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**Technical product documentation —  
Document management**

*Documentation technique de produits — Gestion de documents*

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## 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 11442 was prepared by Technical Committee ISO/TC 10, *Technical product documentation*, Subcommittee SC 1, *Basic conventions*.

This first edition of ISO 11442 cancels and replaces ISO 11442-1:1993, ISO 11442-2:1993, ISO 11442-3:1993, ISO 11442-4:1993, ISO 11442-5:1999 and ISO/TR 10623:1991, of which it constitutes a technical revision.

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# Technical product documentation — Document management

## 1 Scope

This International Standard specifies basic rules for the management of technical documents.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 10209-1, *Technical product documentation — Vocabulary — Part 1: Terms relating to technical drawings: general and types of drawings*

ISO 16016, *Technical product documentation — Protection notices for restricting the use of documents and products*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 10209-1 and the following apply.

### 3.1

#### **analysis**

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

### 3.2

#### **approval phase**

stage in which the document content is formally checked and approved

### 3.3

#### **archive master**

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

### 3.4

#### **archiving phase**

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

### 3.5

#### **authorization**

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

### 3.6

#### **basic design**

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

**3.7**  
**conceptual design**  
part of the product development process which includes the preparation of design specifications and design proposals for a product

**3.8**  
**creation phase**  
stage in which the design documentation work is carried out

**3.9**  
**detailed design**  
part of the product development process which includes the preparation of the final product definition

**3.10**  
**document**  
fixed and structured amount of information that can be managed and interchanged as a unit between users and systems

[IEC 82045-1:2001]

**3.11**  
**document replica**  
true or close-to-true copy of an original document

**3.12**  
**document issue**  
identified version of a document

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**3.13**  
**document status**  
step or stage in the life-cycle of a document issue [ISO 11442:2006  
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**3.14**  
**original document**  
document onto which the technical description or definition of a product is recorded and which forms the base for future changes

**3.15**  
**release, verb**  
making an approved document available for its intended purpose

**3.16**  
**release phase**  
stage in which a document is released

**3.17**  
**replica fidelity**  
level of ability of a document replica to promote the information of the original document

**3.18**  
**revision notice**  
document part or separate document recording all the revisions made on a product document

**3.19**  
**revision phase**  
stage in which changes to product documents are made

**3.20****specification of requirements**

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

**3.21****storage/active phase**

stage in which the active product documents are stored

**3.22****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.

**3.23****viewing copy**

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

**4 Original and reproduced documents****4.1 General**

The following descriptions are used in order to assist in the application and understanding of the documentation system:

**4.2 Original document**

An original document is a document that intentionally has no identified source document. A single original document or a structure of associated originals shall constitute the technical definition or description of a product and shall also form the basis on which changes are made during the lifetime of the product.

Each approved original document shall be filed in an original storage archive (vault) to which document access shall be controlled through check-in/check-out procedures. A computer-based original document shall be stored in an identified file format on a trusted medium (e.g. magnetic or optic). In the manual production of documents, the medium for representation data, in the form of figures and/or text, shall be suitable for reproduction, e.g. paper or draughting film. Any revision required shall be based on the original document.

When and if the preferred file format can no longer be supported (e.g. vector format), the original status shall be transferred to a file format intended for long-term stability (e.g. raster format), generally with an accepted loss of information (see 4.5). The transfer to another file format may also depend on local, company procedures.

**4.3 Signature document**

Original documents require ordinary approval procedures, but may also need approval by customer or authority. A signature document carries this additional approval. This document is usually paper-based, being a copy of the original document, and shall not be subject to any form of change without the stamp and signature it may require for approval.

**4.4 Viewing copy**

A viewing copy is a document replica used, e.g. for viewing, commenting and for production of hard copies (printed replicas). In computer-aided design this can be a raster document for on-screen viewing or an aperture card directly or indirectly produced.

4.5 Archive master

In computer-based documentation a document replica (see 4.6) should be produced for long-term storage in a trusted neutral format. The archive master shall be retrievable and reproducible for a defined period of time (e.g. depending on the product’s lifetime). The representation shall be openly specified and forwardly independent of tool versions.

NOTE Typical formats for digital archive masters are TIFF raster, SGML, XML and STEP.

4.6 Document replica, replica fidelity

A document replica is a true or almost-true copy of an original document. A replica may have lost information relative to its source. The degree of fidelity shall be classified due to the ability of the document replica to promote the information of the original document.

Values of replica fidelity shall include

- clone ( exact copy),
- equivalent (with loss of information, for a dedicated purpose equivalent), and
- essential (some properties of the original may have been lost, like colour)

5 Phases in the design documentation work

5.1 General

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The following description shows where different documents can be generated within the design cycle. The activities during the product development process can be divided into *analysis*, *conceptual design*, *basic design* and *detailed design*, as described in the example below. See Figure 1.

Normally, an initial task will be to establish a specification of requirements, compiled and evaluated with the requirements from the market, authorities and the company itself.

Based on this, design specifications are produced as a base for further development. These may indicate possible functional solutions and/or shape representations, which will be the basis for one or more proposals to be evaluated. The result of the evaluation constitutes the basic documentation for design.

During the detailed design the documents are finalised for its intended purpose and formalised to more strict rules for document management.

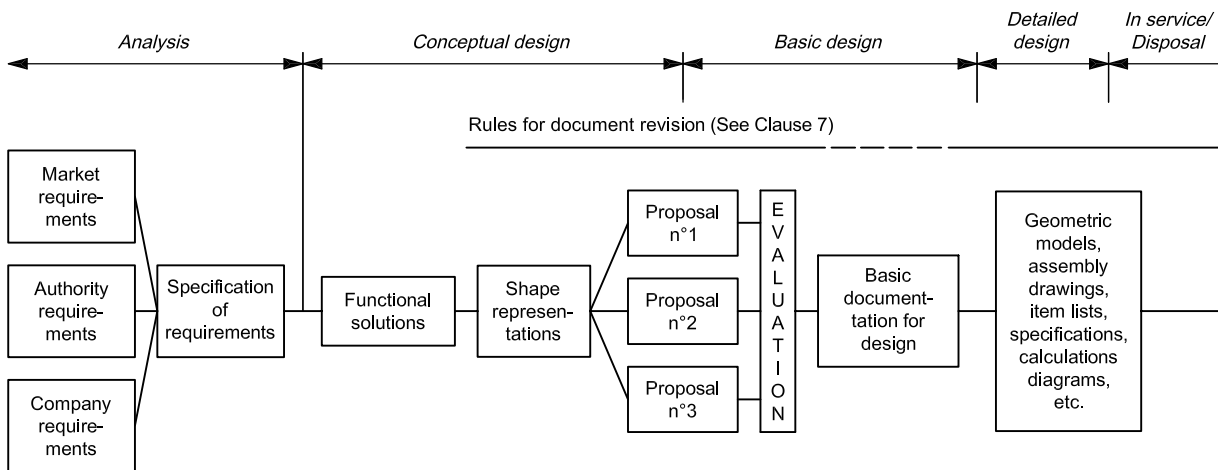


Figure 1 — Product development process



## 5.2 Management of technical product documents

Throughout the different stages of the design documentation process data shall be stored, moved and presented according to strict rules. The document management process is divided into different phases, shown with their respective activities, in Figure 2.

The transfer of data from one phase to another shall be made in accordance with established procedures adapted to the need of the activity. These procedures shall be well documented.

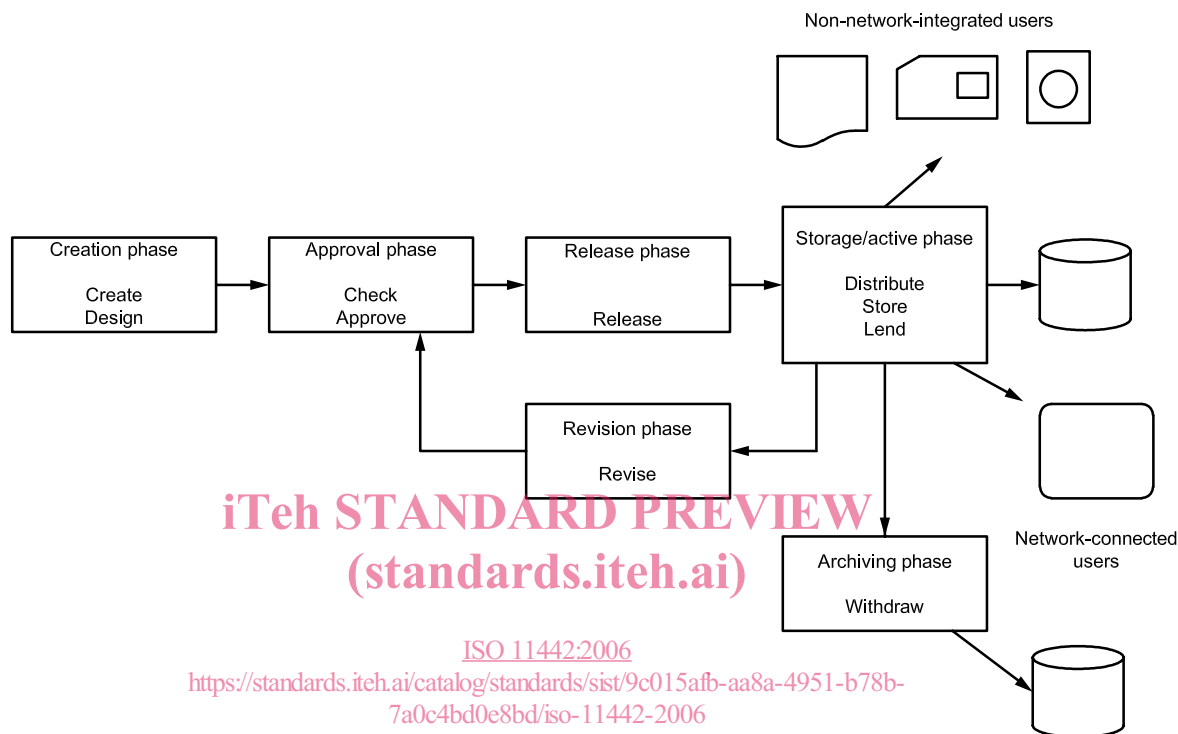


Figure 2 — Phases in the design documentation work

### 5.3 Creation phase

The phase in which the actual content of the document is established is termed the “creation phase”. Documents exist in this phase from document status “in preparation” until the “in review” status is initiated. A document in the creation phase is the property of its creator. The document shall therefore be considered preliminary; for example, it shall not be used for binding agreements.

If special business requirements demand the early usage of documents in this phase for binding agreements (e.g. ordering of raw materials or design of tooling for long lead-time items) a clear indication shall be given to which extent the usage for dedicated purposes is possible.

Any use of the document shall be checked with the creator.

### 5.4 Approval phase

When the creator considers the document to be finished the approval phase shall be initiated. This is indicated by the document status “in review”. A document with this status is still the property of the creator and the same restrictions as for “in preparation” apply regarding its use. If the document is rejected it shall be brought back to the creator and to the document status “in preparation” before necessary modifications may be made.