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

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

(Revision of ISO 10209-1:1992, ISO 10209-2:1993 and ISO 10209-4:1999)

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ISO/CEN PARALLEL PROCESSING

This draft has been developed within the International Organization for Standardization (ISO), and processed under the **ISO-lead** mode of collaboration as defined in the Vienna Agreement.

This draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel five-month enquiry.

Should this draft be accepted, a final draft, established on the basis of comments received, will be submitted to a parallel two-month approval vote in ISO and formal vote in CEN.

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Contents

Page

1	Scope	4
2	General terms.....	4
3	Views.....	15
4	Dimensions.....	23
5	Lines.....	25
6	Tolerances	27
7	Graphics	27
8	Symbology.....	28
9	3D Modelling.....	32
10	Computer-related terms	35
11	Documentation.....	36
12	Document Management	52
	Annex A (informative) Tree structure of the vocabulary for technical product documentation	56
	Annex B (informative) Obsolete terms	73
	Index	74

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

ISO 10209 was prepared by Technical Committee ISO/TC 10, *Technical product documentation*.

This standard cancels and replaces ISO 10209-1, ISO 10209-2 and ISO 10209-4.

1 Scope

This part of ISO 10209 establishes and defines terms used in technical product documentation relating to technical drawings, product definition and related documentation in all fields of application.

This documentation includes all terms contained within ISO/TC 10 standards 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 Sub Committees and Working Groups for new or revised standards shall be ratified by the ISO/TC 10 Vocabulary maintenance team and included in future amendments of this standard.

NOTE From point of historical reason, where a term has two or more definitions the preferred definition is identified.

2 General terms

2.1

activity

processes, procedures or parts of them, usually related to established organization units

[ISO 15226:1999]

2.2

activity matrix

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

[ISO 15226:1999]

2.3

address

specification of the postal delivery or the geographical location of an organization

[ISO 81714-2:1998]

2.4

analysis

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

[ISO 11442:2006]

2.5

ancillary system

system which is not directly required for the plant process

[ISO/DTS 16952-10]

NOTE This includes heating, ventilation, air-conditioning systems, space heating systems, stationary compressed air supplies, fire protection systems, cranes, elevators, workshops, staff amenity etc.

2.6

application reference model

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

[ISO 82045-2:2004]

2.7

aspect

specific way of selecting information on, or describing, a system or an object of a system

[ISO 82045-1:2001] [ISO/CD 15519-1]

2.8

assembly

number of component parts fitted together to perform a specific function

[ISO 7573]

2.9

authorization

(of a user) privileges that give access to designated activities

[ISO 11442:2006]

2.10

auxiliary system

system which is required for the support of plant process

[ISO/DTS 16952-10]

NOTE This includes auxiliary steam system, compressed air, carrier air, control air, central chemicals supply, sampling systems etc.

2.11

basic design

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

[ISO 11442:2006]

2.12

burr

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

[ISO 13715:2000]

2.13

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

[ISO 13567-1]

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

2.14

complex device

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

[ISO 14617-02:2002]

2.15

component

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

[ISO 14617-01:2005]

2.16

conceptual design

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

[ISO 11442:2006]

2.17

conceptual schema

implementation-independent specification of information structures

[ISO 82045-1:2001]

2.18

concurrent engineering

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

[ISO 15226:1999]

2.19

configuration control

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

[ISO 82045-1:2001]

2.20

conjoint designation

designation of site, factory, plant complex as an optional element of object identifier [ISO/TS 16952-1]

2.21

construct

concept or fact that is modelled

[ISO 82045-2:2004]

2.22

controlled corner

corner with a shape which is mandatory, either sharp or passing or undercut or with a remaining and required burr

[ISO 13715:1994]

2.23

coordinate axis

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

[ISO 10209-2:1993]

2.24

coordinate plane

each of the three planes defined by any two of the coordinate axes 1

[ISO 209-2:1993]

2.25

coordinate system

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

[ISO 10209-2:1993]

2.26**coordinates**

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

[ISO 10209-2:1993]

2.27**corner**

point or area of a part at which two or more surfaces meet

[ISO 13715:1994]

2.28**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

[ISO 10209-2:1993]

2.29**cylindrical coordinates**

the three coordinate of a point in space relative to a cylindrical coordinate system; they are: the radius (distance of the point from the vertical axis passing through the origin), the azimuth (angle formed by the vertical plane passing through the point and the origin and the reference horizontal oriented straight line) and the height (distance of the point from the horizontal plane passing through the origin)

[ISO 10209-2:1993]

2.30**data medium**

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

[ISO 82045-1:2001]

2.31**designation**

generation of task-specific reference designations for technical objects in accordance with fixed rules

[ISO/TS 16952-1]

2.32**designation system**

entirety of the stipulated regulation for generating designations for a bounded area [ISO/TS 16952-1]

2.33**detailed design**

part of the product development process which includes the preparation of the final product definition

[ISO 11442:2006]

2.34**device**

assembly of components to perform a required function

[ISO 14617-01:2005]

2.35**edge**

intersection of two surfaces

[ISO 13715:2000]

2.36

edge of undefined shape

edge with a shape that is not specified precisely

[ISO 13715:2000]

2.37

element

part of a component

[ISO 14617-01:2005]

2.38

end product

the complete part ready for assembly or service or a configuration produced from a drawing specification

[ISO 129:1985] replaced

2.39

enlargement scale

a scale where the ratio is larger than 1:1

[ISO 05455:1979]

2.40

equipment

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

[ISO 10628:1997]

2.41

feature

individual characteristic such as a flat surface, a cylindrical surface, two parallel surfaces, a shoulder, a screw thread, a slot, a profile, etc

[ISO 129:1985] replaced

2.42

full size

scale with the ratio 1:1

[ISO 5455:1979]

2.43

function

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

[ISO 14617-1:2005]

function

intended or accomplished purpose or task

[IEC/DIS 81346-1]

2.44

functional area

combination of groups and/or elements in an independently usable functional unit

[ISO/DTS 16952-10]

2.45

functional group

combination of elements in an independently usable functional unit

[ISO/DTS 16952-10]

2.46

functional unit

constructional assembly containing functionally interrelated components or devices

[ISO 14617-2:2002]

functional unit

item under consideration defined according to function or effect

[ISO/TS 16952-1]

2.47

geometrical feature

point, line or surface

[ISO 129-1:2004]

2.48

graphical symbol

visually perceptible figure used to transmit information independently of language

[ISO 14617-1:2005; ISO 81714-1]

2.49

identification

clear and unambiguous recognition of an object based on identification characteristics with the precision stipulated for the corresponding purpose

[ISO/TS 16952-1]

2.50

identifier

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

[ISO/TS 16952-1; ISO 1087-2]

2.51

industrial complex

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

[ISO 10628:1997]

2.52

information model (1) (preferred definition)

conceptual model that describes a specific organization of data to provide communication for a given application context

[ISO 82045-2:2004]

information model (2)

implementation-independent specification of information structures

[ISO 82045-1:2001]

2.53

layer

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

[ISO 81714-2:1998]

2.54

line distance factor

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

[ISO 81714-3:2004]

2.55

location

place (e.g. a civil structure, floor, room or outdoor ground) at which design units, technical facilities or components are installed or erected

[ISO/TS 16952-1]

NOTE This includes the site of a component within a packaging system or technical equipment.

2.56

medium

means of storing, representing and communicating information

[ISO 10209-4:1999]

2.57

multi level reference designation

reference designation derived from a structure path through an overall system

[ISO/CD 15519-1]

multi-level reference designation

reference designation consisting of concatenated single-level reference designations

[IEC/DIS 81346-1]

2.58

network

set of ideal circuit elements and their interconnections, considered as a whole

[ISO/TS 16952-1; IEC 60050-131]

2.59

object

entity treated in the process of design, engineering, realization, operation, maintenance and demolition

[ISO 82045-1:2001] [ISO/CD 15519-1]

object

entity treated in a process of design, engineering, realization, operation, maintenance, dismantling and disposal

[IEC/DIS 81346-1]

NOTE 1 The object may refer to a physical or non-physical 'thing' that might exist, exists or did exist.

NOTE 2 The object has information associated to it.

2.60

operating material

material required in the manufacturing of an object, but which is not contained in the object

[ISO/TS 16952-1]

2.61**organization name**

identification of a particular organization

[ISO 81714-2:1998]

2.62**organization unit**

part of an organization, with a fixed function

[ISO 15226:1999]

2.63**part**

one piece of an assembly, or several pieces joined together which are not normally subject to disassembly without destruction

[ISO 13715:1994]

2.64**part number**

unique identification of a part for a particular organization

[ISO 7573]

2.65**part reference**

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

[ISO 7573; ISO/CD 6433]

NOTE 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 (ISO 6433), while each occurrence of an object in a structure is required to have a unique reference designation (IEC 81346-1 Ed.2)

2.66**passing**

deviation outside the ideal geometrical shape of an internal edge

[ISO 13715:2000]

2.67**physical unit**

item under consideration, defined according to construction or configuration

[ISO/TS 16952-1]

2.68**plant**

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

[IEC 60050-351; ISO/DTS 16952-10]

NOTE A plant includes apparatus, machines, instruments, devices, means of transportation, control equipment and other operating equipment.

2.69**plant section**

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

[ISO 10628:1997]

2.70

polar coordinate axis

horizontally oriented straight line and its origin

[ISO 10209-2:1993]

2.71

polar coordinate system

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

[ISO 10209-2:1993]

2.72

polar coordinates

the three coordinates of a point in space relative to a polar coordinate system; they are: the radius, (distance between the point and the origin) the azimuth (angle formed by the vertical plane passing through the point and the origin, and the polar coordinate axis) and the angular height (angle formed by the horizontal plane passing through the origin and the straight line passing through the point and the origin)

[ISO 10209-2:1993]

2.73

process

sequence of chemical, physical or biological operations for the conversion, transport or storage of material or energy

[ISO 10628:1997] [ISO CD15519-1]

process

set of interacting operations by which material, energy or information is transformed, transported or stored

[IEC/DIS 81346-1; IEV 351-21-43]

2.74

process plant

facilities and structures necessary for performing a process

[ISO 10628:1997] [ISO/CD 15519-1]

2.75

process step

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

[ISO 10628:1997]

2.76

product (1) (preferred definition)

intended or accomplished result of labour or of a natural or artificial process

[ISO 82045-1:2001]

product (2)

thing or substance produced by a natural or artificial process

[ISO 15226:1999] [ISO 16016:2000]

product (3)

thing produced by natural process or manufacture; result

[ISO 14617-01:2005]

2.77

product definition data

data elements required to completely define a product

[ISO 16792:2006]

2.78

product definition data set

collection of one or more computer file(s) that discloses (directly or by reference), by means of graphic or textual presentations, or combinations of both, the physical and functional requirements of a product

[ISO 16792:2006]

2.79

product identifying number

private code uniquely identifying a product within an organization

[ISO 81714-2:1998]

2.80

rectangular coordinate planes

coordinate planes intersecting at right angles

[ISO 10209-2:1993]

2.81

rectangular coordinate system

coordinate system based on a reference system given by three mutually orthogonal axes (rectangular coordinate axes), originating from the same point (origin), and their units of measure

[ISO 10209-2:1993]

2.82

rectangular coordinates

the three rectangular coordinates of a point in space relative to a rectangular coordinate system are the distance of the point from the coordinate planes, in a given order

[ISO 10209-2:1993]

2.83

rectangular coordinates axes

coordinate axes intersecting at right angles

[ISO 10209-2:1993]

2.84

reference designation (1) (preferred definition)

identifier of a specific object with respect to the system of which the object is a constituent, based on one or more aspects of that system

[ISO/CD 15519-1]

reference designation (2)

code for identification of equipment in the functional position of the process

[ISO 10628:1997]

2.85

reference designation set

set of reference designations of which at least one is unambiguously identifies the object of interest

[ISO/CD 15519-1]

2.86

scale

ratio of the linear dimension of an element of an object as represented in the original drawing to the real linear dimension of the same element of the object itself

[ISO 5455:1979]

2.87

scaling factor

factor by which the coordinates of all defined points of the symbol will be enlarged or reduced in size in relation to the reference point of the symbol

[ISO 81714-2:1998]

2.88

sharp edge

external or internal edge of part with almost zero deviation from the ideal geometrical shape

[ISO 13715:2000]

2.89

single-level reference designation

reference designation assigned with respect to the object of which the specific object is a direct constituent in one aspect

[IEC/DIS 81346-1]

2.90

specification of requirements

compilation of market, authority (e.g. laws, regulations, directives) and company related requirements

[ISO 11442:2006]

2.91

state of corner

either controlled or uncontrolled shape of a corner (see figures 1 and 2 or figures 3 and 4), the size of which shall not be exceeded in any direction (i.e. maximum dimensions)

[ISO 13715:1994]

2.92

state of edge

geometrical shape and size of an edge

[ISO 13715:2000]

2.93

structure

organization of relations among objects of a system describing constituency–relations (consist-of / is-a-part-of)

[IEC/DIS 81346-1]

2.94

sub-contract

contract to carry out part of a larger contract

[ISO 10209-4:1999]

2.95

system

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

[IEC/DIS 81346-1; IEV 151-11-27]

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

NOTE 2 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 organization, mathematical methods, programming languages).

NOTE 3 The system is considered to be separated from the environment and from the other external systems by an imaginary surface, which cuts the links between them and the system.

NOTE 4 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 When a system is part of another system, it may be considered as an object as defined in this standard.

2.96

tender

written offer to execute at a stated price or rate an order for the supply of goods or services or the execution of works under given conditions

[ISO 10209-4:1999]

2.97

terminal designation

identifier of a terminal with respect to the object to which it belongs, related to one aspect of the object

[ISO/TS 16952-1; IEC 61666]

2.98

undercut

deviation inside the ideal geometrical shape of an internal edge

[ISO 13715:2000]

2.99

unit operation

simplest operation in a process according to the theory of process technology

[ISO 10628:1997]

2.100

universal product code

world-wide unambiguous product identification

[ISO 81714-2:1998]

2.101

works

system of industrial complexes and the associated infrastructure in one location

[ISO 10628:1997]

3 Views

3.1

alignment line

line parallel to a given line passing through the projection centre

[ISO 5456-4:1996]

3.2

aspect

specified way of viewing an object

[IEC/DIS 81346-1]

3.3

axonometric representation

parallel projection of an object on a single projection plane

[ISO 10209-2:1993]

3.4

basic line

intersection between the projection plane and the basic plane

[ISO 10209-2:1993]

3.5

basic plane

horizontal plane parallel to the main projection line on which the viewer stands (monocular vision)

[ISO 10209-2:1993]

3.6

bird's eye perspective

one-point perspective, seen from above on a horizontal projection plane

[ISO 10209-2:1993]

3.7

cabinet axonometry

oblique axonometry in which the projection plane is parallel to one of the coordinate planes

[ISO 10209-2:1993]

3.8

cavalier axonometry

oblique axonometry in which the projection plane is parallel to one of the coordinate planes

[ISO 10209-2:1993]

3.9

central projection

projection method in which the projection centre is placed at a finite distance, and all projection lines are converging

[ISO 10209-2:1993]

3.10

circle of vision

trace of the vision cone on the projection plane

[ISO 10209-2:1993]

3.11

cut

sectional view

section showing, in addition, outlines beyond the cutting plane

[ISO 128-40:2001]

3.12

cutting line

line indicating the position of a cutting plane, or the sectioning axis in the case of two or more cutting planes

[ISO 128-40:2001]

3.13

cutting plane

imaginary plane at which the object represented is cut through

[ISO 128-40:2001]

3.14**dimetric projection**

axonometric representation in which the scales of two coordinate axes are identical, with a different scale on the third coordinate axis

[ISO 10209-2:1993].

3.15**direct orthographic projection**

direct orthographic projection is the representation of an object obtained by the intersection at right angles of projection lines with a plane

[ISO 2594:1972]

3.16**distance point**

each of the two vanishing points of all parallel horizontal lines inclined at 45° to the projection plane

[ISO 10209-2:1993]

3.17**elevation**

view on a vertical plane

[ISO 10209-1:1993]

3.18**exploded view (1) (preferred definition) (wording reference axonometric etc to be revised)**

pictorial representation of an assembly, usually in isometric, axonometry or perspective representation, in which components are drawn to the same scale and correctly oriented relative to each other, but are separated from each other in their correct sequence

[ISO 10209-2:1993]

exploded view (2)

drawing of an assembly in pictorial representation in which all the components are drawn to the same scale and correctly orientated relative to each other, but are separated from each other in their correct sequence along common axes

[ISO 5456-1:1996]

3.19**first angle projection**

orthographic representation comprising the arrangement, around the principal view of an object, of some or all of the other five views of that object.

with reference to the principal view, the other views are arranged as follows:

- the view from above is placed underneath,
- the view from below is placed above,
- the view from the left is placed on the right,
- the view from the right is placed on the left
- the view from the rear is placed on the left or to the right, as convenient

[ISO 10209-2:1993]

3.20**frog's eye perspective**

one-point perspective, seen from beneath on a horizontal projection plane

[ISO 10209-2:1993]

3.21

half cut

representation of a symmetrical object which, divided by the centre line, is drawn half in view and half in cut or section

[ISO 128-40:2001]

3.22

half section

representation of a symmetrical object which, divided by the centre line, is drawn half in view and half in cut or section

[ISO 128-40:2001]

3.23

height of projection

vertical distance of the projection centre from the basic plane

[ISO 5456-4:1996]

3.24

horizon line

intersection between the horizon plane and the vertical projection plane

[ISO 10209-2:1993]

3.25

horizontal distance

distance between the projection centre and the projection plane

[ISO 5456-4:1996]

3.26

horizontal plane

horizontal plane passing through the projection centre

[ISO 10209-2:1993]

3.27

isometric axonometry

orthogonal axonometry in which any projection line forms three equal angles with respect to the coordinate axes

[ISO 10209-2:1993]

3.28

isometric representation

projection method in which each of the three coordinate axes is inclined at the same angle to the projection plane

[ISO 6412-1:1989]

3.29

level contour line

in a topographical projection, intersection of the horizontal plane at a predetermined level above or below a reference level with the surface to be represented

[ISO 10209-2:1993]

3.30**local cut**

representation in which only a part of an object is drawn in cut or section

[ISO 128-40:2001]

3.31**local section**

representation in which only a part of an object is drawn in cut or section

[ISO 128-40:2001]

3.32**main point**

intersection between the main projection line and the projection plane

[ISO 10209-2:1993]

3.33**main projection line**

horizontal projection line passing through the projection centre and intersecting the vertical projection plane at right angles to the main point

[ISO 10209-2:1993]

3.34**mirrored orthographic projection**

mirrored orthographic projection is the reproduction of the image in a mirror of an object when the mirror is parallel to the horizontal planes of this object

[ISO 2594:1972]

3.35**monometric projection**

axonometric representation in which all three scales on all three coordinate axes are identical

[ISO 10209-2:1993]

3.36**oblique axonometry**

oblique projection on a single projection plane

[ISO 10209-2:1993]

3.37**oblique projection**

parallel projection in which all projection lines intersect the projection plane at the same angle other than 90°

[ISO 10209-2:1993]

3.38**one-point perspective**

perspective representation of an object placed with one of its faces parallel to the projection plane

[ISO 10209-2:1993]

3.39**origin**

point of intersection of the coordinate axes

[ISO 10209-2:1993]

3.40

orthogonal axonometry

orthogonal projection on a single plane

[ISO 10209-2:1993]

3.41

orthogonal projection

parallel projection in which all projection lines intersect the projection plane at right angle

[ISO 10209-2:1993]

3.42

orthogonal representation

projection method in which the projectors are at right angles to the projection plane

[ISO 6412-1:1989]

3.43

orthographic representation

orthogonal projections of an object normally positioned with its main faces parallel to the coordinates planes on one or more projection planes coincident with or parallel to the coordinate planes

[ISO 10209-2:1993]

3.44

parallel projection

projection method in which the projection centre is placed at an infinite distance, and all projection lines are parallel

[ISO 10209-2:1993]

3.45

perspective representation

central projection of an object on a projection plane (normally vertical)

[ISO 10209-2:1993]

3.46

pictorial representation (1) (preferred definition) (with proposed amendment as below)

technical or artistic presentation of an object giving a realistic view

[ISO 10209-2:1993]

pictorial representation (2)

parallel or central projection on a single projection plane given a three-dimensional image of an object

[ISO 5456-1:1996]

3.47

planometric axonometry

oblique axonometry in which the projection plane is parallel to the horizontal coordinate plane

[ISO 10209-2:1993]

3.48

point of view

projection of the projection centre on the basic plane

[ISO 10209-2:1993]

3.49**principal view**

view of an object showing the important features, which may be chosen from the point of view of design, assembly, sales, service or maintenance

[ISO 5456-1:1996]

3.50**projection angle**

angle formed by the projection plane and the horizon plane

[ISO 5456-4:1996]

3.51**projection centre**

point from which all projection lines originate

[ISO 10209-2:1993]

3.52**projection line**

straight line originating from the projection centre and passing through a point on the object to be represented

[ISO 10209-2:1993]

3.53**projection method**

rules used to obtain a two-dimensional image of a three-dimensional object

[ISO 10209-2:1993]

3.54**projection plane**

plane on which the object is projected in order to obtain a representation of that object

[ISO 10209-2:1993]

3.55**projector**

straight line originating from the projection centre and passing through a point on the object to be represented.

[ISO 10209-2:1993]

3.56**reduction scale**

a scale where the ratio is smaller than 1:1

[ISO 5455:1979]

3.57**reference arrow layout**

representation in which views and sections are freely positioned in the drawing

[ISO 10209-2:1993]

3.58**repeated feature**

periodicity of features of the same spacing or angle referred to one or more reference features

[ISO 129-1:2004]

3.59

representation

presentation of drawn information relating to any type of technical drawing

[ISO 10209-2:1993]

3.60

scale point

vanishing point of the horizontal direction orthogonal to that bisecting the angle formed by the horizon line, and allowing the true length of the projection of the given line to be determined

[ISO 5456-4:1996]

3.61

section

representation showing only the outlines of an object lying in one or more cutting planes

[ISO 128-40:2001] [ISO 10209-1:1993]

3.62

sectional view

section showing, in addition, outlines beyond the cutting plane

[ISO 128-40:2001] [ISO 10209-1:1993]

3.63

station of observation

orthogonal projection of the projection centre onto the basic plane

[ISO 5456-4:1996]

3.64

third angle projection

orthographic representation comprising the arrangement, around the principal view of an object, of some or all of the other five views of that object, with reference to the principal view, the other views are arranged as follows:

- the view from above is placed above,
- the view from below is placed underneath,
- the view from the left is placed on the left,
- the view from the right is placed on the right
- the view from the rear is placed on the left or the right as convenient

[ISO 10209-2:1993]

3.65

three-point perspective

perspective representation of an object having all its faces inclined to the projection plane

[ISO 10209-2:1993]

3.66

topographical projection

orthogonal projection on a horizontal projection plane of the intersections of a series of equidistant horizontal planes with the surface to be represented

[ISO 10209-2:1993]

3.67**trimetric projection**

axonometric representation in which the scales are different on all the three coordinate axes

[ISO 10209-2:1993]

3.68**true view**

view of the features of an object that lie on a plane parallel to the projection plane; geometrically similar to the corresponding features of the object

[ISO 5456-1:1996]

3.69**two-point perspective**

perspective representation of an object placed with its vertical faces inclined to and its horizontal faces at right angles to the projection plane

[ISO 10209-2:1993]

3.70**vanishing point**

point at which converging lines meet when representing parallel straight lines in perspective representation. it is the image of the point at infinite distance of all parallel straight lines

[ISO 10209-2:1993]

3.71**view**

orthogonal projection showing the visible part of an object and also, if necessary, its hidden outlines

[ISO 10209-1:1993]

3.72**vision angle**

angle of aperture of the vision cone

[ISO 10209-2:1993]

3.73**vision cone**

right circular cone having the main projection line as its axis and the projection centre as vertex

[ISO 10209-2:1993]

3.74**x-ray view**

pictorial representation, normally in perspective, showing complex objects as if they were partially transparent, in order to reveal their main parts

[ISO 10209-2:1993]

4 Dimensions**4.1****angular dimension**

the angle between two features or the angle of an angular feature of size

[ISO 129-1:2004]

4.2

auxiliary dimension

dimensions derived from other dimensions given for information purposes only

[ISO 129-1:2004]

4.3

basic dimension

numerical value of a dimension expressed in a specific unit and indicated on drawings with lines and relevant symbols

[ISO 129-1:2004]

4.4

chain dimensioning

method of dimensioning where single dimensions are arranged in a row

[ISO 129-1:2004]

4.5

coordinate dimensioning

method of dimensioning from a reference feature in a coordinate system

[ISO 129-1:2004]

4.6

dimension

distance between two features or the size of a feature of size

[ISO 129-1:2004]

4.7

dimensional value

numerical value of a dimension expressed in a specific unit and indicated on drawings with lines and relevant symbols

[ISO 129-1:2004]

4.8

feature of size

geometrical shape defined by a linear or angular dimension which is a size

[ISO 129-1:2004]

4.9

functional dimension

dimension that is essential to the function of the piece or space

[ISO 129:1985]

4.10

linear dimension

linear distance between two features or the linear size of a feature of size

[ISO 129-1:2004]

4.11

non-functional dimension

dimension that is not essential to the function of the piece or space

[ISO 129:1985] replaced

4.12**origin circle**

starting point of running dimensioning or coordinate dimensioning

[ISO 129-1:2004]

4.13**parallel dimensioning**

method of dimensioning from a reference feature with parallel or concentric dimension lines

[ISO 129-1:2004]

4.14**reference feature**

feature which is used as the origin for the determination of another feature

[ISO 129-1:2004]

4.15**resolved dimension**

model value that is rounded off to the number of decimal places required for the design

[ISO 16792:2006]

4.16**running dimensioning**

method of dimensioning from a reference feature where each feature is dimensioned

[ISO 129-1:2004]

4.17**tabular dimensioning**

method of dimensioning where features and/or dimensions are indicated by allocated numbers or letters and recorded in tables

[ISO 129-1:2004]

4.18**terminator**

indication signifying the extremities of a dimension or leader line

[ISO 129-1:2004]

5 Lines**5.1****centre line**

line on a drawing indicating the geometrical centre of the represented feature(s)

[ISO 129-1:2004]

5.2**connecting line**

graphical symbol representing a functional connection, a mechanical link, a pipeline, a duct, or an electric connection

[ISO 14617-1:2005]

5.3**dimension line**

straight or curved line on a drawing between two features, or between a feature and an extension line, or between two extension lines indicating the dimension graphically

[ISO 129-1:2004]

5.4

extension line

line connecting the feature(s) to be dimensioned and the ends of the corresponding dimension line

[ISO 129-1:2004]

5.5

flow line

representation of the flow path of the inlet or outlet streams or of material, energy or energy carriers

[ISO 6412-1:1989]

5.6

leader line

Continuous narrow line which establishes the connection between the features of a graphical representation and additional alphanumeric and/or written instructions (notes, technical requirements, item references, etc.) in an unambiguous manner

[ISO 128-22:1999]

5.7

line

geometrical object, the length of which more than half of the line width and which connects an origin with an end in any way, e.g. straight, curved, without or with interruptions

[ISO 128-20:1996]

5.8

line element

single part of a non-continuous line, e.g. dots, dashes, which vary in length, and gaps

[ISO 128-20:1996]

5.9

line of symmetry

straight line on a drawing indicating the plane or axis of symmetry

[ISO 129-1:2004]

5.10

line segment

group of two or more different line elements in which form a non-continuous line, e.g. long dash/gap/dot/gap/dot/gap

[ISO 128-20:1996]

5.11

reference line

continuous narrow line connecting with the leader line horizontally or vertically and on or at which the additional instructions are indicated

[ISO 128-22:1999]

5.12

terminal line (1)

line of a graphical symbol ending at a connect node

[ISO 14617-1:2005]

terminal line (2)

line of a graphical symbol ending at a connect node

[ISO 81714-1:1999]

6 Tolerances

6.1

datum system

ordered list of two or three datum's, which can be single or common

[ISO 16792:2006]

6.2

tolerance of dimension

difference between the upper and lower tolerance limits of a dimension

[ISO 129-1:2004]

7 Graphics

7.1

central line

imaginary line in the middle of each line or line element which is a constitutive part of a graphic character set

[ISO 3098-0:1997]

7.2

character aspect ratio

relation of width to height of a character body

[ISO 81714-2:1998]

7.3

character body

rectangle used to enclose a single character shape

[ISO 81714-2:1998]

7.4

character expansion factor

relation of width to height of a character body

[ISO 81714-2:1998]

7.5

character justification

alignment of a character in its character body

[ISO 81714-2:1998]

7.6

character spacing factor

space between sequent character bodies

[ISO 81714-2:1998]

7.7

graphic character set

finite set of different graphic characters in a fixed type of lettering, including letters of a certain alphabet, numerals, diacritical marks, punctuation marks and additional graphical symbols, that is considered complete for a given purpose (see also ISO 2382-4)

[ISO 3098-0:1997]

7.8

lettering (1)

procedure of writing graphic characters taken from a graphic character set on a (technical) drawing carrier (in addition to the graphical representation)

[ISO 3098-0:1997]

lettering (2)

the whole of the non graphical information on a (technical) drawing carrier (text, instructions, dimensions, etc.)

[ISO 3098-0:1997]

lettering (3)

the whole of the graphic characters of a graphic character set which can be used for transferring none graphical information onto a (technical) drawing carrier

[ISO 3098-0:1997]

7.9

proportional lettering

lettering with characters having individual width of character bodies

[ISO 81714-2:1998]

7.10

special character

character not included in the set of letters a-z, a-z, numerals and punctuation symbols

[ISO 16792:2006]

7.11

tabular lettering

lettering with characters having a constant width of all character bodies

[ISO 81714-2:1998]

7.12

text (1)

string of alphabetical, numerical and/or other characters

[ISO 81714-1:1999 (under revision)]

text (2)

collection of alphabetical, numerical and/or other characters conveying human interpretable information

[ISO 81714-1:1999 (under revision)]

8 Symbology

8.1

arc

curved line without inflection point

[ISO 81714-1:1999]

8.2

coded connect node class

encoded classification of a connect node

[ISO 81714-2:1998]

8.3**connect block**

openings intended for the presentation of data associated with a connect node

[ISO 81714-2:1998]

8.4**connect node**

location on a graphical symbol intended for connection

[ISO 81714-1:1999]

8.5**connecting line directions**

specification of directions under which connecting lines may be drawn onto a schematic connect node

[ISO 81714-2:1998]

8.6**connect-node code**

code of the type of connect node associated with an object

[ISO 81714-2:1998]

8.7**country code**

encoded name of a country

[ISO 81714-2:1998]

8.8**descriptive block**

openings intended for the presentation of descriptive information

[ISO 81714-2:1998]

8.9**electrical node (schematic)**

connect node designed for connecting to a representation of an electrical network

[ISO 81714-2:2006]

8.10**embedded area**

area containing the graphical symbol

[ISO 81714-2:1998]

8.11**function symbol**

graphical symbol representing an object with a defined behaviour, and provided with input and output functional nodes

[ISO 81714-2:1998]

8.12**functional node (schematic)**

connect node designed for connecting to a representation of a functional network

[ISO 81714-2:1998]

8.13

graphical primitives

constructs like lines, circular arcs, polylines, ellipsis etc., needed to draw a figure in a computer-aided drawing system

[ISO 81714-2:1998]

8.14

graphical symbol

visually perceptible figure used to transmit information independently of language

[ISO 81714-1:1999] [ISO/CD 15519-1]

8.15

graphical symbol occurrence

graphical symbol presented in a diagram including the presentation of data associated with the object being represented

[ISO 81714-2:1998]

8.16

identifying block

openings intended for the presentation of reference designations

[ISO 81714-2:1998]

8.17

input/output label

graphical symbol, letter(s) or number indicating the function of an input/output of a component or device

[ISO 14617-15:2002]

8.18

international article number

world-wide unambiguous product identification

[ISO 81714-2:1998]

8.19

linkage node (schematic)

connect node designed for connecting to a representation of a mechanical linkage network

[ISO 81714-2:1998]

8.20

matter node (schematic)

connect node designed for connecting to a representation of a network intended for transport of matters

[ISO 81714-2:1998]

8.21

network code

code of the type of network interrelating connect nodes

[ISO 81714-2:1998]

8.22

node name

identification of a connect node

[ISO 81714-2:1998]

8.23**opening**

definition of a possibility to enter information associated with the object being represented by a graphical symbol occurrence

[ISO 81714-2:1998]

8.24**optical node (schematic)**

connect node designed for connecting to a representation of an optical fibre network

[ISO 81714-2:1998]

8.25**organization code**

encoded name of a particular organization

[ISO 81714-2:1998]

8.26**port**

point of access of an object intended for connection

[ISO 81714-2:1998]

8.27**product symbol**

graphical symbol representing an object with a defined behaviour, and provided with nodes, specifically implemented in either hardware or software

[ISO 81714-2:1998]

8.28**reference point**

origin of the coordinate system used in the description of all the graphical elements of the graphical symbol.

[ISO 81714-1:1999]

8.29**reference symbol**

graphical symbol unambiguously identified and provided with openings for presentation of data associated with an object represented in a diagram by a graphical symbol occurrence

[ISO 81714-2:1998]

8.30**symbol classification**

classification of an object represented by a graphical symbol

[ISO 81714-2:1998]

8.31**symbol classification code**

encoded classification of an object represented by a graphical symbol

[ISO 81714-2:1998]

8.32**symbol description**

textual description of the meaning of a graphical symbol

[ISO 81714-2:1998]

8.33

symbol family

set of graphical symbols with a common conception using graphical characteristics with specific meanings

[ISO 81714-1:1999]

8.34

symbol name

identifier of a graphical symbol within a symbol library

[ISO 81714-2:1998]

8.35

symbol type

attribute for a classification of a graphical symbol used e.g. for a simplified management of symbols in case-systems and allowing special evaluations (e.g. for terminals, devices, detached representation, attached representation, etc.)

[ISO 81714-2:1998]

8.36

terminal

point of access of an object intended for connection

[ISO 81714-2:1998]

8.37

terminal line (1)

line of a graphical symbol ending at a connect node

[ISO 81714-1:1999]

terminal line (2)

line of a graphical symbol ending at a connect node

[ISO 14617-1:2005]

8.38

variant name

identifying name of a variant of a symbol

[ISO 81714-2:1998]

8.39

wave node (schematic)

connect node designed for connecting to a representation of a wave propagation network

[ISO 81714-2:1998]

9 3D Modelling

9.1

annotation

dimension(s), tolerance(s), note(s), text or symbol(s) visible without any manual or external manipulation

[ISO 16792:2006]

9.2

annotation plane

conceptual plane containing annotation

[ISO 16792:2006]

9.3**assembly model**

model in which the product described is an assembly of two or more items

[ISO 16792:2006]

9.4**associated entities**

portion of a product definition to which annotation pertains

[ISO 16792:2006]

9.5**associated group**

user-defined set of related digital elements

[ISO 16792:2006]

9.6**associativity**

established relationship between digital elements

[ISO 16792:2006]

9.7**attribute**

dimension, tolerance, note, text or symbol required to complete the product definition or model feature of the product that is not visible but available upon querying the model

[ISO 16792:2006]

9.8**design model**

portion of the data set that contains model and supplemental geometry

[ISO 16792:2006]

9.9**digital element**

geometric element, model feature, group of model features, annotation, associated group or attribute that exists in a data set

[ISO 16792:2006]

9.10**digital element identifier**

label or name used to specify a unique digital element

[ISO 16792:2006]

9.11**direction dependent tolerance**

tolerance that invokes a zone of parallel lines or curves

[ISO 16792:2006]

9.12**flagnote**

note that is located with the general notes but applies only at specific areas or points on the model or drawing

[ISO 16792:2006]

9.13

geometric element

graphic entity used in a data set

[ISO 16792:2006]

9.14

installation model

model in which the product described is an installation, showing parts or assemblies and a partial or complete representation of the installation site

[ISO 16792:2006]

9.15

management data

data required for the release, control and storage of product definition data as well as other relevant engineering data

[ISO 16792:2006]

9.16

model

combination of design model, annotation and attributes that describes a product

[ISO 16792:2006]

9.17

model coordinate system

representation of a Cartesian coordinate system in a product definition data set

[ISO 16792:2006]

9.18

model feature

model geometry that represents a physical portion of a part

[ISO 16792:2006]

9.19

model geometry

geometric elements in product definition data which represent designed product

[ISO 16792:2006]

9.20

model value

numerical value derived by querying the model that quantifies the form and spatial relationships of the geometry composing a design model or assembly of models to the precision (number of decimal places) of the computer system

[ISO 16792:2006]

9.21

query

means of interrogating a digital element or the relationship between digital elements

[ISO 16792:2006]

9.22

represented line element

supplemental geometry line or curve segment indicating the orientation of a direction-dependent tolerance

[ISO 16792:2006]

9.23**saved view**

stored and retrievable specific orientation and a magnification factor of a mode

[ISO 16792:2006]

9.24**supplemental geometry**

geometric elements included in product definition data to communicate design requirements but not intended to represent a portion of the manufactured product

[ISO 16792:2006]

10 Computer-related terms**10.1****configurable**

term indicating the capability of the system to allow user to select, from pre-programmed functions (modular software units), those which are necessary to accomplish a control strategy or other complex functions, without the use of computer language

[ISO 3511-4:1985]

10.2**distributed control system (dcs)**

system for process control purposes which, while being functionally integrated, consists of sub-systems which may be physically separated and remotely located from one another

[ISO 3511-4:1985]

10.3**document id**

identifier for a document within a domain

[IEC 82045-2]

10.4**language code**

identifier of the language(s) used in the document version in accordance with ISO 639-1

[IEC 82045-2]

NOTE For multilingual documents, several codes in accordance with ISO 639-1 need be given.

10.5**process computer**

programmable device which operates in real time on process data, on-line (primarily sensor based), to perform user specifiable supervision and/or control functions

[ISO 3511-4:1985]

10.6**programmable**

term indicating the capability of the system to accept instructions in computer language given by the user for performing control strategies or complex functions

[ISO 3511-4:1985]

10.7**screen dump**

hard copy of a displayed image

[ISO 16792:2006]

10.8

shared control system

system in which shared functions, such as display, control and communications, are shared in time, i.e. 'time shared' functions

[ISO 3511-4:1985]

10.9

shared display

system in which shared functions, such as display, control and communications, are shared in time, i.e. 'time shared' functions

[ISO 3511-4:1985]

10.10

software link

interconnection of system functions via keyboard or program instructions (soft wiring as opposed to hard wiring)

[ISO 3511-4:1985]

11 Documentation

11.1

aggregated document

document containing separately identified documents (parts) that are logically dependent but can be physically independently managed

[ISO 82045-1:2001]

11.2

alarm diagram

diagram which shows the design of an alarm installation in a simplified way

[ISO 10209-4:1999]

11.3

architectural drawing

drawing which shows the appearance of general arrangements, assemblies, component ranges and details of a building

[ISO 10209-4:1999]

11.4

archive master

document replica for long-term storage in a trusted encoding format

[ISO 11442:2006]

11.5

as-built drawing

drawing used to record the details of a construction following its completion

[ISO 10209-1:1993] [ISO 10209-4:1999]

11.6

assembly drawing

drawing representing the relative position and/or shape of a high-level group of assembled parts

[ISO 10209-1:1993]

11.7**bar schedule**

component range drawing in which the lengths, sizes, bending dimensions and identification of reinforcement bars are given

[ISO 10209-4:1999]

11.8**base drawing**

drawing which shows a certain stage of design, and which is used by the designers on a project as basic information for further design

[ISO 10209-4:1999]

11.9**bill of quantities**

document for tendering, usually prepared in a standard form, comprising both a descriptive list of quantities of works and a description of the materials, workmanship and other matters required for construction works

[ISO 10209-4:1999]

11.10**blasting plan**

drawing which presents the scope of the blasting work, including location and firing pattern of explosive charges, division into stages, charges and all other information necessary to satisfy safety and other requirements

[ISO 10209-4:1999]

11.11**block diagram (1) (preferred definition)**

overview diagram predominantly using block symbols

[ISO/CD 15519-1]

block diagram (2)

overview diagram using block symbols predominantly

[ISO 10209-4:1999]

11.12**block plan**

drawing which identifies a site and locates the outlines of construction works in relation to a town plan or similar document

[ISO 10209-1:1993] [ISO 10209-4:1999]

11.13**brief**

working document which specifies at any point in time the relevant needs and aims, resources of the client and user, the context of the project and any appropriate design requirements within which all subsequent briefing (when needed) and designing can take place

[ISO 10209-4:1999]

11.14**building permit drawing**

document which forms the basis for the decision on a building permit

[ISO 10209-4:1999]

11.15

bulk excavation plan

excavation plan which specifies information for the realization of overall excavation works

[ISO 10209-4:1999]

11.16

cable diagram

diagram providing information on cables, such as the identification of the conductors, the location of the ends, and, if needed, the characteristics, routes and function

[ISO 10209-4:1999]

11.17

cable-run drawing

drawing which shows the location of cables in an electrical installation

[ISO 10209-4:1999]

11.18

CAD drawing

drawing which is produced by a plotter or a printer, or on a screen, governed by a computer programme

[ISO 10209-4:1999]

CAD drawing

selected parts of a CAD model as presented on screen or on paper

[ISO 13567-1]

NOTE Visibility on the drawing can be controlled by views and layers. The drawing can contain additional graphics, such as border-lines, title-block and legends. CAD drawings can also be produced independently without an underlying CAD model (a drawing-oriented approach as opposed to the model-oriented approach).

11.19

ceiling drawing

drawing which specifies the scope and workmanship of the ceilings of a storey of a building, and which is normally in mirrored projection

[ISO 10209-4:1999]

11.20

chart

graphical presentation, usually within a coordinate system, expressing the relationship between two or more variable quantities

[ISO 10209-1:1993] [ISO 10209-4:1999]

Proposed change – a sheet of information in the form of a table, graph, or diagram

[ISO/WD 29845]

11.21

circuit diagram

diagram providing information about the circuitry of an object(s)

[ISO/CD 15519-1]

11.22

complementary document

document, referenced in the main document, containing specifying information

[ISO/CD 11005]

11.23**completion certificate**

document which certifies completion of the work

[ISO 10209-4:1999]

11.24**component drawing**

drawing depicting a single component and which includes all the information required for the definition of the component

[ISO 10209-1:1993] [ISO 10209-4:1999]

11.25**component range drawing**

drawing showing the size, system of reference (type of component and identification number) and performance data of a range of components of a given type

[ISO 10209-1:1993] [ISO 10209-4:1999]

11.26**component schedule**

component range drawing which lists components and which may contain information in the form of a table

[ISO 10209-4:1999]

11.27**compound document**

document consisting of several embedded files in a specified file structure

[ISO 82045-1:2001]

11.28**connection diagram**

diagram which shows the electrical connections of an installation or equipment

[ISO 10209-4:1999]

11.29**construction drawing**

drawing which specifies construction information

[ISO 10209-4:1999]

11.30**content**

subject information of a document

[ISO 82045-1:2001]

11.31**context**

frame of reference in which a construct is specified

[ISO 82045-2:2004]

11.32**contract**

legally enforceable agreement to supply goods, execute work or provide services

[ISO 10209-4:1999]

11.33

contract document

document forming part of a contract

[ISO 10209-4:1999]

11.34

control and surveillance drawing

drawing showing an opto-electrical installation designed to detect and signal the presence, entry or attempted entry of an intruder

[ISO 10209-4:1999]

11.35

co-ordination drawing

base drawing which is used for co-ordination among the designers on a project

[ISO 10209-4:1999]

11.36

data (1) (preferred definition)

information represented in a formal manner suitable for communication, interpretation or processing by human beings or computers

[ISO 16792:2006]

data (2)

representation of facts, concepts, or instructions in a formalized manner suitable for communication, interpretation, or processing by human beings or by automatic means

[ISO 82045-2:2004]

data (3)

re-interpretable presentation of information in a formalized manner suitable for communication, interpretation or processing

[ISO 82045-1:2001]

11.37

delivery plan

document which specifies dates for delivery of material and execution of work

[ISO 10209-4:1999]

11.38

demolition drawing

general arrangement drawing which specifies the scope and performance of demolition, and which may also specify parts to be dismantled for re-use, in accordance with agreed rules

[ISO 10209-4:1999]

11.39

design meeting minutes

document which records decisions of essential importance made during the design process

[ISO 10209-4:1999]

11.40

detail

representation on a drawing of a part, or a feature of a part or an assembly, generally enlarged, to give the required information

[ISO 10209-1:1993]

11.41**detail drawing**

drawing showing parts of a construction or a component, generally enlarged, and including specific information about the form and construction or about the assembly and joints

[ISO 10209-1:1993] [ISO 10209-4:1999]

11.42**detailed excavation plan**

excavation plan which specifies detailed information for excavation works

[ISO 10209-4:1999]

11.43**development plan**

document which covers an extensive area, and which controls both development and use of land and water areas, etc., and which is normally prepared by a planning authority

[ISO 10209-4:1999]

11.44**diagram (1) (preferred definition)**

drawing showing the functions of the objects composing a system and their interrelations using graphical symbols

[ISO/CD 15519-1]

diagram (2)

drawing in which graphical symbols are used to indicate the function of the components of a system and their relationships

[ISO 10209-1:1993] [ISO 10209-4:1999]

11.45**dimensional drawing**

drawing which specifies dimensioning necessary for construction or production

[ISO 10209-4:1999]

11.46**document (1) (preferred definition)**

fixed and structured amount of information that can be managed and interchanged as a unit between users and systems

[ISO 82045-1:2001] [ISO 11442:2006]

document (2)

fixed and structured amount of information intended for human perception that can be managed and interchanged as a unit between users and systems

[ISO/CD 15519-1]

document (3)

any medium with information recorded on or in it

[ISO 16016:2000]

document (4)

recorded information which can be treated as a unit in a documentation process

[ISO 15226:1999]

11.47

document part

part of a document having a function of its own

[ISO 82045-1:2001]

11.48

document replica

true or close-to-true copy of an original document

[ISO 11442:2006]

11.49

document type

document defined with respect to its specific content of information, function and form of presentation

[ISO/CD 15519-1]

11.50

documentation (1) (preferred definition)

collection of documents related to a given subject

[ISO 82045-1:2001] [ISO 10209-4:1999]

documentation (2)

set of documents collected for a specific purpose

[ISO 15226:1999]

documentation (3)

continuous and systematic compilation and processing of recorded information for the purpose of storage, classifying, retrieval, utilization, or transmission

[ISO/CD 15519-1]

documentation (4)

continuous and systematic collection and processing of recorded information for the purposes of its storage, retrieval, utilization or transmission

[ISO 10209-4:1999]

11.51

door schedule

component range drawing of doors and their hardware which may contain information in the form of a table

[ISO 10209-4:1999]

11.52

draft drawing

drawing serving as a basis for the choice of a final solution and/or for discussion between involved parties

[ISO 10209-1:1993] [ISO 10209-4:1999]

11.53

drainage drawing

drawing which shows the scope and workmanship of drainage works

[ISO 10209-4:1999]

11.54

drawing

technical information, given on an information carrier, graphically presented in accordance with agreed rules and usually to scale

[ISO 10209-1:1993] [ISO 10209-4:1999] [ISO/CD 15519-1]

11.55**earthwork drawing**

drawing which specifies the scope and workmanship of earthwork, cut and fill

[ISO 10209-4:1999]

11.56**electrical construction drawing**

drawing which comprises installations for power supply, lighting, electric heating, motor operation, telecommunications, voltage adjustment, etc

[ISO 10209-4:1999]

11.57**electrical layout drawing**

drawing which shows wires and cables, exterior light fittings and other external electrical installations in a comprehensive way for an installation or a site

[ISO 10209-4:1999]

11.58**elevation drawing**

drawing which shows a view on a vertical plane

[ISO 10209-4:1999]

11.59**evacuation drawing**

drawing which shows ways of evacuation and how the fire brigade and other emergency services are called and gain access

[ISO 10209-4:1999]

11.60**excavation plan**

drawing which specifies information necessary for the realization of excavation works

11.61**facade drawing**

elevation drawing which shows an external view of a building

[ISO 10209-4:1999]

11.62**file drawing**

as-built drawing which complies with certain requirements for archive durability

[ISO 10209-4:1999]

11.63**final certificate**

document which authorizes final payment

[ISO 10209-4:1999]

11.64**fire-alarm drawing**

drawing which shows the location of fire-alarm equipment and the cable network which is part of a fire-alarm installation, and which specifies the detectors, cables and central unit

[ISO 10209-4:1999]

11.65

fire-cell drawing

drawing which shows the division of a building into fire-cells

[ISO 10209-4:1999]

11.66

flow diagram (1) (preferred definition)

diagram which shows the flow and the order of connection between components being parts of a system with one or more media, and which is either a water-, sewage-, heating-, air-conditioning or refrigeration system

[ISO 10209-4:1999]

flow diagram (2)

diagram representing the procedure, configuration and function of a process plant or plant section

[ISO 10628:1997] under revision

11.67

form-work drawing

drawing which specifies the execution of moulds in detail

[ISO 10209-4:1999]

11.68

function diagram (1) (preferred definition)

diagram providing information about the functional behaviour of a system

[ISO/CD 15519-1]

function diagram (2)

diagram showing details of the theoretical or ideal operation of a system, subsystem, installation, part, equipment, software, etc., by means of theoretical or ideal circuits without necessarily taking into account the means used for implementation

[ISO 10209-4:1999]

11.69

furnishing plan

drawing which specifies the scope and location of furniture and equipment

[ISO 10209-4:1999]

11.70

general arrangement drawing

drawing showing the layout of construction works, including location, item references and sizes

[ISO 10209-1:1993] [ISO 10209-4:1999]

11.71

general assembly drawing

assembly drawing identifying all groups and parts of a complete product

[ISO 10209-1:1993]

11.72

general specification

document which provides a general description of materials to be provided and works to be performed

[ISO 10209-4:1999]

11.73**graph**

graphical presentation, usually within a coordinate system, expressing the relationship between two or more variable quantities

[ISO 10209-1:1993] [ISO 10209-4:1999]

11.74**ground planning drawing**

groundwork's drawing which specifies the scope and performance of top layer and covering on footpaths, roadways, planting areas, etc

[ISO 10209-4:1999]

11.75**groundwork's drawing**

drawing which comprises ground planning drawings, excavation plans, water supply and sewerage drawings
[ISO 10209-4:1999]

11.76**hard copy**

printed or plotted copy of all or part of a data set

[ISO 16792:2006]

11.77**heating, ventilation and air conditioning drawing****HVAC drawing**

drawing which shows systems for heating, ventilation, air conditioning, cooling and heating pump, etc

[ISO 10209-4:1999]

11.78**installation diagram (1) (preferred definition)**

document showing the location of the components of an installation and their interconnections by means of graphical symbols

[ISO/CD 15519-1]

installation diagram (2)

drawing showing the location of the components of an installation and their interconnections by means of graphical symbols

[ISO 14617-2:2002]

11.79**installation diagram (3)**

diagram showing the location of components of an electrical installation and the connections between them

[ISO 10209-4:1999]

installation drawing

drawing showing the general configuration of an item and the necessary information to install the item relative to its mating structures or associated items

[ISO 10209-1:1993] [ISO 10209-4:1999]

11.80**interconnection diagram**

diagram representing the connections between the different units of an installation

[ISO 3511-3:1984]

11.81

interface drawing

drawing given information for the assembly and matching of two parts, concerning, for example, their dimensions, configuration limitations, performance and test requirements

[ISO 10209-1:1993]

11.82

interim certificate

document that authorizes payment to be made for work carried out or materials supplied up to a given date

[ISO 10209-4:1999]

11.83

invitation to tender

document which contains an invitation to selected firms to submit tenders, or announcement that tenderers are invited to carry out certain works

[ISO 10209-4:1999]

11.84

landscape drawing

drawing which shows the composition and processing of the ground for roads, planted areas, external installations, etc

[ISO 10209-4:1999]

11.85

layout drawing

drawing showing the location of sites, structures, buildings, spaces, elements, assemblies or components

[ISO 10209-1:1993] [ISO 10209-4:1999]

11.86

levelling drawing

drawing which records the level of points which have been levelled

[ISO 10209-4:1999]

11.87

lighting drawing

drawing which specifies the type and location of lighting, lighting equipment and lighting system circuitry

[ISO 10209-4:1999]

11.88

location drawing

drawing showing the location of sites, structures, buildings, spaces, elements, assemblies or components

[ISO 10209-1:1993] [ISO 10209-4:1999]

11.89

main document

document containing the complete compilation of the information by which a part or an assembly is specified

[ISO/CD 11005]

NOTE The information can be given directly in the main document or by reference to complementary documents.

11.90

mains chart

drawing which shows the main pipes in pipe systems for water, sewage and heating

[ISO 10209-4:1999]

11.91**maintenance manual**

document which contains advice on care and servicing requirements of a construction works

[ISO 10209-4:1999]

11.92**manufacturing drawing**

drawing which provides all necessary information for production

[ISO 10209-4:1999]

11.93**masonry drawing**

drawing which shows a view, cut and/or section of a construction of bricks, stones or blocks

[ISO 10209-4:1999]

11.94**measuring-in drawing**

drawing which specifies positions of identified points in plan and level

[ISO 10209-4:1999]

11.95**network diagram**

overview diagram which shows the connections between different kinds of installations for transmitting electrical power, telecommunications, equipment, etc

[ISO 10209-4:1999]

11.96**network map**

overview diagram showing a network on a map

[ISO 14617-2:2002] [ISO/CD 15519-1]

11.97**nomogram**

chart from which it is possible to determine without calculation the approximate numerical value of one or more quantities

[ISO 10209-1:1993] [ISO 10209-4:1999]

11.98**operational manual**

document which contains advice on the use of equipment

[ISO 10209-4:1999]

11.99**original document**

document onto which the technical description or definition of a product is recorded and which forms the base for future changes

[ISO 11442:2006]

11.100**original drawing**

drawing giving the currently approved information or data and on which the latest revision has been recorded

[ISO 10209-1:1993] [ISO 10209-4:1999]

11.101

outline drawing

drawing giving the outside peripheral envelope, overall dimensions and mass of an object

[ISO 10209-1:1993]

11.102

overlay drawing

drawing which is produced on a transparent medium and thus can be copied together with other drawings related to the same subject and at the same scale

[ISO 10209-4:1999]

11.103

overview diagram (1) (preferred definition)

diagram providing a comprehensive view of an object with low degree of detailing

[ISO/CD 15519-1]

overview diagram (2)

relatively simple diagram, often using single line representation, showing the main interrelations or connections among the items within a system, subsystem, installation, part, equipment, software, etc

[ISO 10209-4:1999]

11.104

page

portion in a low-level physical substructure of a document, providing a presentation-dependent division of the document content (primarily applied in the context of a text-based document)

[ISO 7200:2004]

11.105

part drawing

drawing depicting a single part (which cannot be further disassembled) and which includes all the necessary information required for the definition of the part

[ISO 10209-1:1993]

11.106

partial arrangement drawing

drawing showing a delimited part of a general arrangement drawing, usually to a larger scale and giving supplementary information

[ISO 10209-1:1993] [ISO 10209-4:1999]

11.107

parts list

list of elements of an object (s)

[ISO/CD 15519-1]

11.108

pattern drawing

drawing depicting a pattern made of wood, metal or other material, around which moulding material is placed to make a mould for castings

[ISO 10209-1:1993] [ISO 10209-4:1999]

11.109**performance specification**

document which specifies requirements on the function of a building, and which is normally separate for construction and installation works

[ISO 10209-4:1999]

11.110**piling drawing**

drawing which shows the scope and workmanship of piling work

[ISO 10209-4:1999]

11.111**pipng and instrumentation diagram (P&ID)**

process flow diagram representing the technical realization of a process system by means of graphical symbols for equipment, connections and process measurement and control functions

[ISO/CD 15519-1]

11.112**plan**

view, section or cut, in a horizontal plane, seen from above

[ISO 10209-1:1993]

11.113**planting and fittings drawing**

drawing which specifies the scope and workmanship of plants, and loose and fixed equipment

[ISO 10209-4:1999]

11.114**preliminary drawing**

drawing serving as a basis for the choice of a final solution and/or for discussion between involved parties

[ISO 10209-1:1993] [ISO 10209-4:1999]

11.115**process flow diagram**

diagram illustrating the configuration of a process system or process plant by means of graphical symbols

[ISO/CD 15519-1]

11.116**production drawing**

drawing giving all information about a part required for its production

11.117**rebuilding drawing**

general arrangement drawing which specifies the scope and workmanship of rebuilding and shows existing and new parts, and which may also show parts which are to be demolished, and in accordance with agreed rules

[ISO 10209-4:1999]

11.118**record drawing**

drawing used to record the details of a construction following its completion

[ISO 10209-1:1993] [ISO 10209-4:1999]

11.119

regulation installation drawing

drawing which specifies the setting values for an installation

[ISO 10209-4:1999]

11.120

reinforcement drawing

drawing which shows the position and designation of rods, bars, wires and cables embedded in a reinforced concrete structure

[ISO 10209-4:1999]

11.121

replica fidelity

level of ability of a document replica to promote the information of the original document

[ISO 11442:2006]

11.122

reuse dismantling drawing

drawing which shows how a building shall be dismantled for reuse

[ISO 10209-4:1999]

11.123

roof plan

drawing which specifies the roof in detail as seen from above

[ISO 10209-4:1999]

11.124

room relation drawing

drawing which shows the disposition of rooms in accordance with the brief as regards the relative positions of rooms and their relations to others

[ISO 10209-4:1999]

11.125

setting-out drawing

drawing used to establish marks and lines to define the position and level of elements for construction work so that the work can proceed with reference to them

[ISO 10209-4:1999]

11.126

sheet

segment of a technical drawing

[ISO 7200:2004]

11.127

single-line diagram

diagram which shows the composition of a service installation in a simplified way, using single lines only

[ISO 10209-4:1999]

11.128

site plan

location drawing giving the position of construction works in relation to the setting out points, the means of access and the general layout of a site

[ISO 10209-1:1993] [ISO 10209-4:1999]

11.129**sketch**

drawing commonly prepared freehand and not necessarily to scale

[ISO 10209-1:1993] [ISO 10209-4:1999]

11.130**structural engineering drawing**

drawing which comprises structural frames, non-structural frames and reinforcements with their dimensions

[ISO 10209-4:1999]

11.131**structural frame drawing**

drawing of a structure that relies wholly or mainly on a frame for strength and stability

[ISO 10209-4:1999]

11.132**structure diagram**

diagram represents structure tree of reference designation

[IEC 61355-1 and IEC/CD 81346-1]

11.133**sub-assembly drawing**

assembly drawing on a lower structural level showing only a limited number of groups or parts

[ISO 10209-1:1993] [ISO 10209-4:1999]

11.134**tabular drawing**

drawing listing differing variations of a specific configuration using a single common illustration

11.135**technical document**

document of the type and completeness required for technical purposes

[ISO/TS 16952-1]

11.136**technical drawing**

technical information, given on an information carrier, graphically presented in accordance with agreed rules and usually to scale

[ISO 10209-1:1993] [ISO 10209-4:1999]

11.137**technical product document**

means of conveying all or part of a design definition or specification of a product

[ISO/CD 11005; BS 8888:2006]

11.138**traffic and parking plan**

drawing which shows routes of traffic movement and areas for parking

[ISO 10209-4:1999]

11.139**viewing copy**

document replica for viewing, commenting and for production of hard copies

[ISO 11442:2006]

11.140

water supply and sewerage drawing

drawing showing pipelines which convey a general water supply and a system of sewers and ancillary works

[ISO 10209-4:1999]

11.141

window schedule

component range drawing of windows and window doors including their hardware which may contain information in the form of a table

[ISO 10209-4:1999]

12 Document Management

12.1

approval

confirmation by an authority that something conforms to previously defined requirements

[ISO 82045-1:2001]

12.2

approval phase

stage in which the document content is formally checked and approved

[ISO 11442:2006]

12.3

archiving phase

stage in which product documents are removed from the storage of active documents to an historic archive

[ISO 11442:2006]

12.4

classification

method of structuring a defined type of item (objects or documents) into classes and subclasses in accordance with their characteristics

[ISO 7200:2004]

12.5

configuration

arrangement of the elements of a system

[ISO 82045-1:2001]

12.6

creation phase

stage in which the design documentation work is carried out

[ISO 11442:2006]

12.7

data field

bounded area used for a specific category of data

[ISO 7200:2004]

12.8**data transfer**

moving of data from one computer process to another in an ordered form

[ISO 7200:2004]

12.9**database**

collection of data organized according to a conceptual structure describing the characteristics of these data and the relationships among their corresponding entities, supporting one or more application areas

[ISO 82045-1:2001]

12.10**document issue**

identified version of a document

[ISO 11442:2006]

12.11**document life cycle**

period from the conceptual idea to the logical and physical deletion of a document

[ISO 82045-1:2001]

12.12**document revision**

formally approved document version

[ISO 82045-1:2001]

12.13**document set**

collection of documents that are managed together as a unit for a specific purpose

[ISO 82045-1:2001]

12.14**document status**

step or stage in the life-cycle of a document issue

[ISO 11442:2006]

12.15**document version**

identified state of a document in its life cycle, recorded so that it can be retrieved as a record or for distribution purposes

[ISO 82045-1:2001]

12.16**effectivity**

identification of the valid use of a document version tracked by date or event

[ISO 82045-1:2001]

12.17**electronic document management system****EDMS**

computer-based application dealing with the management of documents throughout the document life cycle

[ISO 82045-1:2001]

12.18

maturity level

purpose-oriented degree of completeness of information with regard to the intended final object which is reflected in documents

[ISO 82045-1:2001]

12.19

metadata element identifier

unambiguous language-independent name of the data element composed of a string of characters, based on the english language

[ISO 82045-2:2004]

12.20

metadata element label

context-dependent word or phrase (string of characters) associated with a metadata element in a given language and intended for visual presentation

[ISO 82045-2:2004]

12.21

metadata for documents

data for the description of documents and their management

[ISO 82045-1:2001]

12.22

product life cycle (1) (preferred definition)

period from the conceptual idea to the ultimate disposal of a product

[ISO 82045-1:2001]

product life cycle (2)

period of time from the first idea to the ultimate disposal of a product

[ISO 15226:1999]

12.23

release (1) (preferred definition)

formal activity of an authority declaring the document effective for a declared purpose in the process cycle

[ISO 82045-1:2001]

release (2)

making an approved document available for its intended purpose

[ISO 11442:2006]

12.24

release phase

stage in which a document is released

[ISO 11442:2006]

12.25

revision notice

document part or separate document recording all the revisions made on a product document

[ISO 11442:2006]

12.26**revision phase**

stage in which changes to product documents are made

[ISO 11442:2006]

12.27**segment**

fixed portion of a document, sharing the identification number with the other portions, but individually presented and stored

[ISO 7200:2004]

12.28**signature document**

copy of the original document with the addition of approval required by customer or authority, constituting an original for a certain approval stage

[ISO 11442:2006]

12.29**storage/active phase**

stage in which the active product documents are stored

[ISO 11442:2006)

Annex A **(informative)**

Tree structure of the vocabulary for technical product documentation

A.1 General

This annex identifies the tree structure of the terms for information of, in or on technical product documentation.

NOTE From point of historical reason, where a term has two or more definitions the preferred definition is identified.

A.2 General terms

Activity (2.1)	Activity matrix (2.2)		
Address (2.3)			
Analysis (2.4)			
Ancillary system (2.5)			
Application reference model (2.6)			
Aspect (2.7)			
Assembly (2.8)			
Authorization (2.9)			
Auxiliary system (2.10)			
Basic design (2.11)	Detailed design (2.31)		
CAD model (2.13) <i>see A9 also</i>			
Computer device (2.14)			
Component (2.15)	Element (2.37)		
Conceptual design (2.16)	Conceptual schema (2.17)		
Concurrent engineering (2.18)			
Configuration control (2.19)			
Conjoint designation (2.20)			
Construct (2.21)			
Coordinate system (2.25)	Coordinates (2.26)	Coordinate axis (2.23) Coordinate plane (2.24)	
Cylindrical coordinate system (2.28)	Cylindrical coordinates (2.29)		
	Polar coordinate system (2.71)	Polar coordinates (2.72)	Polar coordinates axis (2.70)
	Rectangular coordinate system (2.81)	Rectangular coordinates (2.82)	Rectangular coordinates axes (2.83) Rectangular coordinate planes (2.80)
Designation system (2.32)	Designation (2.31)	Single-level reference designation (2.89) Multi-level reference designation (2.57) Reference designation (2.84)	Reference designation set (2.85)

Device (2.34)			
Data medium (2.30)			
Detailed design (2.33)			
Equipment (2.40)			
Feature (2.41)	Geometrical feature (2.47)		
	Corner (2.27)	State of corner (2.91)	Controlled corner (2.22)
	Edge (2.35)	State of edge (2.92)	Burr (2.12)
			Edge of undefined shape (2.36)
			Sharp edge (2.88)
Function (2.43)	Functional area (2.44)	Functional group (2.45)	
	Functional unit (2.46)		
Graphical symbol (2.48)			
Identification (2.49)	Identifier (2.50)		
Industrial complex (2.51)	Works (2.101)		
Information model (2.52)			
Layer (2.53)			
Line distance factor (2.54)			
Location (2.55)			
Medium (2.56)			
Network (2.58)			
Object (2.59)			
Operating material (2.60)			
Organization unit (2.62)	Organization name (2.61)		
Part (2.63)	Part number (2.64)		
	Part reference (2.65)		
Passing (2. 66)			
Physical unit (2.67)			
Plant (2.68)	Plant section (2. 69)		
Process (2.73)	Process plant (2.74)	Process step (2.75)	
Product (2.76)	End product (2.38)		
Product definition data (2.77)	Product definition data set (2.78)		
Product identifying number (2.79)			

Scale (2.86)	Enlargement scale (2.39)
	Full scale (2.42)
	Scaling factor (2.87)
Specification of requirement (2.90)	
Structure (2.93)	
Sub-contract (2.94)	
System (2.95)	
Tender (2.96)	
Terminal Designation (2.97)	
Undercut (2.98)	
Unit operation (2.99)	
Universal product code (2.100)	

A.3 Views

basic plane (3.5)	basic line (3.4)	
level contour line (3.29)		
main projection line (3.33)	main point (3.32)	
	projection line (3.52)	
origin (3.39)		
projection centre (3.51)	alignment line (3.1)	
	height of projection (3.23)	
	horizontal line (3.24)	
	horizontal distance (3.25)	
	horizontal plane (3.26)	
	point of view (3.48)	
	projector (3.55)	
projection method (3.53)	central projection (3.9)	
	dimetric projection (3.14)	
	direct orthographic projection (3.15)	
	first angle projection (3.19)	
	mirrored orthographic projection (3.34)	
	monometric projection (3.35)	
	orthogonal projection (3.41)	topographical projection (3.66)
		station of observation (3.63)
	parallel projection (3.44)	oblique projection (3.37)
	third angle projection (3.64)	
	trimetric projection (3.67)	
projection plane (3.54)	projection angle (3.50)	
reduction scale (3.56)		
reference arrow layout (3.57)		
repeated features (3.58)		

representation (3.59)	axonometric representation (3.3)	oblique axonometry (3.36)	cabinet axonometry (3.7) cavallier axonometry (3.8) planometric axonometry (3.47)
	isometric representation (3.28) orthographic representation (3.43) orthogonal representation (3.42) perspective representation (3.45)	orthogonal axonometry (3.40) bird's eye perspective (3.6) frog's eye perspective (3.20) one-point perspective (3.38) three-point perspective (3.65) two-point perspective (3.69) vanishing point (3.70)	isometric axonometry (3.27) distance point (3.16) scale point (3.60)
section (3.61)	pictorial representation (3.46) cut (3.11)	cut - sectional view (3.11) half cut (3.21) local cut (3.30) cutting plane (3.13)	cutting line (3.12)
	half section (3.22) local section (3.31) sectional view (3.62)		
view (3.71)	aspect (3.2) cut - sectional view (3.11) exploded view (3.18) principal view (3.49) sectional view (3.62) true view (3.68)		

	x-ray view (3.74)
	elevation (3.17)
vision cone (3.73)	circle of vision (3.10)
	vision angle (3.72)

A.4 Dimensions

dimension (4.6)	angular dimension (4.1)	
	auxiliary dimension (4.2)	
	basic dimension (4.3)	
	chain dimensioning (4.4)	
	coordinate dimensioning (4.5)	
	dimensional value (4.7)	
	functional dimension (4.9)	
	linear dimension (4.10)	
	non-functional dimension	
	parallel dimensioning (4.13)	
	resolved dimension (4.15)	
	running dimensioning (4.16)	origin circle (4.12)
	tabular dimensioning (4.17)	
feature of size (4.8)		
reference feature (4.14)		
terminator (4.18)		

A.5 Lines

line (5.7)	centre line (5.1)	
	connecting line (5.2)	
	dimension line (5.3)	
	extension line (5.4)	
	flow line (5.5)	
	leader line (5.6)	
	line element (5.8)	line segment (5.10)
	line of symmetry (5.9)	
	reference line (5.11)	
	terminal line (5.12)	

A.6 Tolerances

- datum system (6.1)
- tolerance of dimension (6.2)
- direction dependent tolerance (9.11)

A.7 Graphics

- | | | |
|-----------------------------|----------------------------------|------------------------------|
| character body (7.3) | character aspect ratio (7.2) | |
| | character expansion factor (7.4) | |
| | character justification (7.5) | |
| | character spacing factor (7.6) | |
| graphic character set (7.7) | central line (7.1) | |
| | lettering (7.8) | proportional lettering (7.9) |
| | | tabular lettering (7.11) |
| special character (7.10) | | |
| Text (7.12) | | |

A.8 Symbology

graphical symbol (8.14)	symbol name (8.34)	variant name (8.38)
	symbol classification (8.30)	symbol classification code (8.31)
		symbol type (8.35)
	function symbol (8.11)	functional node (schematic) (8.12)
	connect node (8.4)	coded connect node class (8.2)
		connect block (8.3)
		connecting line directions (8.5)
		connect-node code (8.6)
		electrical node (schematic) (8.9)
		linkage node (schematic) (8.19)
		matter node (schematic) (8.20)
		network code (8.21)
		node name (8.22)
		optical node (schematic) (8.24)
		wave node (schematic) (8.39)
	descriptive block (8.8)	
	embedded area (8.10)	
	graphical symbol occurrence (8.15)	opening (8.23)
	identifying block (8.16)	
	input/output label (8.17)	
	port (8.26)	
	product symbol (8.27)	
	reference point (8.28)	
	reference symbol (8.29)	
	symbol description (8.32)	
	symbol family (8.33)	
	terminal (8.36)	terminal line (8.37)
country code (8.7)	organization code (8.25)	
graphical primitives (8.13)	arc (8.1)	
international article number (8.18)		

A.9 3D modelling

design model (9.8)	model (9.16)	model coordinate system (9.17)	Model feature (9.18)
		model geometry (9.19)	
		model value (9.20)	
	supplemental geometry (9.24)	represented line element (9.22)	
assembly model (9.3)			
installation model (9.14)			
digital element (9.9)	digital element identifier (9.10)		
	annotation (9.1)	annotation plane (9.2)	
	associated entities (9.4)		
	associated group (9.5)		
	associativity (9.6)		
	attribute (9.7)		
	geometrical element (9.13)		
	query (9.21)		
direction dependent tolerance (9.11)			
flagnote (9.12)			
management data (9.15)			
saved view (9.23)			

A.10 Computer related terms

configurable (10.1)	
distributed control system (dcs) (10.2)	
document identifier (10.3)	
language code (10.4)	
process computer (10.5)	
programable (10.6)	
screen dump (10.7)	
shared computer system (10.8)	shared display (10.9)
software link (10.10)	

A.11 Documentation

Documentation (11.50)	Document (11.46)	Aggregated document (11.1) Archive master (11.4) Bill of quantities (11.9) Brief (11.13) Complementary document (11.22) Completion certificate (11.23) Compound document (11.27) Content (11.30) Contract (11.32) Document part (11.47) Document replica (11.48) Document type (11.49) Final certificate (11.63) Invitation to tender (11.82) Main document (11.89) Maintenance manual (11.90) Operational manual (11.97) Original document (11.98) Page (11.103) Parts list (11.106) Technical document (11.134) Technical product document (11.136)	Context (11.31) Contract document (11.33) Replica fidelity (11.120) Interim certificate (11.81)
Chart (11.20)	Main chart (11.89) Nomogram (11.96)		
Data (11.36)			
Drawing (11.54)	Assembly drawing (11.6) Base drawing (11.8) Cable run drawing (11.17) CAD drawing (11.18)	General assembly drawing (11.71) Sub-assembly drawing (11.132) Co-ordination drawing (11.35)	

Component drawing (11.24)	Component range drawing (11.25)	
Construction drawing (11.29)	As-built drawing (11.5)	File drawing (11.62)
	Architectural drawing (11.3)	Ceiling drawing (11.19)
		Facade drawing (11.61)
		Landscape drawing (11.83)
		Masonry drawing (11.92)
		Planting & fittings drawing (11.112)
		Room relation drawing (11.123)
	Building permit drawing (11.14)	
	Cable-run drawing (11.17)	
	Control and surveillance drawing (11.34)	
	Demolition drawing (11.38)	
	Door schedule (11.51)	
	Drainage drawing (11.53)	
	Earthwork drawing (11.55)	
	Electrical construction drawing (11.56)	
	Electrical layout drawing (11.57)	
	Evacuation drawing (11.59)	
	Fire alarm drawing (11.64)	
	Fire cell drawing (11.65)	
	General arrangement drawing (11.70)	Partial arrangement drawing
		Rebuilding drawing (11.119)
	Groundwork's drawing (11.75)	Ground planning drawing (11.74)
	heating, vent' & air conditioning drawing (11.77)	
	Levelling drawing (11.85)	
	Lighting drawing (11.105)	
	Measuring-in drawing (11.93)	
	Piling drawing (11.109)	
	Reinforcement drawing (11.116)	Bar schedule (11.7)
	Reuse dismantling drawing (11.121)	
	Setting-out drawing (11.124)	
	Water supply and sewerage drawing (11.139)	
	Window schedule (11.140)	

Diagram (11.44)	Alarm diagram (11.2)	
	Block diagram (11.11)	
	Cable diagram (11.16)	
	Circuit diagram (11.21)	
	Connection diagram (11.29)	Interconnection diagram (11.79)
	Flow diagram (11.66)	
	Function diagram (11.68)	
	Graph (11.73)	
	Installation diagram (11.78)	
	Inter connection diagram (11.79)	
	Network diagram (11.94)	Network map (11.95)
	Overview diagram (11.102)	
	Piping & instrumentation diagram (P&ID) (11.110)	
	Process flow diagram (11.114)	
	Single-line diagram (11.126)	
	Structure diagram (11.131)	
Detail (11.40)		
Detail drawing (11.41)		
Dimensional drawing (11.45)		
Draft drawing (11.52)		
Form-work drawing (11.67)		
Interface drawing (11.80)		
Layout drawing (11.84)		
Location drawing (11.87)		
Manufacturing drawing (11.91)		
Original drawing (11.99)		
Outline drawing (11.100)		
Overlay drawing (11.101)		
Part drawing (11.104)		
Pattern drawing (11.107)		
Preliminary drawing (11.113)		

	Production drawing (11.115)	
	Record drawing (11.117)	
	Regulation Installation drawing (11.118)	
	Reinforcement drawing (11.119)	
	Sketch (11.128)	
	Structural engineering drawing (11.129)	Structural frame drawing (11.130)
	Tabular drawing (11.133)	
	Technical drawing (11.135)	Sheet (11.125)
Component schedule (11.26)		
Design meeting minutes (11.39)		
General specification (11.72)	Performance specification (11.108)	
Hard copy (11.76)		
Plan (11.111)	Blasting plan (11.10)	
	Block plan (11.13)	
	Bulk excavation plan (11.15)	
	Delivery plan (11.37)	
	Detailed excavation plan (11.42)	
	Development plan (11.43)	
	Furnishing plan (11.69)	
	Excavation plan (11.60)	
	Roof plan (11.122)	
	Site plan (11.127)	
	Traffic and parking plan (11.137)	
Viewing copy (11.138)		

A.12 Document Management

Classification (12.4)			
Configuration (12.5)			
Data field (12.7)			
Data transfer (12.8)			
Database (12.9)			
Document issue (12.10)			
Document life cycle (12.11)	Approval phase (12.2)	Approval (12.1)	
	Archiving phase (12.3)		
	Creation phase (12.6)		
	Release phase(12.24)	Release (12.23)	
	Revision phase(12.26)	Document revision (12.12)	Revision notice (12.25)
	Storage/active phase (12.29)		
	Document version (12.15)		
	Document status (12.14)		
Document set (12.13)			
Effectivity (12.16)			
Electronic document management system (12.17)			
Maturity level (12.18)			
Metadata for documents (12.21)	Metadata element identifier (12.19)	Metadata element label (12.20)	
Product life cycle (12.22)			
Segment (12.27)			
Signature document (12.28)			

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Annex B (informative)

Obsolete terms

B.1 Terms and definitions

B.1.1

application software

software [program] that is specific to the solution of an application problem [ISO 10623:1991 TR] withdrawn 2006

Index

activity	2.1
activity matrix	2.2
address	2.3
aggregated document	11.1
alarm diagram	11.2
alignment line	3.1
analysis	2.4
ancillary system	2.5
angular dimension	4.1
annotation	9.1
annotation plane	9.2
application reference model	2.6
approval	12.1
approval phase	12.2
arc	8.1
architectural drawing	11.3
archive master	11.4
archiving phase	12.3
as-built drawing	11.5
aspect	2.7
aspect	3.2
assembly	2.8
assembly drawing	11.6
assembly model	9.3
associated entities	9.4
associated group	9.5
associativity	9.6
attribute	9.7
authorization	2.9
auxiliary system	2.10
auxiliary dimension	4.2
axonometric representation	3.3
bar schedule	11.7
base drawing	11.8
basic design	2.11
basic dimension	4.3
basic line	3.4
basic plane	3.5
bill of quantities	11.9
bird's eye perspective	3.6
blasting plan	11.10
block diagram	11.11
block plan	11.12
brief	11.13
building permit drawing	11.14
bulk excavation plan	11.15
burr	2.12
cabinet axonometry	3.7
cable diagram	11.16
cable-run drawing	11.17
CAD drawing	11.18
cavalier axonometry	3.8
ceiling drawing	6.19
central line	7.1

central projection	3.9
centre line	5.1
chain dimensioning	4.4
character aspect ratio	7.2
character body	7.3
character expansion factor	7.4
character justification	7.5
character spacing factor	7.6
chart	6.20
circle of vision	3.10
circuit diagram	6.21
classification	7.4
coded connect node class	8.2
completion certificate	6.23
complex device	2.14
component	2.8
component drawing	11.24
component range drawing	11.25
component schedule	11.26
compound document	11.27
conceptual design	2.16
conceptual schema	2.17
concurrent engineering	2.18
configurable	10.1
configuration	12.5
configuration control	2.19
conjoint designation	2.20
connect block	8.3
connect node	8.4
connecting line	5.2
connecting line directions	8.5
connection diagram	11.28
connect-node code	8.6
construct	2.21
construction drawing	11.29
content	11.30
context	11.31
contract	11.32
contract document	11.33
control and surveillance drawing	11.34
controlled corner	2.22
coordinate axis	2.23
coordinate dimensioning	4.5
coordinate plane	2.24
coordinate system	2.25
coordinates	2.26
co-ordination drawing	11.35
corner	2.27
country code	8.7
creation phase	12.6
cut	3.11
cut; sectional view	3.11
cutting line	3.12
cutting plane	3.13
cylindrical coordinate system	2.28
cylindrical coordinates	2.29
data	11.36
data field	12.7
data medium	2.30
data transfer	12.8
database	12.9
datum system	6.1
delivery plan	11.37
demolition drawing	11.38

descriptive block	8.8
designation	2.31
designation system	2.32
design meeting minutes	11.39
design model	9.8
detail	11.40
detail drawing	11.41
detailed design	2.33
detailed excavation plan	11.42
development plan	11.43
device	2.34
diagram	11.44
digital element	9.9
digital element identifier	9.10
direction dependent tolerance	9.11
dimension	4.6
dimension line	5.3
dimensional drawing	11.45
dimensional value	4.7
dimetric projection	3.14
direct orthographic projection	3.15
direction dependent tolerance	9.11
distance point	3.16
distributed control system (dcs)	10.2
document	11.46
document id	10.3
document issue	11.46
document life cycle	12.11
document part	11.47
document replica	11.48
document revision	12.12
document set	12.13
document status	12.14
document type	11.49
document version	12.15
documentation	11.50
door schedule	11.51
draft drawing	11.52
drainage drawing	11.53
drawing	11.54
earthwork drawing	11.55
edge	2.35
edge of undefined shape	2.36
effectivity	12.16
electrical construction drawing	11.56
electrical layout drawing	11.57
electrical node (schematic)	8.9
electronic document management system	12.17
element	2.37
elevation	3.17
elevation drawing	11.58
embedded area	8.10
end product	2.38
enlargement scale	2.39
equipment	2.40
evacuation drawing	11.59
excavation plan	11.60
exploded view	3.18
extension line	5.4
facade drawing	11.61
feature	2.41
feature of size	4.8
file drawing	11.62
final certificate	11.63

fire-alarm drawing	11.64
fire-cell drawing	11.65
first angle projection	3.19
flagnote	9.12
flow diagram	11.66
flow line	5.5
form-work drawing	11.67
frog's eye perspective	3.20
full size	2.42
function	2.43
function diagram	11.68
function symbol	8.11
functional area	2.44
functional dimension	4.9
functional group	2.45
functional node (schematic)	8.12
functional unit	2.46
furnishing plan	11.69
general arrangement drawing	11.70
general assembly drawing	11.71
general specification	11.72
geometric element	9.13
geometrical feature	2.47
graph	11.73
graphic character set	7.7
graphical primitives	8.13
graphical symbol	2.48
graphical symbol	8.14
graphical symbol occurrence	8.15
ground planning drawing	11.74
groundwork's drawing	11.75
half cut	3.21
half section	3.22
hard copy	11.76
heating, ventilation and air conditioning drawing	11.77
height of projection	3.23
horizon line	3.24
horizontal distance	3.25
horizontal plane	3.26
identification	2.49
identifier	2.50
identifying block	8.16
industrial complex	2.51
information model	2.52
input/output label	8.17
installation diagram	11.78
installation model	9.14
interconnection diagram	11.79
interface drawing	11.80
interim certificate	11.81
international article number	8.18
invitation to tender	11.82
isometric axonometry	3.27
isometric representation	3.28
landscape drawing	11.83
language code	10.4
layer	2.53
layout drawing	11.84
leader line	5.6
lettering	7.8
level contour line	3.29
levelling drawing	11.85
lighting drawing	11.86
line	5.7
line distance factor	2.54

line element	5.8
line of symmetry	5.9
line segment	5.10
linear dimension	4.10
linkage node (schematic)	8.19
local cut	3.30
local section	3.31
location	2.55
location drawing	11.87
main point	11.88
main point	3.32
main projection line	3.33
mains chart	11.89
maintenance manual	11.90
management data	9.15
manufacturing drawing	11.91
masonry drawing	11.92
matter node (schematic)	8.20
maturity level	12.18
measuring-in drawing	11.93
medium	2.56
metadata element identifier	12.19
metadata element label	12.20
metadata for documents	12.21
mirrored orthographic projection	3.34
model	9.16
model coordinate system	9.17
model feature	9.18
model geometry	9.19
model value	9.20
monometric projection	3.35
multi level reference designation	2.57
network	2.58
network code	8.21
network diagram	11.94
network map	11.95
node name	8.22
nomogram	11.96
non-functional dimension	4.11
object	2.59
oblique axonometry	3.36
oblique projection	3.37
one-point perspective	3.38
opening	8.23
operating material	2.60
operational manual	11.97
optical node (schematic)	8.24
organization code	8.25
organization name	2.61
organization unit	2.62
origin	3.39
origin circle	4.12
original document	11.98
original drawing	11.99
orthogonal axonometry	3.40
orthogonal projection	3.41
orthogonal representation	3.42
orthographic representation	3.43
outline drawing	11.100
overlay drawing	11.101
overview diagram	11.102
page	11.103
parallel dimensioning	4.13
parallel projection	3.44
part	2.63

part drawing	11.104
part number	2.64
part reference	2.65
partial arrangement drawing	11.105
parts list	11.106
passing	2.66
pattern drawing	11.107
performance specification	11.108
perspective representation	3.45
physical unit	2.67
pictorial representation	3.46
piling drawing	11.109
pipng and instrumentation diagram (P&I D)	11.110
plan	11.111
planometric axonometry	3.47
plant	2.68
plant section	2.69
planting and fittings drawing	11.112
point of view	3.48
polar coordinate axis	2.70
polar coordinate system	2.71
polar coordinates	2.72
port	8.26
preliminary drawing	11.113
principal view	3.49
process	2.73
process computer	10.5
process flow diagram	11.114
process plant	2.74
process step	2.75
product	2.76
product definition data	2.77
product definition data set	2.78
product identifying number	2.79
product life cycle	12.22
product symbol	8.27
production drawing	11.115
programmable	10.6
projection angle	3.50
projection centre	3.51
projection line	3.52
projection method	3.53
projection plane	3.54
projector	3.55
proportional lettering	7.9
query	9.21
rebuilding drawing	11.116
record drawing	11.117
rectangular coordinate planes	2.80
rectangular coordinate system	2.81
rectangular coordinates	2.82
rectangular coordinates axes	2.83
reduction scale	3.56
reference arrow layout	3.57
reference designation	2.84
reference designation set	2.85
reference feature	4.14
reference line	5.11
reference point	8.28
reference symbol	8.29
regulation installation drawing	11.118
reinforcement drawing	11.119
release	12.23
release phase	12.24
repeated feature	3.58

replica fidelity	11.120
representation	3.59
represented line element	9.22
resolved dimension	4.15
reuse dismantling drawing	11.121
revision notice	12.25
revision phase	12.26
roof plan	11.122
room relation drawing	11.123
running dimensioning	4.16
saved view	9.23
scale	2.86
scale point	3.60
scaling factor	2.87
screen dump	10.7
section	3.61
sectional view	3.62
segment	12.27
setting-out drawing	11.124
shared control system	10.8
shared display	10.9
sharp edge	2.88
sheet	11.125
signature document	12.28
single-line diagram	11.126
single-level reference designation	2.89
site plan	11.127
sketch	11.128
software link	10.10
special character	7.10
specification of requirements	2.90
state of corner	2.91
state of edge	2.92
station of observation	3.63
storage/active phase	12.29
structure	2.93
structural engineering drawing	11.129
structural frame drawing	11.130
structure diagram	11.131
sub-assembly drawing	11.132
sub-contract	2.94
supplemental geometry	9.24
symbol classification	8.30
symbol classification code	8.31
symbol description	8.32
symbol family	8.33
symbol name	8.34
symbol type	8.35
system	2.95
tabular dimensioning	4.17
tabular drawing	11.133
tabular lettering	7.11
technical document	11.134
technical drawing	11.135
technical product document	11.136
tender	2.96
terminal	8.36
terminal designation	2.97
terminal line	5.12
terminal line	8.37
terminator	4.18
text	7.12
third angle projection	3.64
three-point perspective	3.65
tolerance of dimension	6.2

topographical projection	3.66
traffic and parking plan	11.136
trimetric projection	3.67
true view	3.68
two-point perspective	3.69
undercut	2.98
unit operation	2.99
universal product code	2.100
vanishing point	3.70
variant name	8.38
view	3.71
viewing copy	11.138
vision angle	3.72
vision cone	3.73
water supply and sewerage drawing	11.139
wave node (schematic)	8.39
window schedule	11.140
works	2.101
x-ray view	3.74

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