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Preparation of parts lists

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Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal of establishing a Japanese Industrial Standard from Japanese Standards Association (JSA), with a draft of Industrial Standard based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

This Standard has been made based on **IEC 62027:2000** *Preparation of parts lists* for the purposes of making it easier to compare this Standard with International Standard; to prepare Japanese Industrial Standard conforming with International Standard; and to propose a draft of an International Standard which is based on Japanese Industrial Standard.

Attention is drawn to the possibility that some parts of this Standard may conflict with a patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have technical properties. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying the patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have the said technical properties.

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Preparation of parts lists

Introduction This Japanese Industrial Standard has been prepared based on the first edition of **IEC 62027** *Preparation of parts lists* published in 2000 without modifying the technical contents.

The portions given sidelines or dotted underlines are the matters not stated in the original International Standard.

A parts list is primarily used to list and specify the constituent objects (components) of the overall object or system to which the parts list applies.

It is generally recognized that information on products, installations and systems can be organized on the basis of tree-like, hierarchical structures. The structure represents the way in which an industrial process or a product is subdivided into smaller processes or subproducts, designated by the general term “objects”. In the context of this Standard, “object” refers to any entity treated in the process of design, engineering, realization, operation, maintenance, and demolition of a plant, installation, system, equipment, etc., or part thereof, in accordance with the definition in **3.1.1**.

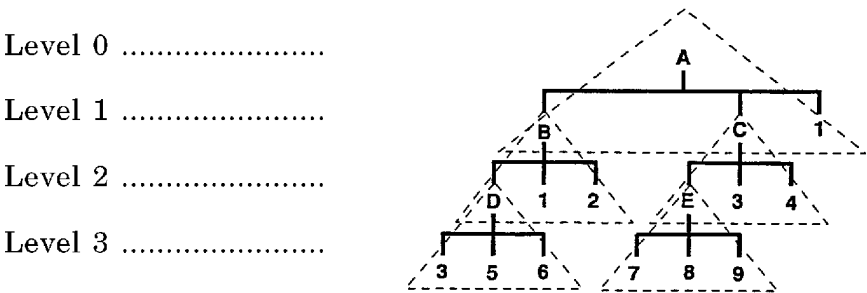
NOTE : In the context of other standards, the term “item” is sometimes used with the same meaning as “object”.

Depending on the “aspect” (see **3.1.3**), different structures can be recognized, for example a “product-oriented structure”, a “function-oriented structure” or a “location-oriented structure”. A specific constituent object may be of relevance in one structure only, or in more than one. For further information on structures and structuring, see **JIS C 0452-1** and **IEC 61346-4**.

A parts list is implicitly or explicitly associated with such a structure. The parts list concept described in this Standard is therefore applicable in all structures defined in accordance with **JIS C 0452-1**.

Parts lists relevant to the physical manufacturing and assembly of a product, associated with the product-oriented structure, usually cover only one assembly level each, and the main assembly is normally described by a system of single-level parts lists. An example of a system of single-level parts lists is shown in the figure below.

Parts lists are often generated as reports from a database containing information on the entire structure.



NOTE : A is the main assembly; B, C, D and E are subassemblies; 1, 2, 3, etc. are parts. A, B, C, D and E are defined by single-level parts lists, the content of each indicated by means of dashed lines.

1 Scope This Standard provides rules for the preparation of parts lists.

This Standard is applicable to parts lists used in the design and engineering process intended to be supplied with the documentation.

NOTES 1 The role of the parts list as a main document in structured documentation is described in **IEC 62023**.

2 The International Standard corresponding to this Standard is as follows.

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are **IDT** (identical), **MOD** (modified), and **NEQ** (not equivalent) according to **ISO/IEC Guide 21**.

IEC 62027:2000 *Preparation of parts lists* (IDT)

2 Normative references The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. If the indication of the year of publication is given to these referred standards, only the edition of the indicated year constitutes the provision of this Standard but the revision and amendment made thereafter do not apply. The normative references without the indication of the year of coming into effect or the year of publication apply only to the most recent edition (including amendments).

JIS C 1082-1 *Preparation of documents used in electrotechnology—Part 1: General requirements*

NOTE : **IEC 61082-1**:1991 *Preparation of documents used in electrotechnology—Part 1: General requirements* and Amendment 2 (1996) are equivalent to the said standard.

JIS C 0451 *Classification and designation of documents for plants, systems and equipment*

NOTE : **IEC 61355**:1997 *Classification and designation of documents for plants, systems and equipment* is identical with the said standard.

JIS C 0452-1 *Industrial system, installations and equipment and industrial products—Structuring principles and reference designations—Part 1: Basic rules*

NOTE : **IEC 61346-1**:1996 *Industrial systems, installations and equipment and industrial products—Structuring principles and reference designations—Part 1: Basic rules* is identical with the said standard.

JIS C 0452-2 *Industrial system, installations and equipment and industrial products—Structuring principles and reference designations—Part 2: Classification of objects and codes for classes*

NOTE : **IEC 61346-2**:2000 *Industrial systems, installations and equipment and industrial products—Structuring principles and reference designations—Part 2: Classification of objects and codes for classes* is identical with the said standard.

JIS X 0412 (series) *Code for the representation of names of languages*

NOTE : **ISO 639** *Code for the representation of names of languages* is equivalent to the said standard.

Information : **JIS X 0412** series consists of the following 2 parts under the general title “*Code for the representation of names of languages*”.

Part 1: Alpha-2 code

Part 2: Alpha-3 code

JIS Z 8203 *SI units and recommendations for the use of their multiples and of certain other units*

NOTE : **ISO 1000** *SI units and recommendations for the use of their multiples and of certain other units* is identical with the said standard.

IEC 61360-1:1995 *Standard data element types with associated classification scheme for electric components—Part 1: Definitions—Principles and methods*

IEC 61360-4:1997 *Standard data element types with associated classification scheme for electric components—Part 4: IEC reference collection of standard data element types, component classes and terms*

IEC 62023:2000 *Structuring of technical information and documentation*

IEC 81714-2:1998 *Design of graphical symbols for use in the technical documentation of products—Part 2: Specification for graphical symbols in a computer sensible form including graphical symbols for a reference library, and requirements for their interchange*

ISO 6433:1981 *Technical drawings—Item references*

ISO 7200:2004 *Technical product documentation—Data fields in title blocks and document headers*

ISO/DIS 13584-1 *Industrial automation systems and integration—Parts library—Part 1: Overview and fundamental principles*

ISO 13584-26:2000 *Industrial automation systems and integration—Parts library—Part 26: Logical resource: Information supplier identification*

3 Definitions For the purpose of this Standard, the following terms and definitions apply. In the definitions, terms that are defined elsewhere in this clause are shown in *italics*.

3.1 General terms, related to structuring

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

NOTES 1 The entity may refer to a physical or non-physical “thing”, or to a set of information associated with it.

2 Depending on its purpose, an object may be viewed in different way called “aspects”.

[3.1 of JIS C 0452-1]

3.1.2 system set of interrelated objects

NOTES 1 Examples of a system: a drive system, a water supply system, a stereo system, a computer.

2 When a system is part of another system, it may be considered as an object.

[3.2 of JIS C 0452-1]

3.1.3 aspect specific way of selecting information on or describing a *system* or an *object* of a *system*

NOTE : Such ways may be:

- what the system or object does (function viewpoint);
- how the system or object is constructed (product viewpoint);
- where the system or object is located (location viewpoint).

[3.3 of JIS C 0452-1]

3.1.4 structure organization of relations among *objects* of a *system* describing constituency-relations (consists of/is a part of)

[3.6 of JIS C 0452-1]

3.1.5 reference designation 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*

[3.7 of JIS C 0452-1]

3.1.6 item reference number identification of component parts of assemblies and/or the identification of individual items on the same drawing

[Clause 1 of ISO 6433]

NOTE : Item reference numbers are “document-based” as opposed to reference designations that are “structure-based”. Identical parts on a drawing are required to have the same item reference, preferably a number (according to ISO 6433), while each occurrence of an object in a structure is required to have a unique reference designation (according to JIS C 0452-1).

If a set of drawings for a product is structurally based on consist-of/is-part-of relations, item reference numbers are virtually the same thing as numeric product-oriented reference designations.

3.1.7 reference designation set set of *reference designations* of which at least one unambiguously identifies the *object* of interest

NOTE : Other members of the set need not necessarily identify the object of interest but other objects of which it is a constituent.

[3.10 of JIS C 0452-1]

3.1.8 transition (in a reference designation) change of *aspect* in a multi-level *reference designation*

[derived from JIS C 0452-1]

3.2 General terms related to documentation

3.2.1 document information on a data medium

NOTES 1 The term document is not restricted to its meaning in a legal sense.

2 Normally a document is designated in accordance with the type of information and the form of presentation, for example overview diagram, connection table, function chart.

3 Information may appear in a static manner on paper or microform, or dynamically on video display devices.

[2.2.1.2 of JIS C 1082-1, modified]

3.2.2 document kind type of *document* defined with respect to its specified content of information and form of presentation

[3.5 of JIS C 0451]

3.2.3 document kind class group of *document kinds* having similar characteristics concerning the content of information independent of the form of presentation

[3.6 of JIS C 0451]

3.2.4 document number unique identification of a *document* for a particular organization

3.2.5 data element type unit of data for which the identification, description and value representation have been specified

[2.3 of IEC 61360-1]

NOTE : In ISO/IEC 11179-3, the term “data element” is used for this concept.

3.2.6 data element value value out of a set of permissible value pertaining to a *data element type*

3.3 Specific terms, related to parts lists

3.3.1 parts list (document) *document* mainly containing a *parts list body*

3.3.2 parts list body table containing *list items* specifying the *objects* (parts, components, software, equipment, etc.), that constitute an assembly (or subassembly) or *system* and, if necessary, reference documents

[2.2.4.1 of JIS C 1082-1, modified]

3.3.3 list item presentation as part of a table or list of an ordered set of *data element types* pertaining to one specified *object*

3.3.4 occurrence (of an object) particular case implying that an *object* appears in a *system*

Information : Refer to **JIS C 0452-1**.

3.3.5 type class of things having common characteristics

3.3.6 part material or functional element that is intended to constitute a component of different products

[ISO/DIS 13584-1]

3.3.7 part number unique identification of a *part* for a particular organization

4 General

4.1 Forms of presentation of a parts list A parts list body is a tabular presentation of list items representing constituent objects.

The parts list body can be presented

- as a separate parts list document, or
- as a part of another document, for example the drawing presenting the assembled object with which it is associated.

See figure 1.

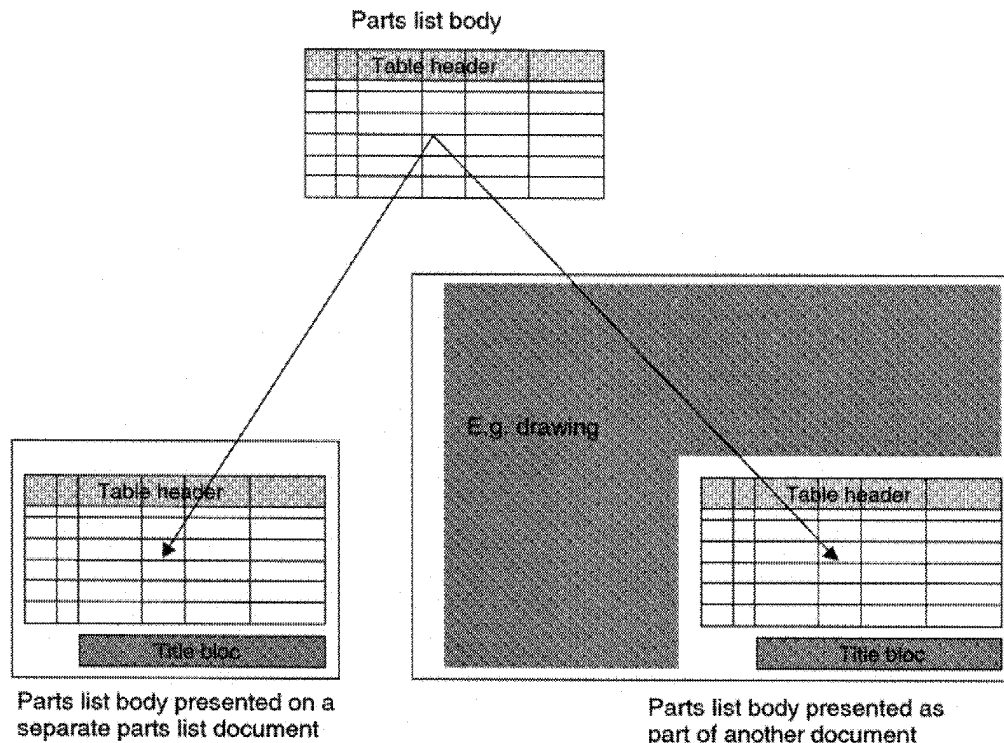


Figure 1 Forms of presentation of a parts list

4.2 Table header The table header defines the columns of the parts list body. A column may be used to present one or more data element types.