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Technical product documentation — Vocabulary — Terms relating to technical drawings, product definition and related documentation

Documentation technique de produits — Vocabulaire — Termes relatifs aux dessins techniques, à la définition de produits et à la documentation associée

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Contents

Page

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 10, *Technical product documentation*.

This second edition cancels and replaces the first edition (ISO 10209:2012), which has been technically revised.

The main changes compared to the previous edition are as follows:

— New and/or updated terms from new or revised ISO/TC 10 standards, published since the 2012 edition of ISO 10209, have been added to this version of the document.

— References to the Subcommittee or part of the ISO/TC 10 area in which standards were developed have been added.

— Notes have been added to clarify where terms first appeared, i.e. information is given on the original version of the ISO/TC 10 standard in which the term appeared before it was removed and included in ISO 10209.

— Terms which originated in former parts of the ISO 10209 series (now withdrawn) are flagged as "[SOURCE: ISO 10209]".

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

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Technical product documentation — Vocabulary — Terms relating to technical drawings, product definition and related documentation

1 Scope

This document establishes and defines terms used in technical product documentation relating to technical drawings, product definition and related documentation in all fields of application.

This vocabulary is based on all terms contained within ISO/TC 10 standards and other documents that are relevant to technical product documentation irrespective of disciplines. The terms have been classified into specific fields of application.

New terms required by ISO/TC 10 Subcommittees and Working Groups for new or revised standards will be ratified by the ISO/TC 10 vocabulary maintenance team and included in future amendments of this document.

NOTE 1 Annex A contains a list of terms and definitions which previously appeared in former parts of ISO 10209 and for which there are now new definitions in current ISO/TC 10 standards.

NOTE 2 In addition to terms and definitions used in English and French, two of the three official ISO languages, this document gives the equivalent terms in German; these are published under the responsibility of the member body for Germany (DIN), and are given for information only. Only the terms and definitions given in the official languages can be considered ISO terms and definitions.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1 General terms

3.1.1
activity
matrix allocating activities to phases of the product life cycle and to a fixed organization unit

[SOURCE: ISO 15226:1999 ISO/TC 10 SC1]

3.1.2
activity matrix
matrix allocating activities to phases of the product life cycle and to a fixed organization unit

[SOURCE: ISO 15226:1999 ISO/TC 10 SC1]

3.1.3
analysis
part of the product development process where a specification of requirements is prepared

[SOURCE: ISO 11442:2006 ISO/TC 10 SC1]

3.1.4
ancillary system
system which is not directly required for the power plant process

Note 1 to entry: This includes heating, ventilation, air-conditioning systems, space heating systems, stationary compressed air supplies, fire protection systems, cranes, elevators, workshops, staff amenity, etc.

[SOURCE: ISO/TS 81346-10:2015 ISO/TC 10 SC10]

Note 2 to entry: This definition also appears in ISO/TS 81346-10:2015.

3.1.5
application reference model
information model that formally describes the information requirements and constraints for an application area

[SOURCE: IEC 82045-2:2004 ISO/TC 10]

3.1.6 aspect

3.1.6.1
aspect
⟨document management⟩ specific way of selecting information on, or describing, a system or an object of a system

[SOURCE: IEC 82045-1:2001 ISO/TC 10]

Note 1 to entry: This definition also appears in ISO 15519-1:2010.

3.1.6.2
aspect
<industrial systems> specific way of viewing an object

Note 1 to entry: Such ways may be:

— what the system or object is doing (function viewpoint);

— how the system or object is constructed (product viewpoint);

— where the system or object is located (location viewpoint

[SOURCE: ISO/TS 81346-10:2015 ISO/TC 10 SC10]

3.1.7
assembly
number of component parts fitted together to perform a specific function

[SOURCE: ISO 7573:2008 ISO/TC 10 SC1]

3.1.8
authorization
⟨of a user⟩ privileges that give access to designated activities

[SOURCE: ISO 11442:2006 ISO/TC 10 SC1]

3.1.9
auxiliary system
system which is required for the support of a power plant process

[SOURCE: ISO/TS 81346-10:2015 ISO/TC 10 SC10]

Note 1 to entry: This definition also appears in ISO 15519-1:2010.

3.1.10
basic design
part of the product development process where one or more design proposals are evaluated and the basic documentation for design is prepared

[SOURCE: ISO 11442:2006 ISO/TC 10 SC1]

3.1.11
burr
rough remainder of material outside the ideal geometrical shape of an external edge, residue of machining or of a forming process

[SOURCE: ISO 10209 ISO/TC 10]

Note 1 to entry: This term and definition appeared in the 2000 edition of ISO 13715 [ISO/TC 10 SC6].

3.1.12
CAD model
structured CAD data file(s) organized according to the physical parts of the objects represented, for example a building or a mechanical device

Note 1 to entry: to entry Models can be two-dimensional or three-dimensional, and can include graphical as well as non-graphical data attached to the objects.

[SOURCE: ISO 13567-1:2017 ISO/TC 10 SC8]

3.1.13
complex device
device consisting of several functionally interrelated components or elements, the description of which needs a diagram

[SOURCE: ISO 14617-2:2002 ISO/TC 10 SC10]

3.1.14
component
constituent part of equipment that cannot be physically divided into smaller parts without losing its character

[SOURCE: ISO 14617-1:2005 ISO/TC 10 SC10]

3.1.15
conceptual design
part of the product development process which includes the preparation of design specifications and design proposals for a product

[SOURCE: IEC 82045-1:2001 ISO/TC 10]

3.1.16
conceptual schema
implementation-independent specification of information structures

[SOURCE: ISO 11442:2006 ISO/TC 10 SC1]

3.1.17
concurrent engineering
coordination of parallel activities in the product life cycle, especially in the phases up to market introduction

[SOURCE: ISO 15226:1999 ISO/TC 10 SC1]

3.1.18
configuration control
activities comprising the control of changes to a configuration item after formal establishment of its configuration documents

[SOURCE: IEC 82045-1:2001 ISO/TC 10]

3.1.19
conjoint designation
designation of site, factory or plant complex as an optional element of the object identifier

Note 1 to entry: Definition based on the description given in ISO/TS 16952 1:2006, 5.2

[SOURCE: ISO 10209 ISO/TC 10]

3.1.20
construct
concept or fact that is modelled

[SOURCE: IEC 82045-2:2004 ISO/TC 10]

3.1.21
coordinate axis
three reference straight lines in space which intersect at the point of origin, thus forming a coordinate system

[SOURCE: ISO 10209 ISO/TC 10]

3.1.22
coordinate axis
three reference straight lines in space which intersect at the point of origin, thus forming a coordinate system

[SOURCE: ISO 10209 ISO/TC 10]

3.1.23
coordinate system
basis for establishing a relationship between each point in space and the three corresponding coordinates and vice versa

[SOURCE: ISO 10209 ISO/TC 10]

3.1.24
coordinates
set of numerical ordered values (and their corresponding units of measure), giving unequivocally the position of a point in a coordinate system

[SOURCE: ISO 10209 ISO/TC 10]

3.1.25
cylindrical coordinate system
coordinate system based on a reference system given by a reference horizontally oriented straight line and its origin and units of measure

[SOURCE: ISO 10209 ISO/TC 10]

3.1.26
cylindrical coordinates
three coordinates of a point in space relative to a cylindrical coordinate system

Note 1 to entry: to entry The three coordinates are: 1) the radius (distance of the point from the vertical axis passing through the origin); 2) the azimuth (angle formed by the vertical plane passing through the point and the origin and the reference horizontally oriented straight line); and 3) the height (distance of the point from the horizontal plane passing through the origin).

[SOURCE: ISO 10209 ISO/TC 10]

3.1.27
data medium
material on which data can be recorded and from which they can be retrieved

[SOURCE: IEC 82045-1:2001 ISO/TC 10]

3.1.28
detailed design
part of the product development process which includes the preparation of the final product definition

[SOURCE: ISO 11442:2006 ISO/TC 10 SC1]

3.1.29
device
assembly of components to per-form a required function

[SOURCE: ISO 14617-1:2005 ISO/TC 10 SC10]

3.1.30
edge
intersection of two surfaces

[SOURCE: ISO 10209 ISO/TC 10]

Note 1 to entry: This term and definition appeared in the 2000 edition of ISO 13715 [ISO/TC 10 SC6].

3.1.31
element
part of a component

[SOURCE: ISO 14617-1:2005 ISO/TC 10 SC10]

3.1.32
enlargement scale
scale where the ratio is larger than 1:1

[SOURCE: ISO 5455:1979 ISO/TC 10 SC1]

3.1.33
equipment
single parts of a plant, such as vessels, columns, heat exchangers, pumps, compressors

[SOURCE: ISO 10628 series – ISO 10628-1:2014 and ISO 10628-2:2012 ISO/TC 10 SC10]

3.1.34
full size
scale with the ratio 1:1

[SOURCE: ISO 5455:1979 ISO/TC 10 SC1]

3.1.35 Function

3.1.35.1
function
activity proper to anything, mode of action by which it fulfils its purpose

[SOURCE: ISO 14617-1:2005 ISO/TC 10 SC10]

3.1.35.2
function
intended or accomplished purpose or task

[SOURCE: IEC 81346-1:2009 ISO/TC 10]

3.1.36
functional area
combination of groups and/or elements in a unit that can be used independently

[SOURCE: ISO/TS 81346-10:2015 ISO/TC 10 SC10]

3.1.37
functional group
combination of elements in a unit that can be used independently

[SOURCE: ISO/TS 81346-10:2015 ISO/TC 10 SC10]

3.1.38
functional unit
<graphical symbols> constructional assembly containing functionally interrelated components or devices

[SOURCE: ISO 14617-2:2002 ISO/TC 10 SC10]

3.1.39
functional unit
<power plants> item under consideration defined according to function or effect

[SOURCE: ISO/TS 81346-10:2015 ISO/TC 10 SC10]

3.1.40
identifier
one or more characters used to identify or name a data category

[SOURCE: ISO 10209 ISO/TC 10]

3.1.41
industrial complex
number of discrete or interconnected process plants, together with the associated buildings

[SOURCE: ISO 10628 series – ISO 10628-1:2014 and ISO 10628-2:2012 ISO/TC 10 SC10]

3.1.42 Information model

3.1.42.1
information model
<metadata> conceptual model that describes a specific organization of data to provide communication for a given application context

[SOURCE: IEC 82045-2:2004 ISO/TC 10]

3.1.42.2
information model
<document management> implementation-independent specification of information structures

[SOURCE: IEC 82045-1:2001 ISO/TC 10]

3.1.43 layer

3.1.43.1
layer
self-contained group of data that can be manipulated or displayed individually

[SOURCE: IEC 81714-2:2006 ISO/TC 10 SC10]

3.1.43.2
layer
organizational attribute of entities in a CAD data file, used to separate data in order to manage and communicate those data and to control visibility on the computer screen and on plotted drawings

Note 1 to entry: In CAD systems, synonyms for "layer" are used, for example "level".

[SOURCE: ISO 13567-1:2017 ISO/TC 10 SC8]

3.1.44
line distance factor
factor defining the distance between succeeding base lines of a text in relation to the lettering height of the characters

[SOURCE: IEC 81714-2:2006 ISO/TC 10 SC10]

3.1.45
medium
means of storing, representing and communicating information

[SOURCE: ISO 10209 ISO/TC 10]

3.1.46 Multi-level reference designation

3.1.46.1
multi-level reference designation
<process industry> reference designation derived from a structure path through an overall system

[SOURCE: ISO 15519-1:2010 ISO/TC 10 SC10]

3.1.46.2
multi-level reference designation
<industrial systems> reference designation consisting of concatenated single-level reference designations

[SOURCE: IEC 81346 1:2009 ISO/TC 10]

3.1.47 Object

3.1.47.1
object
<document management> entity treated in the process of design, engineering, realization, operation, maintenance and demolition

[SOURCE: IEC 82045-1:2001 ISO/TC 10]

Note 1 to entry: This definition also appears in ISO 15519-1:2010.

3.1.47.2
object
<industrial systems> entity treated in a process of development, implementation, usage and disposal

Note 1 to entry: The object may refer to a physical or non-physical "thing" that might exist, exists or did exist.

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

[SOURCE: IEC 81346-1:2009 ISO/TC 10]

3.1.48
organization unit
part of an organization, with a fixed function

[SOURCE: ISO 15226:1999 ISO/TC 10 SC1]

3.1.49
part number
unique identification of a part for a particular organization

[SOURCE: ISO 7573:2008 ISO/TC 10 SC1]

3.1.50
part reference
identification of component parts of assemblies and/or the identification of individual parts on the same drawing

Note 1 to entry: Part references are document-based, as opposed to reference designations, which are structure-based. Identical parts on a drawing are required to have the same part reference, preferably a number (according to ISO 6433), while each occurrence of an object in a structure is required to have a unique reference designation (according to IEC 81346 1) .

[SOURCE: ISO 7573:2008 ISO/TC 10 SC1]

3.1.51
physical unit
item under consideration, defined according to construction or configuration

[SOURCE: ISO/TS 81346-10:2015 ISO/TC 10 SC10]

3.1.52
plant
complete set of technical equipment and facilities for solving a defined technical task

Note 1 to entry: A plant includes apparatus, machines, instruments, devices, means of transportation, control equipment and other operating equipment.

[SOURCE: ISO/TS 81346-10:2015 ISO/TC 10 SC10]

3.1.53
plant section
part of a process plant that can, at least occasionally, be operated independently

[SOURCE: ISO 10628 series – ISO 10628-1:2014 and ISO 10628-2:2012 ISO/TC 10 SC10]

3.1.54
polar coordinate axis
horizontally oriented straight line and its origin

[SOURCE: ISO 10209 ISO/TC 10]

3.1.55
polar coordinate system
coordinate system based on a reference system given by a polar coordinate axis and its units of measure

[SOURCE: ISO 10209 ISO/TC 10]

3.1.56
polar coordinates
three coordinates of a point in space relative to a polar coordinate system

Note 1 to entry: The three coordinates are:

1) the radius (distance between the point and the origin); 2) the azimuth (angle formed by the vertical plane passing through the point and the origin, and the polar coordinate axis); and 3) the angular height (angle formed by the horizontal plane passing through the origin and the straight line passing through the point and the origin).

[SOURCE: ISO 10209 ISO/TC 10]

3.1.57 Process

3.1.57.1
process
<process plants and industry> sequence of chemical, physical or biological operations for the conversion, transport or storage of material or energy

Note 1 to entry: Different processes or process steps can be carried out in the same process plant or plant section at different times.

Note 2 to entry: A process can also be regarded as an entirety of interacting events in a system through which material, energy or information are transformed, transported or stored.

[SOURCE: ISO 10628-1:2014, ISO 10628-2:2012 ISO/TC 10 SC10]

Note 3 to entry: This definition also appears in ISO 15519-1:2010.

3.1.57.2
process

<industrial systems> set of interacting operations by which material, energy or information is transformed, transported or stored

[SOURCE: IEC 81346-1:2009 ISO/TC 10]

3.1.58
process plant
facilities and structures necessary for performing a process

[SOURCE: ISO 10628 series - ISO 10628-1:2014 and ISO 10628-2:2012 ISO/TC 10 SC10]

Note 1 to entry: This definition also appears in ISO 15519-1:2010.

3.1.59
process step
part of a process which is predominantly self-sufficient and consists of one or several unit operations

[SOURCE: ISO 10628 series - ISO 10628-1:2014 and ISO 10628-2:2012 ISO/TC 10 SC10]

3.1.60 product

3.1.61.1
product
<document management> intended or accomplished result of labour or of a natural or artificial process

[SOURCE: IEC 82045-1:2001 ISO/TC 10]

Note 1 to entry: This term also appears in IEC 81346-1:2009.