable to all technical areas, for example, mechanical engineering, electrical engineering, construction engineering and process engineering. They can be used for systems based on different technologies or for systems combining several technologies.

This document also has the status of a horizontal publication in accordance with IEC Guide 108. It is intended for use by technical committees in preparation of publications related to classification and designation of information.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

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

3.1 information

intelligence or knowledge capable of being represented in forms suitable for communication, storage or processing

Note 1 to entry: Information may be represented for example by signs, symbols, pictures or sounds.

[SOURCE: IEC 60050-701:1988, 701-01-01]

3.2

object

entity involved in a process of development, implementation, usage, and disposal

Note 1 to entry: An object is something abstract or physical toward which thought, feeling, or action is directed.

Note 2 to entry: The object has information (3.1) associated to it.

[SOURCE: IEC 81346-1:2022, 3.1]

3.3

system

set of interrelated objects (3.2) considered in a defined context as a whole and separated from their environment

Note 1 to entry: A system is generally defined with the view of achieving a given objective, e.g. by performing a definite function.

Note 2 to entry: Elements of a system may be natural or man-made material objects, as well as modes of thinking and the results thereof (e.g., forms of organisation, mathematical methods, programming languages).

Note 3 to entry: The system is considered to be separated from the environment and from the other external systems by an imaginary boundary, through which the system is related to the external systems.

Note 4 to entry: The term "system" should be qualified when it is not clear from the context to what it refers, e.g. control system, colorimetric system, system of units, transmission system.

Note 5 to entry: When a system is part of another system, it may be considered as an object as defined in this document.

[SOURCE: IEC 81346-1:2022, 3.2]

3.4

data

representation of information (3.1) in a formalized manner suitable for human or automatic processing

Note 1 to entry: Processing includes communication and interpretation.

Note 2 to entry: In English, the word "data" is generally used in plural form. For use in singular form, it can be called "data item".

[SOURCE: IEC 60050-171:2019, 171-01-02]

3.5

data element

data item (3.4) that is considered to be indivisible in a certain context

[SOURCE: IEC 60050-171:2019, 171-02-01, modified -The example and note have been deleted.]

3.6

record

set of data elements (3.5), treated as a whole

[SOURCE: IEC 60050-171:2019, 171-02-28, modified -The domain and note have been deleted.]

3.7**file**

set of related records (3.6)treated as a whole

[SOURCE:IEC 60050-171:2019,171-02-30]

3.8**inherent content**

subject of information (3.1),independent of any use of the information (3.1)

Note 1 to entry: The word inherent" is regarded as existing in something as a permanent,essential,or characteristic attribute.

3.9**information class**

kind of information (3.1)characterized by its inherent content (3.8)

3.10**information container**

named persistent set of information (3.1)retrievable from within a file(3.7),system(3.3)or application storage hierarchy

EXAMPLE Including sub-directory,information file(including model,document,table,schedule),or distinct sub-set of an information file such as a chapter or section,layer,or symbol.

Note 1 to entry: Structured information containers include geometrical models,schedules and databases. Unstructured information containers include documentation,video clips and sound recordings.

Note 2 to entry: Persistent information exists over a timescale long enough for it to have to be managed,i.e.this excludes transient information such as internet search results.

Note 3 to entry: Naming of an information container should be according to an agreed naming convention.

Note 4 to entry:An information container can include other information containers(sub-containers).

[SOURCE:ISO 19650-1:2018,3.3.12,modified-Note 4 to entry added.]

3.11**object designation**

unambiguous identifier of an object (3.2)in a given context

Note 1 to entry: Examples of such designations are reference designation,type number,serial number,name.

3.12**document**

information container (3.10)presented in a format suitable for human perception

3.13**documentation**

collection of documents (3.12)related to a given object

4 General concepts**4.1 General**

Information is necessary for different activities and purposes during the life cycle of a system. Information is often transmitted and stored using specific terms,serving different purposes. These terms are often defined and understood only in a certain context,which can lead to misunderstandings for the recipient of the information.

This document provides a classification scheme to structure and sort large amounts of information into groups, based on the type of information. Each of these groups is characterised by an unambiguous definition in a clear hierarchy. The user of this document can link additional information terms by relating any new term to the class defining the kind of information and thereby expand the use and application of this document.

Annex A shows the information model of the concept of this document.

In the context of this document, it is necessary to distinguish between the following concepts and their interrelationship:

- object;
- information;
- information class;
- information container;
- information container designation;
- information storage;
- document.

Figure 1 shows the relationship between the concepts, where information related to an object is stored as an information container in a data storage and presented as a document.

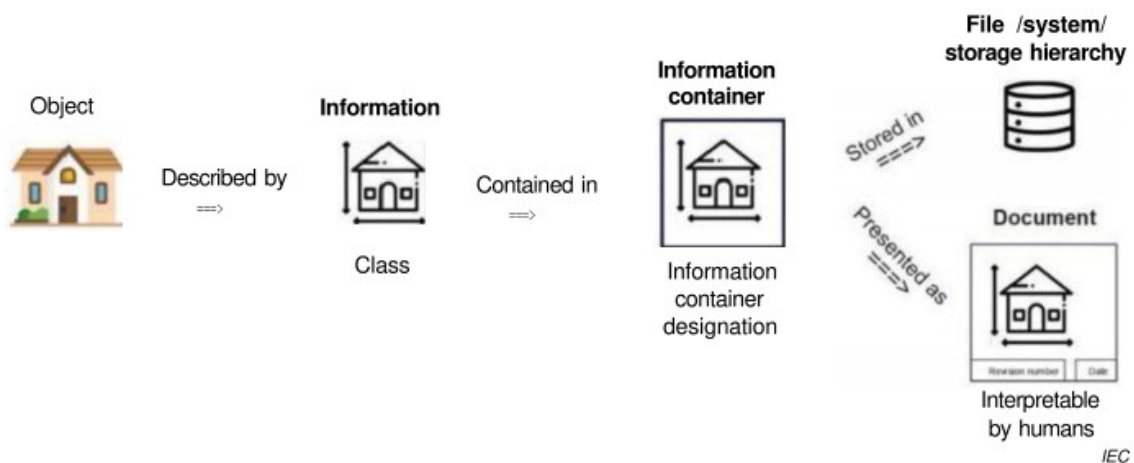


Figure 1-Interrelation of concepts

4.2 Classification principles

This document defines hierarchical classes of information based on its inherent content—"what the information is about in itself"—as distinct from what it is intended or used for.

Each class within the hierarchy has a letter code which designates an entry class and its subclass. This letter code is called an information kind classification code, which in this document is abbreviated "ICC". As the ICC is recognized by non-verbatim letter codes (A, B, C, etc.), the ICC itself becomes a natural designation for recognition of information across national borders, languages, and technical disciplines, thus creating a common language for exchange of information.

NOTE The former document kind classification code (DCC) provided in IEC 61355-1 is in this document replaced with "ICC", as the aim of this document is to classify information in a broad sense, as distinct from documentation presenting the information in a certain form only. However, the meaning behind former DCC codes is to the extent possible transferred to ICC codes in this document. See also Annex D.

The classification scheme defined in Annex B has a hierarchical structure that constitutes two levels L1 and L2, where:

- entry classes (L1) are purely defined based on the inherent content of information;
- subclasses (L2) of the entry classes are based on different facets, depending on the entry class.

Annex B specifies ICC entry classes (Table B.1) and subclasses (Classes of information presented in this document are considered to be complete and fully representative of information related to technical systems. Therefore, no "miscellaneous" or "other" open classes, "free for the user" etc., are provided. See also Clause D.2.

Information shall be associated with an entry class and a related subclass when its inherent content matches the definitions of an entry class and a subclass. See Annex B, Table B.1 for entry class and Table B.2 for subclass definitions.

5 Designation of information containers

5.1 General

An information container shall be associated with an information kind classification code (ICC) to which it belongs, as defined in Table B.1 and Table B.2 (see Annex B). To classify information correctly, the information to be classified shall comply with the definition of the ICC selected.

The information container designation shall:

- designate the information container unambiguously within a defined context;
- provide the possibility to specify sorting criteria for object related information;
- provide the possibility to identify different kinds of information related to an object;
- provide a method to refer to an information container from other information containers.

The ICC forms part of an information container designation.

If the context is changed, the information container designations shall be verified in the new context.

If there is a need for designating multiple kinds of information in one information container, the information container shall be designated as defined in 5.4.

5.2 Designation of an information container

An information container designation shall consist of (see Figure 2):

- the prefix sign "&" (ampersand), followed by;
- the letter code for the entry class of information (position L1), followed by;
- the letter code for the subclass of information (position L2), followed by;
- a number to distinguish among information containers of the same class within the same context.

The number, including any leading zero (if any), shall have no specific meaning.

NOTE Only characters A through Z, except I and O, are used.

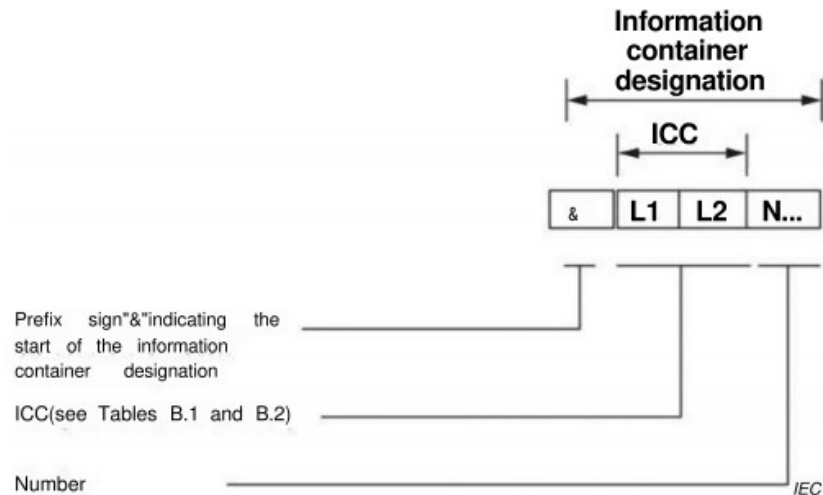


Figure 2—Structure of an information container designation using ICC

5.3 Relating information containers to objects

Information is related to one or more objects. Objects can be administrative or technical. If information shall be related to a specific object, the relation between the object and the related information container is defined by (see Figure 3):

- 1) the designation of the object to which the container is related, followed by;
- 2) the designation of the information container related to the object.

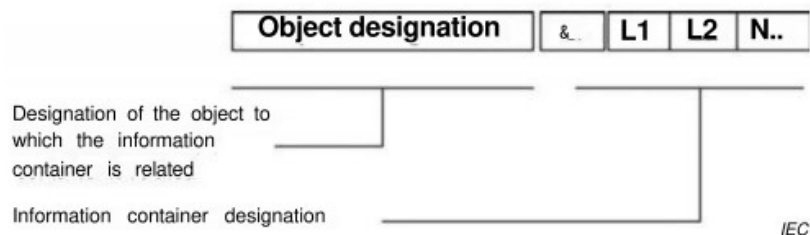


Figure 3—Relating information container designation to an object

Several information containers can be related to the same object, each unambiguously identified in relation to a certain context, see Table 1.

Table 1—Example of multiple information containers related to one object

Object designation: Wind turbine generator	Information container designations	Information
=A1	&DA1	Data sheet (wind turbine generator)
=A1	&FS1	Single-line circuit diagram
=A1	&FS2	Multi-line circuit diagram
=A1	&LH1	Mechanical layout

One information container can be related to multiple objects, each unambiguously identified in relation to the same context, see Table 2.

Table 2-Example of one information container related to multiple objects

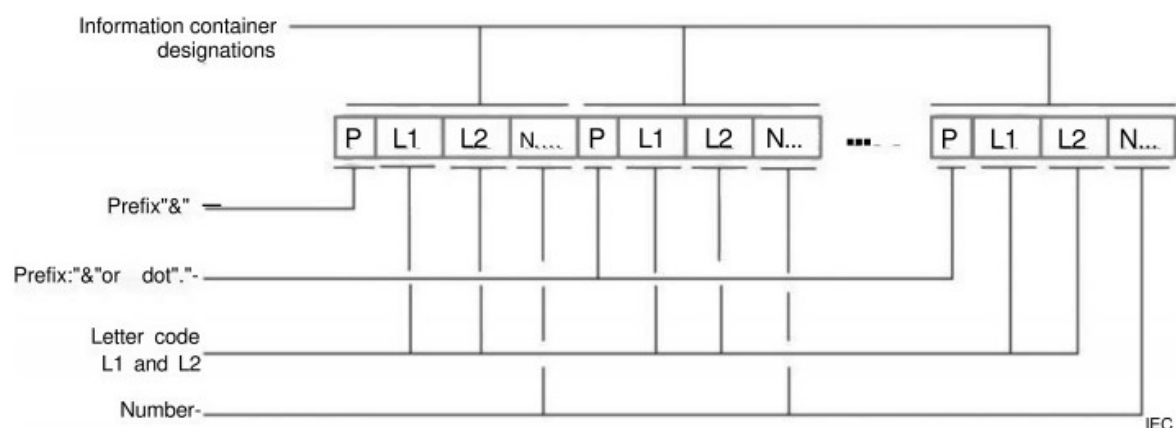
Object designation: Wind turbine generators	Information container designation	Information
=A1	&DA1	Data sheet(wind turbine generator)
=A2	&DA1	Data sheet(wind turbine generator)
=A3	&DA1	Data sheet(wind turbine generator)

5.4 Structuring and designation of multiple information containers

An information container may be structured by including other information containers, thus establishing part-of relations between the information containers. This will for example be the case where an information container from a sub-supplier shall be incorporated into the supplier's information container.

Each sub-information container shall be provided with its own information container designation. In order to reference to the sub-information container within the overall information container, the sub-information container is identified by concatenating the information container designation for each container from the overall down to the sub-information container, see Figure 4.

The prefix "&" between the information container designations may be replaced by the character "." (period/full stop), see Figure 4.

**Figure 4-Syntax for identifying a sub-information container**

Where an information container contains multiple kinds of information, each of which may be assigned an ICC, separate information containers related to each ICC shall be defined. An information container structure as described above shall then be applied.

NOTE 1 In the context of IEC 61355, multiple kinds of information presented in the same document is called a "composite document".

Figure 5 shows an example of subdivision of information containers.

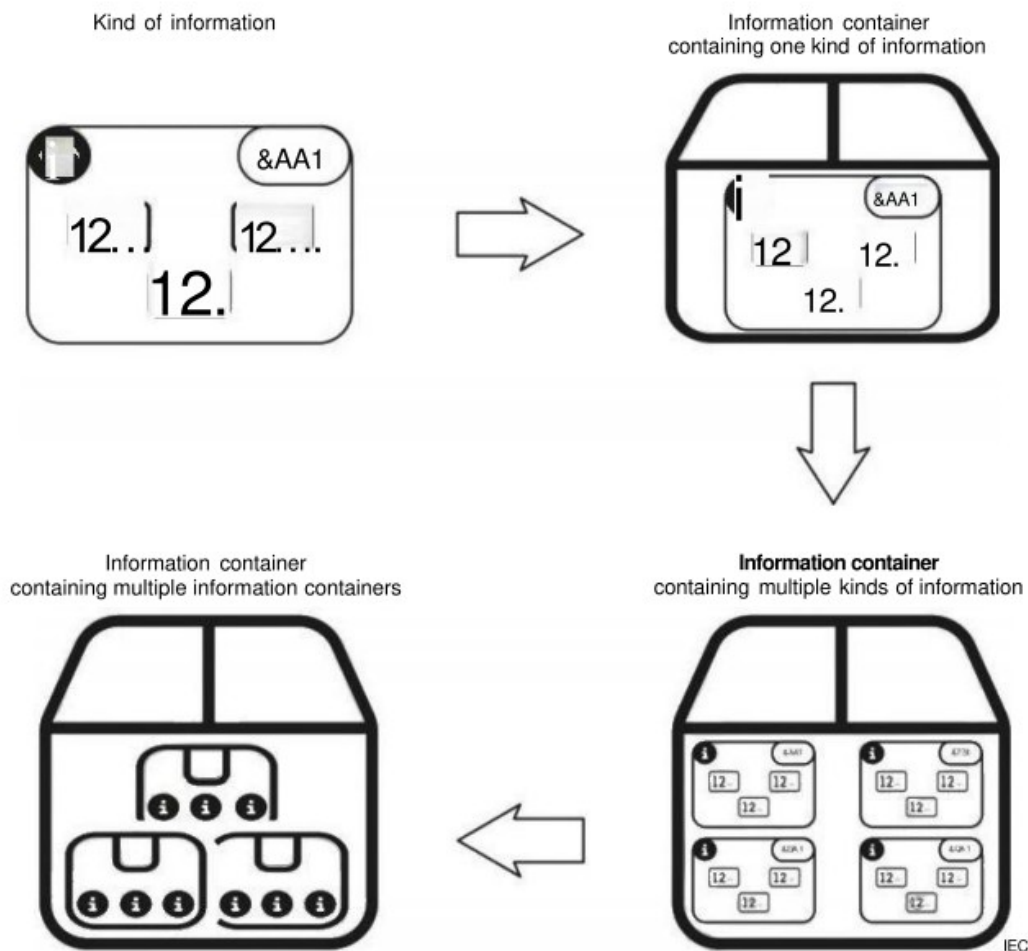


Figure 5-Example of subdivision of information containers

Figure 6 shows an example of an information container which is divided into sub-containers for a wind turbine generator (WTG), with inclusion of information containers from two sub-suppliers: a lubrication system and a warning system.

NOTE 2 For the structure of documentation, see IEC 62023.

<WTG> Information container designation		Information
&AB1		Main information list-WTG
	&DA1	Data sheet-WTG
	&FS1	Single line circuit diagram-WTG
	&FS2	Multi line circuit diagram--WTG
	&LH1	Overall mechanical lay-out WTG
	&AB1	Main information list-Lubrication system
	&DA1	Data sheet-Lubrication system
	&FB1	P&I diagram-Lubrication system
	&FS1	Circuit diagram-Lubrication system
	&LH1	Mechanical layout-Lubrication system
	&PA1	Bill of material-Lubrication system
	&QC1	Factory acceptance test-Lubrication system
	&AB2	Main information list-Warning system
	&DA1*	Data sheet-Warning system
	&FS1	Circuit diagram-Warning system
	&LH1	Mechanical layout-Warning system
	&PA1	Material certificate-Warning system
	&QC1	Factory acceptance test-Warning system
	&RB1	Safety study-Warning system

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*Example The designation for the "Data sheet-Warning system"information container is **&AB1&AB2&DA1** or alternatively **&AB1.AB2.DA1**.

Figure 6-Example of information container structure

Any information container in an information container structure can be related to one or more objects by following the rules in 5.3.

Table 3 shows examples of different information containers from Figure 6 related to one object.

Table 3-Example of information containers in a structure related to one object

Object designation: Wind turbine generator	Information container designations	Information
=A1	&AB1	Main information list
=A1	&AB1&AB1&DA1	Data sheet-Lubrication system
=A1	&AB1&AB2&FS1	Circuit diagram-Warning system

5.5 Reference to a specific part of an information container

To refer to a specific part of an information container, the information container designation can be combined with a reference to the part of interest. This reference is defined by (see Figure 7):

- 1) the designation of the object to which the container is related, followed by;
- 2) the designation of the information container related to the object, followed by;
- 3) the reference to the specific part of the information container.

If used, the reference to a specific part of an information container shall apply alphabetical characters (letters A to Z, except I and O) or numerical characters (numbers 0, 1, 3...), or a combination of letters and numbers. The method used for part designation shall be explained in a document or in supporting documentation.

The reference shall be separated from the information container designation part by the character "/" (solidus), (see Figure 7). The presentation of the separator sign may be omitted if no confusion is likely, for example when the part reference is shown in a separate column of a table.

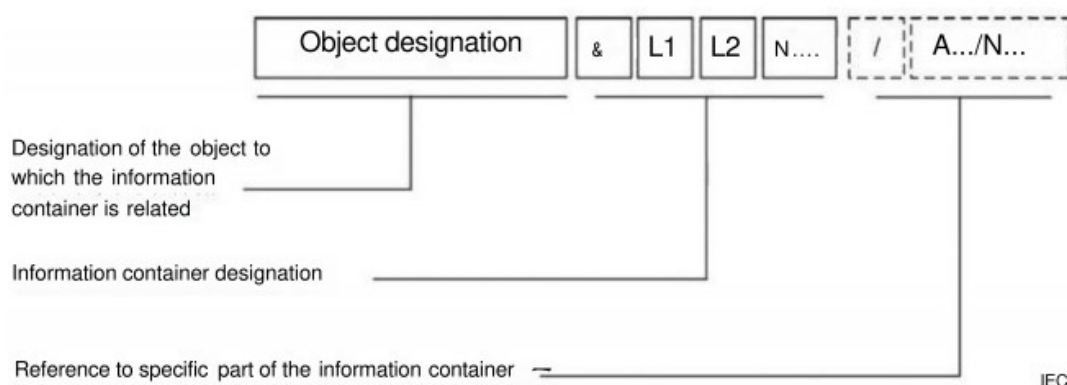


Figure 7-Information container designation combined with part reference

Examples of information container designation with part references are shown in Table 4.

Table 4-Examples for information container designation with part reference

Information container designation with part reference	Description
&DA1/C3	Data sheet, column 3
&FS1/5	Single-line circuit diagram, page 5
&FS2/H3	Multi-line circuit diagram, column H line 3
&LH1/LL23	Mechanical layout 23 mm from the lower left

5.6 Form of presentation

In order for a human to see the content of an information container, it has to be presented in a certain format. For the exchange of information containers between parties, it may for some presentation formats be important to indicate the kind of presentation used.

A list of forms of presentations is given in Annex C.

In the context of this document, the form of presentation related to an information container is considered as additional information related to the information container designation.

Where the form of presentation is presented together with an information container designation, the form of presentation shall be presented within parentheses preceded by the information container designation, see Figure 8.

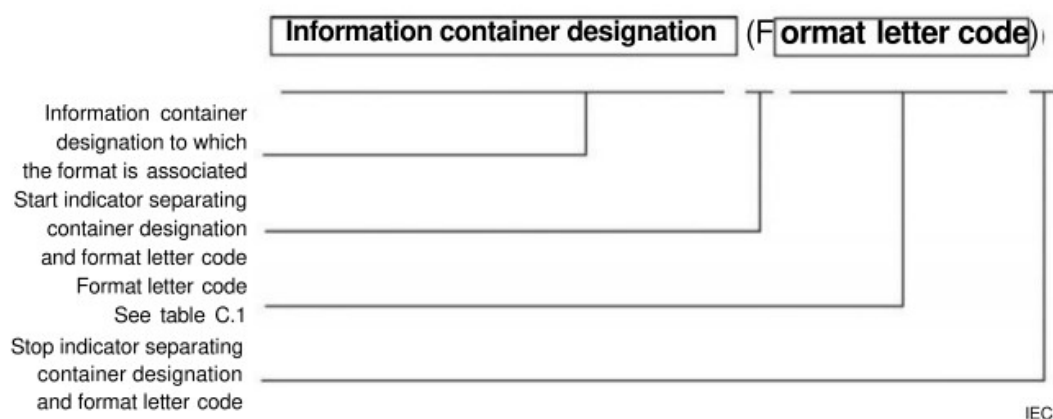


Figure 8-Presentation of a form in combination with an information container designation

EXAMPLE An information container for layout information, presented in the form of a drawing, is designated &LH1(L).

5.7 Identification of documents

For identification of documents, a document numbering system or other numbering systems are normally used. In most cases, they fulfil identification purposes inside the borderlines of an organization, together with organization-specific requirements. An information container designation according to this document is not intended to replace any of these numbering systems but serves as an additional means for the purposes described.

The object designation shall unambiguously specify the object to which an information container is related. This implies that an object designation shall be (or be made) unambiguous in a specified context.

A reference designation in accordance with the IEC/ISO 81346 standard series fulfils the requirement of being unambiguous by itself and is recommended for designation of objects. For objects without a reference designation, any other designation can be used, for example a product-ID, a type-ID, a project number, or even a plain text term, provided the string of characters is unambiguous.

5.8 Information for identification purposes

The information container designation cannot provide all information needed concerning the content in each step of the life cycle. Supplementary information is required for that purpose, see IEC 82045-1 and IEC 82045-2.

In IEC 82045-2:2004, document kind classification code (DCC) is used as a defined metadata, with the identifier "DocumentClassIdIEC61355". Pending a defined metadata for the ICC according to this document, it is recommended to use this metadata.

6 Documentation

6.1 General

This document classifies information about one or more objects. Information is always stored and conveyed in an information container. The information container can include information of one or more information classes related to the object. The practical purpose of the information container is to convey the information among stakeholders of the systems, i.e., exchange of information among parties.

Examples of information containers are shown in Table B.2.

Documentation in its legal sense, either in the form of paper-based documents or in digital formats, is created for the purpose of reference and traceability.

A document is an information container in a format suitable for human perception, which contains a momentary state of information at a defined time.

If a document contains multiple kinds of information and thus multiple ICCs, then it can be designated with ICCs in 'part of' relations as described in 5.4.

6.2 Moving from DCC to ICC

IEC 61355-1 introduced the document kind classification code (DCC) based on the thesis that documents should be classified according to their content. However, the criterion of the DCC classification of documents was the information which the document contained. Therefore, the DCC has, to the extent possible, been converted to information kind classification code (ICC) in this document.

For the general change and update of former document kind classification code (DCC) in IEC 61355-1 to information kind classification code (ICC) in this document, see Annex D.

Annex A (informative)

Information model

A.1 General

This annex contains a formal reference information model of the concepts and methods of the information classification system as described in this document.

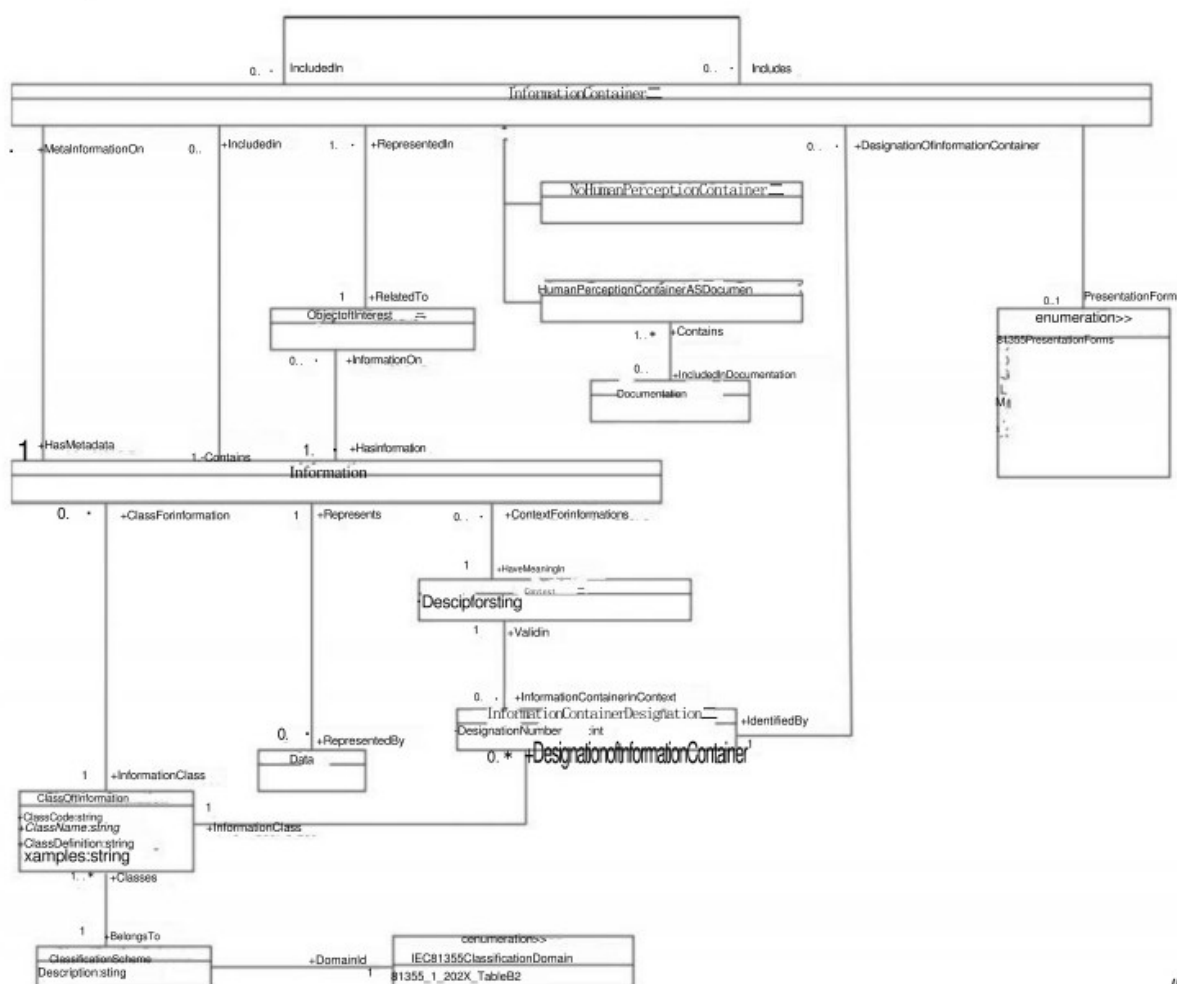
The purpose of this annex is to illustrate the concepts of this document independent from any implementation method.

For the preparation of the information model, UML has been used.

A.2 UML model

Figure A.1 shows the UML model of the concept of this document.

NOTE In the description of the model, entity names and attribute identifiers are written in *italics> to increase the readability.*



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Figure A.1-UML model of the concepts of this document

A.3 Entity descriptions

A.3.1 ObjectOfInterest

This entity represents the "OBJECT" that is in the design and that has information associated with it and that will be presented in information containers. The entity has the following relation attributes:

*HasInformation 1..**

At least one relation to instances of the entity Information, indicating which Information instances that, in a given context, provide meaningful data of the ObjectOfInterest instance.

*RepresentedIn 1..**

At least one relation to instances of the entity InformationContainer, indicating which InformationContainer instances are of relevance for the ObjectOfInterest instance.

A.3.2 Information

This entity represents the data which is related to an object and that has a particular meaning within a given context. The information is classified and identifiable. The entity has the following relation attributes:

*IncludedIn 0..**

A set of relations to instances of the entity InformationContainer indicating in which information container the data represented by the actual Information is visualized. The set may be empty, thus indicating that the data represented by the Information instance is not visualized in any information container.

InformationClass

A relation to an instance of the entity ClassOfInformation indicating the class for the data being instantiated by the Information instance.

HavingMeaningIn

A relation to an instance of the entity Context indicating in which context the Information instance has a valuable meaning.

*RepresentedBy 0..**

A set of relations to instances of the entity Data indicating which Data instances, if any, are representing the Information instance.

*InformationOn 0..**

A set of relations to instances of the entity ObjectOfInterest, indicating which ObjectOfInterest instances, if any, the Information instance is providing information on.

*MetalInformationOn 0..**

A set of relations to instances of the entity InformationContainer, indicating which InformationContainer instances, if any, the Information instance is providing information on.

A.3.3 Context

This entity represents the different contexts in which information and data will have a meaning. The entity has the following attributes:

Description

A textual description of the context. The attribute is a string.

The entity has the following relation attributes:

*ContextForInformation 0..**

A set of relations to instances of the entity Information indicating which Information instances, if any, having a meaning in the Context instance.

*InformationContainerInContext 0..**

A set of relations to instances of the entity *InformationContainerDesignation* indicating which *InformationContainerDesignation* instances, if any, and thereby also which *InformationContainer* instances are valid in the *Context* instance.

A.3.4 Data

This entity represents all recorded data that is of relevance for the instances of the entity *ObjectOfInterest* and for the metadata of documents. The entity has the following relation attribute:

Represents

A relation to an instance of the entity *Information* indicating which *Information* the data instance represents.

Detailed models for this entity are outside the scope of this document.

A.3.5 InformationContainer

This entity represents instances of the information containers in which information is visualized and is a supertype of the entities *HumanPerceptionContainerAsDocument* and *NoHumanPerceptionContainer*. The entity has the following attribute:

PresentationForm 0..1

An enumerative value of the enumeration *IEC81355PresentationForms* indicating the presentation form of the instance of *InformationContainer* associated with the *InformationContainerDesignation* instance.

The entity has the following relation attributes:

*Contains 1..**

A set of at least one relation to instances of the entity *Information* indicating which *Information* instances are contained in the *InformationContainer* instance.

*IncludedIn 0..**

A set of relations to instances of the entity *InformationContainer* indicating which other *InformationContainer* instances the *InformationContainer* instance is included in, if any.

*Includes 0..**

A set of relations to instances of the entity *InformationContainer* indicating which other *InformationContainer* instances are included in the *InformationContainer* instance, if any.

*RelatedTo 0..**

A set of relations to instances of the entity *ObjectOfInterest*, indicating to which *ObjectOfInterest* instances, if any, the *InformationContainer* instance is related.

*IdentifiedBy 1..**

A set of relation to an instance of the entity *InformationContainerDesignation* indicating which *InformationContainerDesignation* instances are providing an identifier for the *InformationContainer* instance.

*HasMetadata 0..**

A set of relations to instances of the entity *information* indicating the metadata associated with the *InformationContainer* instance, if any.

A.3.6 HumanPerceptionContainerAsDocument

This entity, being a subtype of the entity InformationContainer represents those instances of *InformationContainer* which are constructed in a format for human perception.

The entity has the following relation attributes:

IncludedInDocumentation 0..*

A set of relations to instances of the entity Documentation indicating in which *Documentation* instances the *HumanPerceptionContainerAsDocument* instance is included.

A.3.7 NoHumanPerceptionContainer

This entity, being a subtype of the entity InformationContainer represents those instances of *InformationContainer* which are not constructed in a format for human perception.

A.3.8 Documentation

This entity represents instances of documentation as a collection of documents.

The entity has the following relation attribute:

Contains 1..*

A set of relations to the instances of the entity HumanPerceptionContainerAsDocument indicating which *HumanPerceptionContainerAsDocument* instances are included in the *Documentation* instance.

A.3.9 InformationContainerDesignation

This entity represents those designations being applied for the identification of instances of *InformationContainer*. The entity has the following attribute:

DesignationNumber

A number necessary to provide an unambiguous information container designation for the related *InformationContainer* instance within the considered context. The attribute is an integer.

The entity has the following relation attributes:

ValidIn

A relation to an instance of the entity context indicating in which context the *InformationContainerDesignation* instance is identifying an instance of an *InformationContainer*.

InformationClass

A relation to an instance of the entity ClassOfInformation indicating which *ClassOfInformation* instance is used in the *InformationContainerDesignation* instance.

DesignationOfInformationContainer 0..1

A relation, if any, to an instance of the entity InformationContainer indicating which *InformationContainer* instance the *InformationContainerDesignation* instance is identifying.

A.3.10 ClassOfInformation

This entity represents the information classes defined within a classification scheme. The entity has the following attributes:

ClassCode

A sequence of alphabetical characters used as a coded identifier of the class with the classification scheme. The attribute is a string.

ClassName

The unambiguous textual identification of the class with the classification scheme. The attribute is a string.

ClassDefinition

A precise, unambiguous definition of the class so that the class is distinguished from definitions of other classes within the classification scheme. The attribute is a string.

*Examples 0..**

A set of textual examples of information or documents that could be stated to belong to the defined class, if any. Each element is a string.

The entity has the following relation attributes:

*ClassForInformation 0..**

A set of relations to instances of the entity Information indicating which Information instances are classified by the ClassOfInformation instance.

*UsedInInformationContainerDesignations 0..**

A set of relations to instances of the entity InformationContainerDesignation indicating which InformationContainerDesignation instances are using the ClassOfInformation instance.

BelongsTo

A relation to an instance of the entity ClassificationScheme indicating to which ClassificationScheme instances the ClassOfInformation instance belong.

A.3.11 ClassificationScheme

This entity represents the classification schemes defined within the 81355 International Standard series. The entity has the following attributes:

Description

A textual description of the classification scheme.

DomainId

An enumerative value of enumeration 81355classificationdomain identifying the classification scheme.

The entity has the following relation attribute:

*Classes 1..**

A set of at least one relation to an instance of the entity ClassOfInformation, indicating which classes are included in the considered ClassificationScheme instance.

A.4 Enumeration-IEC81355ClassificationDomain

This enumeration contains values for the different classification schemes defined within the 81355 International Standard series. The following values are defined:

81355_1_202X_TABLEB2

The value indicating that the classification scheme is defined by Table B.2.

Values for normative classification tables defined in the 81355 International Standard series are considered to be included, provided they follow the same pattern as shown above.

A.5 Enumeration-IEC81355PresentationForms

This enumeration contains values for the different presentation forms defined in Annex C. The following values are defined:

C(charts)
D(diagram)
G(pictorial form)
L (drawing)
M(map)
T(table)
X(text)

Annex B (normative)

Information kind classification codes

The letter codes for information kind classification codes (ICC) to be used are provided in Table B.1 and Table B.2.

The terms used as examples of information containers in Table B.2 bridge the gap from a previous "document orientated world" towards an "information orientated world". However, the term "document" is to be understood as an information container which is under revision control. A document is not restricted to paper-based presentation only, i.e., its legal meaning, but it can also be documents conveyed electronically.

Different terms are in use for the same information kind, or the terms can have different meanings for different stakeholders. The purpose and object are sometimes also part of titles, which hampers general understanding. Therefore, the basis for a common understanding shall be an information kind classification code (ICC) which is based only on the content of information with a specific definition as provided in Table B.2 for each ICC.

Table B.1-Entry class for information kind classification codes (first letter code L1)

Entry class code (entry classes)	Entry class name
L1	
A	Meta information
B	Management information
C	Contractual information
D	Capability information
F	Functionality information
L	Layout information
M	Interface information
P	Enumeration information
Q	Quality information
R	Safety information
T	Geometrical form information
W	Operational information

For the definition of each entry class code, see Table B.2.

Table B.2-Subclasses for information kind classification codes(first and second letter code)

Class code		Class definition	Class name	Examples of information containers
L1	L1+L2			
A		information on information	meta information	
	AA	meta information providing recognition	identification information	cover sheet, document metadata, title sheet
	AB	meta information providing origin and contents overview	reference information	document list, document references, index, list of contents, list of documents, list of drawings, list of files, master document list, quick reference guide
	AC	meta information providing description of structure and contents	descriptive meta information	content overview, document description, document overview, document structure diagram, document type definition (DTD), document type schema
B		information on management of business activities and resources	management information	
	BA	management information about parties of interest	stakeholder information	account list, address book, address list, contact person, distribution list, mailing list, supplier list, telephone directory, vendor list
	BB	management information about past and current events	observation management information	commissioning report, damage report, diary, handing over protocol, installation report, meeting report, minutes of meeting, monthly report, project report, quarterly report, status report, technical management report
	BC	management information about communication between parties	correspondence information	bulletin, communication plan, cover letter, meeting invitation, memo, message, query
	BD	management information about supervision of business and project activities	project control information	document interchange list, information interchange list, policy description, prestudy report, process description, project description, project directive, project execution plan, project process description
	BE	management information about intended future events	planning information	activity network plan, business plan, calendar, documentation plan, project time schedule, resource load diagram, roadmap, time schedule, work breakdown structure plan (WBS plan), time sheet
	BF	management information about coordination of transportation	logistic information	airway bill, bill of lading, certificate of origin, dispatch specification, packing list, packing specification, shipping list, storage specification, transport drawing, transport information, transport specification
	BG	management information about human resources	organizational information	job advertisement, manpower mobilization plan, organization chart, organization description, organization diagram, organization plan, role description
	BH	management information about changes	change management information	change memo, change note, change notification, change request

Class code		Class definition	Class name	Examples of information containers
L1	L1+L2			
	BJ	management information about financial overview	economy information	accounts ledger, budget, budget instruction, cost calculation, economic evaluation, economic plan, economic report, financial annual report, financial statement, investment analysis, life cycle costing (LCC), prognosis, tax record
	BQ	management information about quality policies	quality management information	audit plan, inspection plan, quality guideline, quality manual, quality plan, quality record, test plan
	BT	management information about educational activities	training information	course description, lecture list, training description, training manual
	BW	management information about project information control	information control management	building information model (BIM) manual, CAD manual, designation system description, exchange information requirements (EIR), identification system, information handbook, TAG manual
C		information on formal agreements	contractual information	
	CA	contractual information about supply of goods or services	tender information	commercial calculation sheet, inquiry, letter of acceptance, letter of intent, offer, price list
	CB	contractual information about authority approval	authority approval information	acceptance record, acceptance report, application, approval application, authorization, building permit, licence, test certificate
	CC	contractual information about legal arrangements	agreement information	contract, final acceptance certificate, group company agreement, labour agreement, local company agreement, rental agreement, terms of delivery
	CD	contractual information about purchase request	order information	delivery note, order, order confirmation
	CE	contractual information about amounts owed or paid for goods and services	payment information	bill, bond, claim letter, invoice, quittance, receipt
	CF	contractual information about insurance	insurance information	damage assessment, insurance policy
	CG	contractual information about guarantee	warranty information	certificate of guarantee, warranty
	CH	contractual information about competences and experience	expertise information	curriculum vitae (CV), expertise
	CJ	contractual information about proprietary rights	ownership information	deed, mortgage deed, property register

Class code		Class definition	Class name	Examples of information containers
L1	L1+L2			
D		information on the capabilities of objects	capability information	
	DA	capability information providing technical properties	technical property information	data sheet, dimension drawing, instrument data sheet, material declaration, product data sheet
	DB	capability information providing technical explanation	explanatory technical information	cable sizing calculation, design description, electrical heat tracing calculation, heat dissipation calculation, illuminance calculation, requirement specification, structural analysis, system description, technical calculation sheet, technical specification, technical study
	DC	capability information providing instructions	instructive information	checklist, concept, design concept, design guide, inspection instruction, installation instruction, maintenance instruction, manufacturing instruction, operating instruction, operation manual, routine description, test specification, work description
	DD	capability information providing technical observations	technical observation information	geotechnical report, product classification report, research and development report (R&D report), research report, technical report
	DE	capability information providing advertising information	advertising information	advertisement, brochure, catalogue, marketing document, press release, reference list, roll-up, sales guide, service description, service range description
	DF	capability information providing scientific results	scientific information	article, magazine, technical publication
	DG	capability information providing regulatory requirements	regulatory requirement information	building regulation, environmental decree, EU Directive, operation decree, regulation, technical regulation
	DH	capability information providing normative requirements	standard	de-facto standard, EN standard, IEC International Standard, industry standard, ISO International Standard, national standard, norm, safety requirement specification (SRS), sector standard
F		information on the functionality of a system	functionality information	
	FA	functionality information representing system overview	system overview information	block diagram, network diagram, structure diagram DCS/PLC/SIS, system diagram, system operational diagram, voltage map
	FB	functionality information representing flow of material	flow information	block diagram, flow chart, flow diagram, overview diagram (flow), piping and instrument diagram (P&ID), process and instrumentation diagram (PID), process flow diagram, utility flow diagram (UFD)
	FC	functionality information representing processes for human-machine interaction	human-machine interface information	human-machine interface (HMI) layout document, HMI specification, screen display layout

Class code		Class definition	Class name	Examples of information containers
L1	L1+L2			
	FE	functionality information describing behaviour of a system	function describing information	application description, foundation description, function description, process control diagram(PCD), process description, program description, kinematic diagram
	FF	functionality information representing time or sequence	functional time and sequence information	cause and effect matrix, equivalent circuit diagram, function block diagram, logic function diagram, sequence chart, sequence table, time sequence chart
	FP	functionality information describing signals	signal information	I/O channel table, I/O list, interface signal list, signal list, signal property list, signal table
	FQ	functionality information describing set values	set value information	alarm & trip point list, configuration parameter list, parameter table, relay setting list, setting list
	FS	functionality information representing electrical flow	circuitry information	bus connection diagram, circuit diagram, loop diagram, multi-line circuit diagram, overview diagram, schematic diagram, single-line circuit diagram, terminal function diagram
	FT	functionality information describing software	software information	batch file, code list, program diagram, program flow chart, program list, SCADA software specification, settings file, software architecture, software function description
L		information on layout planning for construction	layout information	
	LA	layout information of a site	site information	ground plan, levelling drawing, map, measuring-in drawing, roof survey, site survey
	LB	layout information of a foundation	foundation information	excavation plan, foundation drawing
	LC	layout information of the structure of a construction entity	construction entity information	architectural drawing, building layout drawing, CAD model, ceiling drawing, facade drawing, floor plan, hardscape drawing, landscape architecture drawing, plan drawing, reinforcement drawing, section drawing, static drawing, structural drawing
	LD	layout information of a system located on-site	on-site location information	arrangement drawing, cable route section, cable routing drawing, cable tray layout, CAD model, earthing diagram, earthing drawing, earthing plan, installation diagram, installation drawing, installation model, installation plan, instrument air supply layout plan, longitudinal-section drawing, piling plan, plot plan, railway plan, road plan, setting-out drawing, site arrangement drawing, site cable routing drawing, site earthing drawing, site earthing plan, site installation diagram, site installation drawing, site layout plan, site plan, softscape plan

Class code		Class definition	Class name	Examples of information containers
L1	L1+L2			
	LH	layout information of installations and fit-out systems of a construction entity	in-construction entity location information	architectural drawing, arrangement drawing, arrangement drawing of enclosure, assignment plan, building drawing, cable routing drawing, CAD model, earthing arrangement drawing, earthing drawing, earthing plan, furniture plan, installation diagram, installation drawing, installation plan, layout plan, mechanical layout, room allocation plan, space layout
	LU	layout information of a system located in/on another system	in/on-equipment location information	arrangement drawing of panel, arrangement drawing(equipment), cabinet arrangement drawing, CAD model
M		information on interfaces	interface information	
	MA	interface information specifying termination for a system	termination information	cable connection table, conceptual connection diagram, conceptual wiring diagram, connection table, cross connection diagram, cross wiring diagram, interconnection diagram, terminal connection diagram, terminal connection list, terminal connection table, unit connection diagram, unit connection list, unit connection table
	MB	interface information specifying interactions among systems	interaction information	cable diagram, cable laying list, cable list, cable pulling card, cable route, cable table, connection diagram, connection diagram(cables), connection table, connection table (cables), interconnection diagram, interconnection table, interface dependencies, interface list, N2 diagram, piping diagram, piping list
P		information on enumeration of objects	enumeration information	
	PA	enumeration information of materials	material enumeration	bill of material (BOM), bill of quantities, material list
	PB	enumeration information of quantified objects	objects enumeration	electrical consumer list, engineering parts list, equipment list, instrument list, label list, list of instrumentation, parts list, spare parts list
	PC	enumeration information of non-quantified objects	items enumeration	accessory list, auxiliary materials, inventory list, item list, tool list
	PD	enumeration information of products	product enumeration	apparatus list, product list, product type list, system logbook
	PF	enumeration information of functional elements	function enumeration	function list, heating circuit list, loop list
	PL	enumeration information of spaces	location enumeration	coordinate data list, location list, room function description, room list, room sheet

Class code		Class definition	Class name	Examples of information containers
L1	L1+L2			
Q		information on quality	quality information	
	QC	quality information related to validation or verification	validation and verification information	adjustment report, audit report, certificate, check list, complaint report, control plan, demarcation list, deviation report, evaluation report, event report, factory acceptance test report (FAT report), factory test report, fault report, inspection report, list of deficiencies, logbook, material certificate, periodic report, punch list, site acceptance test report (SAT report), site integration test report (SIT report), snagging list, survey report, test report, type test record, type test report
	QD	quality information related to quality actions	quality action information	audit follow-up report, audit personnel record, corrective and preventive action report
	QE	quality information related to conformity	conformity information	declaration of conformity, non-conformity report
R		information on safety and security	safety information	
	RA	safety information related to protection of humans and livestock	health protection information	collision model, health and safety report, incident report, product alert, risk assessment, safety report, safety study
	RB	safety information related to protection of equipment	equipment protection information	hazardous area classification drawing, material safety data sheet (MSDS), risk assessment, safety concept for power supply, safety data sheet (SDS), safety integrity level (SIL) determination report, safety study
	RC	safety information related to protection of environment	environment protection information	environmental impact assessment, environmental information, environmental manual, environmental plan, environmental product declaration (EPD), flooding prevention information, life cycle assessment (LCA), recycle information
	RD	safety information related to security risks	security information	cyber security instruction, emergency instruction, escape plan, fire protection plan, key list, noise protection plan
T		information on geometrical form	geometrical form information	
	TA	geometrical form information on the outline of an object	geometrical outline information	CAD model, concept drawing, design drawing, sketch
	TB	geometrical form information on the details of an object	geometrical detail information	3D-drawing, CAD model, detail drawing, dimension drawing, exploded-view drawing
	TC	geometrical form information on the manufacturing of an object	manufacturing information	component drawing, drilling plan, fabrication drawing, formwork plan, manufacturing drawing, piece part drawing, production drawing, reinforcement plan, single part drawing, welding plan
	TL	geometrical form information on the assembly of an object	assembly information	assembly drawing, exploded-view drawing

Class code		Class definition	Class name	Examples of information containers
L1	L1+L2			
W		information on operational aspects	operational information	
	WA	operational information describing processing	processing information	batch recipe, recipe, set point document
	WT	operational information describing events	recording information	log, logbook, maintenance and modification log, maintenance log, operation log, production log, test log
	-	END OF TABLE	END OF TABLE	END OF TABLE
Meaning of colours in this Table B.2: Blue:Headlines Green:Class codes,class definitions and class name White:Content of classes				

Annex C

(informative)

Form of presentation

Table C.1 provides a list of presentation forms.

Table C.1-Letter codes for forms of presentation

Letter code	Basic document kind or form of presentation
C	Chart, graph Presentation of information mainly using graphical means expressing the relationship between two or more variable quantities, operations or states.
D	diagram Presentation mainly using graphical means and in which graphical symbols are used to indicate the objects and their relationships.
G	Pictorial form Presentation of information using images or geometrically absolute depictions irrespective of the actual perspective used.
L	Drawing Presentation of information using graphical means by showing, usually to scale, the objects and their relative position to each other.
M	Map Drawing or diagram showing objects with respect to their surrounding topography.
T	Table, list Presentation in which the information is presented in columns and rows.
X	Textual form Presentation of information using words and numerals.

Other forms of presentation exist, such as photographic pictures, voice recordings, videos, or more specified forms like isometric, perspective, or other forms. In these cases, the letter code can be supplemented or adjusted, and an explanation to the extent needed should be included.

Annex D **(informative)**

From document kind class code(DCC)to information kind classification code (ICC)

D.1 General

This document is based on the former IEC 61355-1:2008 and IEC 61355 DB, but as a new joint ISO and IEC document, it introduces a precision in mindset: from a focus on document kind class codes (known as "DCC") to classification of information, carried in information containers. In this document, information is classified based on the inherent content of the information, which means what the information is about, regardless of its application.

Besides the shift in mindset, the application of information kind classification code (ICC) for designation of information containers has been updated to align with the reference designation technique as defined in the IEC/ISO 81346 standard series.

The ICC now forms part of the information container designation, which, along with the prefix "&" and a sequential number, makes up an information container designation used for unambiguous reference purposes. Furthermore, information containers can be designated using the same technique as IEC/ISO 81346 reference designation by means of 'part of' relations.

It is recognized that documentation in its legal sense is of utmost importance, both from a legal and from a technical point of view. However, IEC 61355-1:2008, 3.2, defines a document as a "fixed and structured amount of information intended for human perception that can be managed and interchanged as a unit between users and systems". Furthermore, it states that "The term document is not restricted to its meaning in a legal sense". With the increasing need for digitalization of information to be exchanged among parties, not only in a traditional fixed document format but also as information in a wide sense, the need for a significant update was evident.

The definitions of the terms, "information", "information container" and "documentation" have therefore been updated.

To the extent possible, and to maintain coherency with past practices, the meaning behind DCC codes in IEC 61355 has been transferred to the new ICC codes as defined in Table B.1 and Table B.2 in this document. During the revision of the classification table, it became clear that some of the DCC classes were not distinct from some other classes, and therefore confusion could arise.

The classification tables in the IEC/ISO 81346 standard series follow the rules and principles of classification as defined in ISO 22274. The new ICC classes have been adjusted in the same manner. Consequently, some former DCC has been changed and moved to new ICC classes.

D.2 Comparison of DCC vs. ICC

The meaning behind former DCC codes in IEC 61355 (data position A2 and A3) is to the extent possible transferred to ICC codes (L1 and L2) in this document. For comparison of DCC vs. ICC, see Table D.1.

Former DCC data position code A1 (technical area class, optional) has been omitted from ICC, as it was considered to support technical silo thinking, and not adding value to the exchange of information among parties.

Table D.1 shows the conversion from DCC entry code (data position A2) to ICC entry class code L1:

- 1) Former DCC class E Technical requirement and dimensioning documents has been omitted, as it was not distinct from other classes.
- 2) Former DCC class Q Quality management documents; safety-describing documents has been divided into two new classes: ICC class Q Quality information and class R Safety information.
- 3) All DCC "Free for user" classes (AZ, ..., WZ) have been omitted in ICC, as the appropriate definition of each class in ICC has been developed. Extensive tests prior to release of all ICC classes, including a wide range of terms from a range of different industries, demonstrated that the "Free for user" classes were no longer needed.

All other ICC classes have, to the extent possible, been updated to define "information" instead of "documentation" while keeping their meaning backwards to former DCC codes.

Table D.1-DCC data position A2 vs ICC entry class code L1

DCC A2	IEC 61355-1:2008, Table A.2 Name	ICC L1	IEC 81355-1:2024, Table B.1 Name
A	Documentation describing documents	A	Meta information
B	Management documents	B	Management information
C	Contractual and non-technical documents	C	Contractual information
D	General technical information documents	D	Capability information
E	Technical requirement and dimensioning documents		N/A
F	Function describing documents	F	Functionality information
L	Location documents	L	Layout information
M	Connection describing documents	M	Interface information
P	Object listings	P	Enumeration information
Q	Quality management documents; safety-describing documents	Q	Quality information
-	N/A	R	Safety information
T	Geometry-related documents	T	Geometrical form information
W	Operation records	W	Operational information

Table D.2 shows the conversion from DCC entry class and subclass (data positions A2 and A3) to ICC entry class and subclass code L1 and L2. See note in Table D.2 for details and possible shift in classes between DCC and ICC.

Table D.2-DCC data position A3 vs ICC subclass code L2

DCC data position		IEC 61355 entry class /subclass	ICC Class code		IEC 81355-1 Class definition	NOTE DCC<->ICC
A2	A2+A3		L1	L1+L2		
A		Documentation describing documents	A		information on information	
	AA	Administrative documents		AA	meta information providing recognition	
	AB	Lists(regarding documents)		AB	meta information providing origin and contents overview	
	AC	Explanatory documents(regarding documents)		AC	meta information providing description of structure and contents	
	AZ	Free for user			N/A	Deleted
B		Management documents	B		information on management of business activities and resources	
	BA	Registers		BA	management information about parties of interest	
	BB	Reports		BB	management information about past and current events	
	BC	Correspondence		BC	management information about communication between parties	
	BD	Project control documents		BD	management information about supervision of business and project activities	
	BE	Resource planning documents		BE	management information about intended future events	
	BF	Dispatch, storage and transport documents		BF	management information about coordination of transportation	
	BG	Site planning and site organisation documents		BG	management information about human resources	
	BH	Documents regarding changes		BH	management information about changes	
	-	N/A		BJ	management information about financial overview	New ICC class
		N/A		BQ	management information about quality policies	New ICC class. Former DCC class QA
	BS	Security documents		-	N/A	Moved to ICC class RD

DCC data position		IEC 61355 entry class/subclass	ICC Class code		IEC 81355-1 Class definition	NOTE DCC<->ICC
A2	A2+A3		L1	L1+L2		
	BT	Training specific documents		BT	management information about educational activities	
	-	N/A		BW	management information about project information control	New ICC class
	BZ	Free for user		-	N/A	Deleted
C		Contractual and non-technical documents	C		information on formal agreements	
	CA	Inquiry, calculation and offer documents		CA	contractual information about supply of goods or services	
	CB	Approval documents		CB	contractual information about authority approval	
	cc	Contractual documents		cc	contractual information about legal arrangements	
	CD	Order and delivery documents		CD	contractual information about purchase request	
	CE	Invoice documents		CE	contractual information about amounts owed or paid for goods and services	
	CF	Insurance documents		CF	contractual information about insurance	
	CG	Warranty documents		CG	contractual information about guarantee	
	CH	Expertise		CH	contractual information about competences and experience	
	-	N/A		CJ	contractual information about proprietary rights	
	CZ	Free for user		-	N/A	Deleted
D		General technical information documents	D		information on the capabilities of objects	
	DA	Data sheets		DA	capability information providing technical properties	
	DB	Explanatory documents		DB	capability information providing technical explanation	
	DC	Instructions and manuals		DC	capability information providing instructions	
	DD	Technical reports		DD	capability information providing technical observations	

DCC data position		IEC 61355 entry class/subclass	ICC Class code		IEC 81355-1 Class definition	NOTE DCC->ICC
A2	A2+A3		L1	L1+L2		
	DE	Catalogues Advertising documents		DE	capability information providing advertising information	
	DF	Technical publications		DF	capability information providing scientific results	
	-	N/A		DG	capability information providing regulatory requirements	New ICC class
		N/A		DH	capability information providing normative requirements	New ICC class
	DZ	Free for user			N/A	Deleted
E		Technical requirement and dimensioning documents			N/A	Deleted
	EA	Legal requirement documents		-	N/A	Moved to ICC class DG (regulatory requirement information)
	EB	Standards and regulations		-	N/A	Moved to ICC class DH
	EC	Technical specification /requirement documents			N/A	Moved to ICC class DB(explanatory technical information) DC(instructive information) PB(objects enumeration) DB,DC and PB added as examples.
	ED	Dimensioning documents		-	N/A	Moved to ICC class DB (explanatory technical information)
	EZ	Free for user			N/A	Deleted
F		Function-describing documents	F		information on the functionality of a system	
	FA	Functional overview documents		FA	functionality information representing system overview	
	FB	Flow diagrams		FB	functionality information representing flow of material	

DCC data position		IEC 61355 entry class/subclass	ICC Class code		IEC 81355-1 Class definition	NOTE DCC<->ICC
A2	A2+A3		L1	L1+L2		
	FC	MMI layout documents (MMI=man-machine interface)		FC	functionality information representing processes for human-machine interaction	
	FE	Function descriptions		FE	functionality information describing behaviour of a system	
	FF	Function diagrams		FF	functionality information representing time or sequence	
	FP	Signal descriptions		FP	functionality information describing signals	
	FQ	Setting value documents		FQ	functionality information describing set values	
	FS	Circuitry documents		FS	functionality information representing electrical flow	
	FT	Software specific documents		FT	functionality information describing software	
	FZ	Free for user		-	N/A	Deleted
L		Location documents	L		information on layout planning for construction	
	LA	Exploitation and survey documents		LA	layout information of a site	
	LB	Earthwork and foundation work documents		LB	layout information of a foundation	
	LC	Building carcass documents		LC	layout information of the structure of a construction entity	
	LD	On-site location documents		LD	layout information of a system located on-site	
	LH	In-building location documents NOTE The term "building" also applies to ships, aircraft, etc.		LH	layout information of installations and fit-out systems of a construction entity	
	LU	In/on-equipment location documents		LU	layout information of a system located in/on another system	
	LZ	Free for user		-	N/A	Deleted
M		Connection-describing documents	M		information on interfaces	
	MA	Connection documents		MA	interface information specifying termination for a system	
	MB	Cabling or piping documents		MB	interface information specifying interactions among systems	

DCC data position		IEC 61355 entry class /subclass	ICC Class code		IEC 81355-1 Class definition	NOTE DCC<->ICC
A2	A2+A3		L1	L1+L2		
	MZ	Free for user		-	N/A	Deleted
P		Object listings	P		information on enumeration of objects	
	PA	Material lists		PA	enumeration information of materials	
	PB	Parts lists		PB	enumeration information of quantified objects	
	PC	Item lists		PC	enumeration information of non-quantified objects	
	PD	Product lists and product type lists		PD	enumeration information of products	
	PF	Function lists		PF	enumeration information of functional elements	
	PL	Location lists		PL	enumeration information of spaces	
	PZ	Free for user		-	N/A	Deleted
Q		Quality management documents and safety-describing documents	Q		information on quality	
	QA	Quality management documents		-	N/A	Moved to ICC class BQ
	QB	Safety-describing documents		-	N/A	Moved to ICC class RA
	QC	Quality verifying documents		QC	quality information related to validation or verification	
	-	N/A		QD	quality information related to quality actions	New ICC class
	-	N/A		QE	quality information related to conformity	New ICC class
	QZ	Free for user		QZ	N/A	Deleted
-		N/A	R		information on safety and security	New ICC class for safety and security
		N/A		RA	safety information related to protection of humans and livestock	New ICC class
		N/A		RB	safety information related to protection of equipment	New ICC class
	-	N/A		RC	safety information related to protection of environment	New ICC class
	-	N/A		RD	safety information related to security risks	New ICC class

Bibliography

IEC 60050-171:2019, International Electrotechnical Vocabulary(IEV)-Part 171:Digital technology-Fundamental concepts

IEC 62023:2011, Structuring of technical information and documentation.

IEC 82045-1:2001, Document management-Part 1:Principles and methods

IEC 82045-2:2004, Document management -Part 2:Metadata elements and information reference model

IEC Guide 108, Guidelines for ensuring the coherence of IEC publications -Horizontal functions, horizontal publications and their application

ISO 19650-1:2018, Organization and digitization of information about buildings and civil engineering works, including building information modelling(BIM)-Information management using building information modelling-Part 1:Concepts and principles

ISO 22274:2013, Systems to manage terminology, knowledge and content -Concept-related aspects for developing and internationalizing classification systems
