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Edition 3.0 2014-10

# REDLINE VERSION



HORIZONTAL STANDARD

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## Preparation of documents used in electrotechnology – Part 1: Rules

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

ICS 01.110; 29.020

ISBN 978-2-8322-1911-9

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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### PREPARATION OF DOCUMENTS USED IN ELECTROTECHNOLOGY –

#### Part 1: Rules

#### FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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**This Redline version provides you with a quick and easy way to compare all the changes between this standard and its previous edition. A vertical bar appears in the margin wherever a change has been made. Additions and deletions are displayed in red, with deletions being struck through.**



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International Standard IEC 61082-1 has been prepared by IEC technical committee 3: Information structures, documentation and graphical symbols.

It has the status of a horizontal standard in accordance with IEC Guide 108.

This third edition cancels and replaces the second edition published in 2006. This edition constitutes a technical revision and includes the following main technical changes:

- a) inclusion of presentation rules for wireless interconnections
- b) description of exceptional cases for the application of rules for positioning of reference designations in diagrams
- c) correction of errors and update of the normative references
- d) harmonization of definitions with respect to referenced publications.

The text of this standard is based on the following documents:

FDIS	Report on voting
3/1189/FDIS	3/1196/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

A list of all the parts in the IEC 61082 series, under the general title *Preparation of documents used in electrotechnology*, can be found on the IEC website.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

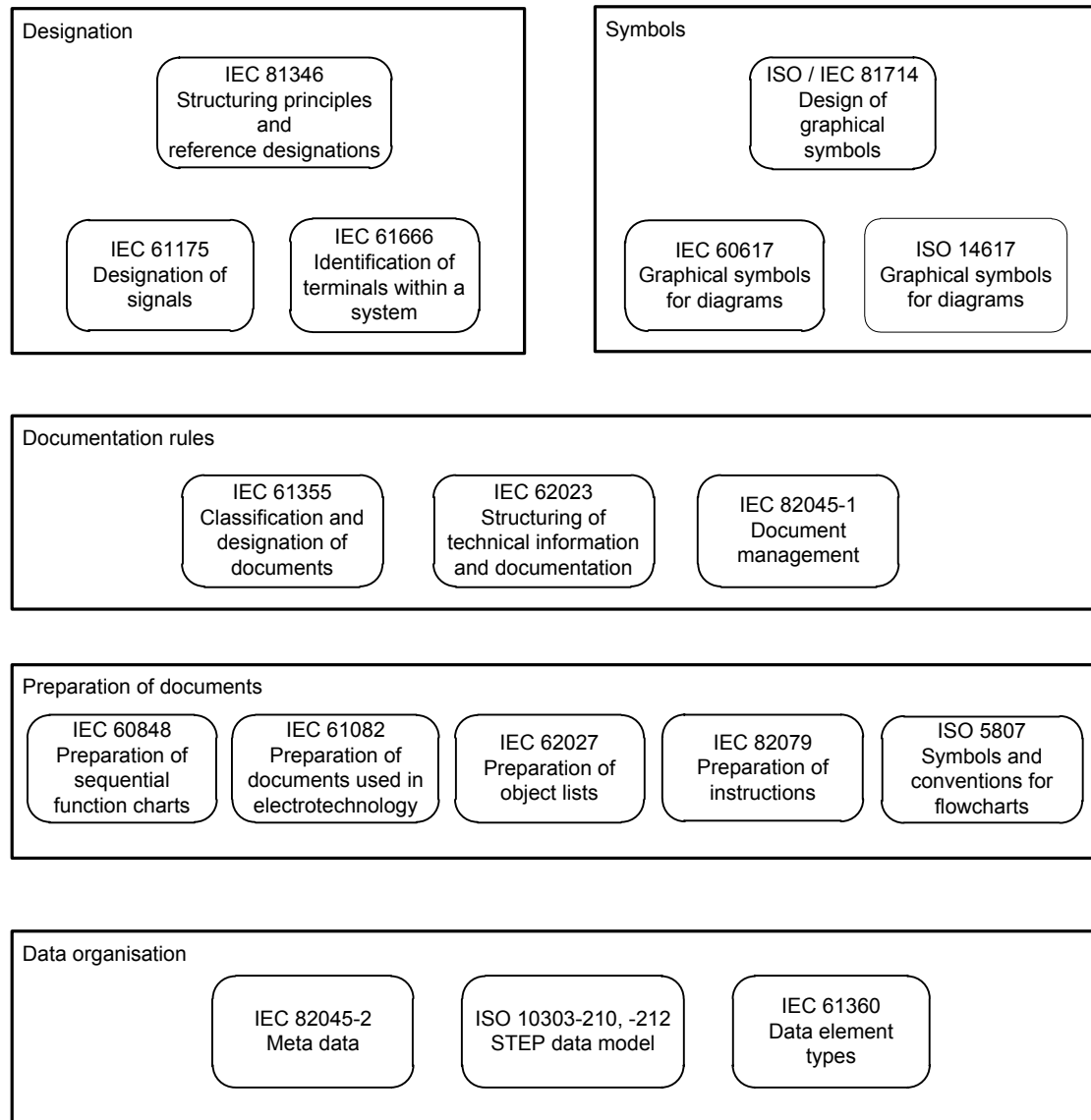
The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

**IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.**

## INTRODUCTION

IEC 61082-1 deals with the presentation of information in documents. Part of this information is described in other International Standards. **Figure 1 – Overview of standards related to the presentation of information in documents** provides an overview on the interrelation between some of these standards.



IEC

**Figure 1 – Overview of standards related to the presentation of information in documents**

Examples in this part of IEC 61082 are intended to illustrate a given rule and are not necessarily representative of complete documents.

## PREPARATION OF DOCUMENTS USED IN ELECTROTECHNOLOGY –

### Part 1: Rules

#### 1 Scope

This part of IEC 61082 ~~provides~~ **establishes** general rules and guidelines for the presentation of information in documents, and specific rules for diagrams, drawings and tables used in electrotechnology.

Excluded from this part of IEC 61082 are rules and guidelines for all kind of audio or video **or tactile** presentations.

**This horizontal standard is primarily intended for use by technical committees in the preparation of standards in accordance with the principles laid down in IEC Guide 108.**

**One of the responsibilities of a technical committee is, wherever applicable, to make use of horizontal standards in the preparation of its publications. The contents of this horizontal standard will not apply unless specifically referred to or included in the relevant publications.**

#### 2 Normative references

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

IEC 60027 (all parts), *Letter symbols to be used in electrical technology*

IEC 60375:~~2003~~, *Conventions concerning electric and magnetic circuits*

IEC 60757:~~1983~~, *Code for designation of colours*

IEC 60617-~~DB:—~~2001, *Graphical symbols for diagrams*. Available from: <http://std.iec.ch/iec60617>

IEC 60848:~~2002~~, *GRAFCET specification language for sequential function charts*

IEC 61175:~~2005~~, *Industrial systems, installations and equipment and industrial products- Designation of signals*

IEC 61286:~~2004~~, *Information technology – Coded graphic character set for use in the preparation of documents used in electrotechnology and for information interchange*

IEC 61293:~~1994~~, *Marking of electrical equipment with ratings related to electrical supply – Safety requirements*

~~IEC 61355:1997, Classification and designation of documents for plants, systems and equipment~~

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~~IEC 61355-1:2008, Classification and designation of documents for plants, systems and equipment – Part 1: Rules and classification tables~~

~~IEC 61666:1997, Industrial systems, installations and equipment and industrial products – Identification of terminals within a system~~

~~IEC 61804-1:2003, Function blocks (FB) for process and control – Part 1: Overview of system aspects~~

~~IEC 61804-2:2004, Function blocks (FB) for process and control – Part 2: Specification of FB concept and Electronic Device Description Language (EDDL)~~

~~IEC 62023:2000, Structuring of technical information and documentation~~

~~IEC 62027:2000, Preparation of object lists, including parts lists~~

~~IEC 62079:2001, Preparation of instructions – Structuring, content and presentation~~

~~IEC 62491, Industrial systems, installations and equipment and industrial products – Labelling of cables and cores~~

~~IEC 61346-1:1996 IEC 81346-1, Industrial systems, installations and equipment and industrial products – Structuring principles and reference designations – Part 1: Basic rules~~

~~IEC 81714-2:1998 2006, 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~~

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

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

~~IEC 82079-1, Preparation of instructions for use – Structuring, content and presentation – Part 1: General principles and detailed requirements~~

~~ISO 31 (all parts), Quantities and units<sup>1</sup>~~

~~ISO 128-22:1999, Technical drawings – General principles of presentation – Part 22: Basic conventions and applications for leader lines and reference lines~~

~~ISO 128-30:2004, Technical drawings – General principles of presentation – Part 30: Basic conventions for views~~

~~ISO 2594:1972, Building drawings – Projection methods~~

~~ISO 3098-5:1997, Technical product documentation – Lettering – Part 5: CAD- lettering of the Latin alphabet, numerals and marks~~

~~ISO 5807:1985, Information processing – Documentation symbols and conventions for data, program and system flowcharts, program network charts and system resources charts~~

~~ISO 5455:1979, Technical drawings – Scales~~

<sup>1</sup> ~~Published as a compilation in ISO Standards Handbook, Quantities and units.~~

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ISO 5456-2:~~1996~~, *Technical drawings – Projection methods – Part 2: Orthographic representations*

ISO 5457:1999, *Technical product documentation – Sizes and layout of technical drawing sheets*

~~ISO 10209-1:1992, *Technical product documentation – Vocabulary – Part 1: Terms relating to technical drawings: general and types of drawings*~~

~~ISO 10628:1997, *Flow diagrams for process plants – General rules*~~

~~ISO 14617 (all parts), *Graphical symbols for diagrams*~~

ISO 80000 (all parts), *Quantities and units*

ISO 81714-1:~~1999~~, *Design of graphical symbols for use in the technical documentation of products – Part 1: Basic rules*



# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



HORIZONTAL STANDARD  
NORME HORIZONTALE

**Preparation of documents used in electrotechnology –  
Part 1: Rules**

**Établissement des documents utilisés en électrotechnique –  
Partie 1: Règles**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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ICS 01.110; 29.020

ISBN 978-2-8322-1872-3

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

### PREPARATION OF DOCUMENTS USED IN ELECTROTECHNOLOGY –

#### Part 1: Rules

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International Standard IEC 61082-1 has been prepared by IEC technical committee 3: Information structures, documentation and graphical symbols.

It has the status of a horizontal standard in accordance with IEC Guide 108.

This third edition cancels and replaces the second edition published in 2006. This edition constitutes a technical revision and includes the following main technical changes:

- a) inclusion of presentation rules for wireless interconnections
- b) description of exceptional cases for the application of rules for positioning of reference designations in diagrams
- c) correction of errors and update of the normative references
- d) harmonization of definitions with respect to referenced publications.

This is a preview of "S+ IEC 61082-1 Ed. 3...". [Click here to purchase the full version from the ANSI store.](#)

The text of this standard is based on the following documents:

FDIS	Report on voting
3/1189/FDIS	3/1196/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

A list of all the parts in the IEC 61082 series, under the general title *Preparation of documents used in electrotechnology*, can be found on the IEC website.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

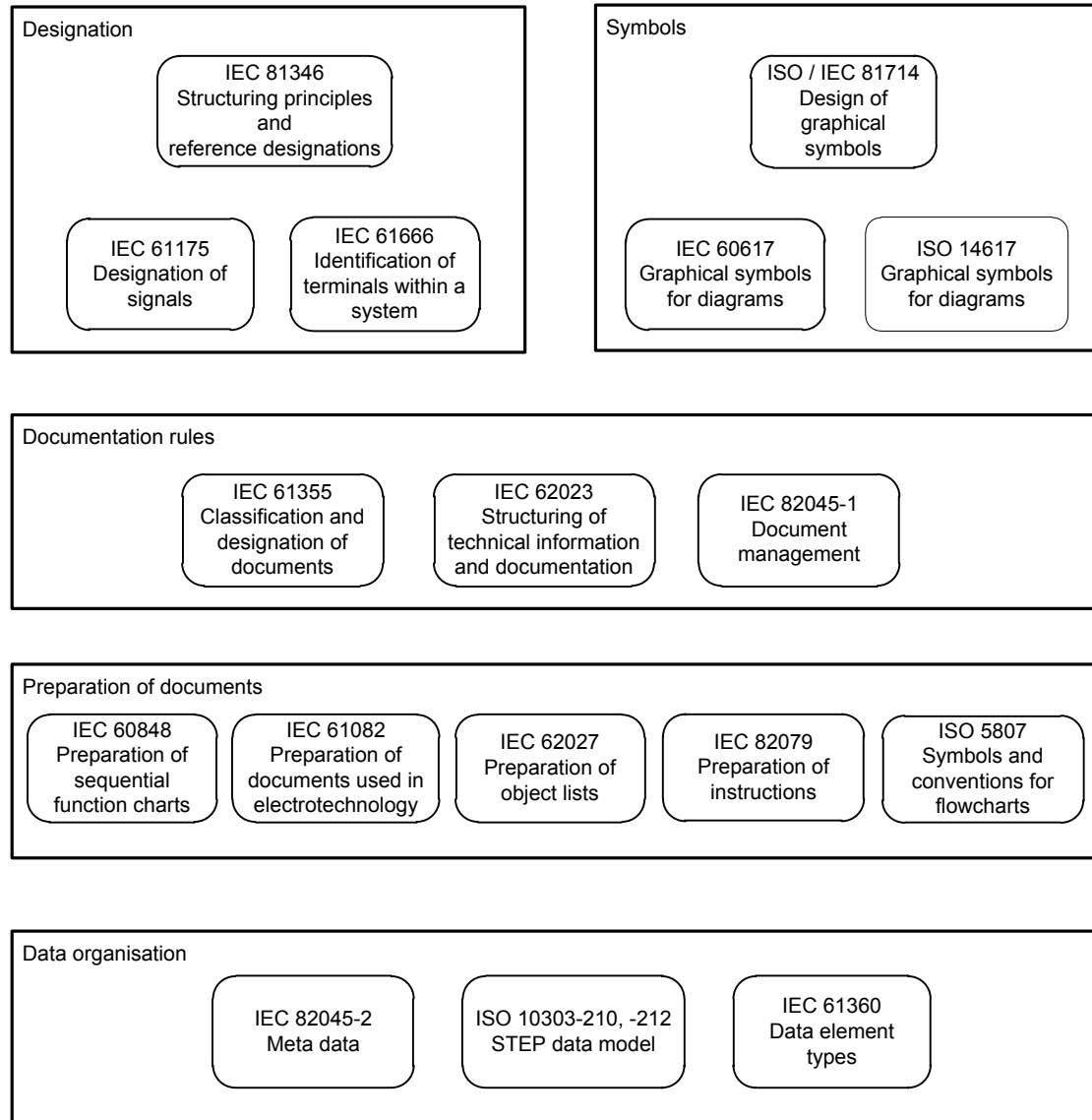
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- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

**IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.**

## INTRODUCTION

IEC 61082-1 deals with the presentation of information in documents. Part of this information is described in other International Standards. Figure 1 provides an overview on the interrelation between some of these standards.



IEC

**Figure 1 – Overview of standards related to the presentation of information in documents**

Examples in this part of IEC 61082 are intended to illustrate a given rule and are not necessarily representative of complete documents.

## PREPARATION OF DOCUMENTS USED IN ELECTROTECHNOLOGY –

### Part 1: Rules

#### 1 Scope

This part of IEC 61082 establishes general rules and guidelines for the presentation of information in documents, and specific rules for diagrams, drawings and tables used in electrotechnology.

Excluded from this part of IEC 61082 are rules and guidelines for all kind of audio or video or tactile presentations.

This horizontal standard is primarily intended for use by technical committees in the preparation of standards in accordance with the principles laid down in IEC Guide 108.

One of the responsibilities of a technical committee is, wherever applicable, to make use of horizontal standards in the preparation of its publications. The contents of this horizontal standard will not apply unless specifically referred to or included in the relevant publications.

#### 2 Normative references

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

IEC 60027 (all parts), *Letter symbols to be used in electrical technology*

IEC 60375, *Conventions concerning electric and magnetic circuits*

IEC 60757, *Code for designation of colours*

IEC 60617, *Graphical symbols for diagrams*. Available from: <<http://std.iec.ch/iec60617>>

IEC 60848, *GRAFCET specification language for sequential function charts*

IEC 61175, *Industrial systems, installations and equipment and industrial products- Designation of signals*

IEC 61286, *Information technology – Coded graphic character set for use in the preparation of documents used in electrotechnology and for information interchange*

IEC 61293, *Marking of electrical equipment with ratings related to electrical supply – Safety requirements*

IEC 61355-1:2008, *Classification and designation of documents for plants, systems and equipment – Part 1: Rules and classification tables*

IEC 61666, *Industrial systems, installations and equipment and industrial products – Identification of terminals within a system*



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IEC 62023, *Structuring of technical information and documentation*

IEC 62027, *Preparation of object lists, including parts lists*

IEC 62491, *Industrial systems, installations and equipment and industrial products – Labelling of cables and cores*

IEC 81346-1, *Industrial systems, installations and equipment and industrial products – Structuring principles and reference designations – Part 1: Basic rules*

IEC 81714-2:2006, *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*

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

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

IEC 82079-1, *Preparation of instructions for use – Structuring, content and presentation – Part 1: General principles and detailed requirements*

ISO 128-22, *Technical drawings – General principles of presentation – Part 22: Basic conventions and applications for leader lines and reference lines*

ISO 128-30, *Technical drawings – General principles of presentation – Part 30: Basic conventions for views*

ISO 2594, *Building drawings – Projection methods*

ISO 3098-5, *Technical product documentation – Lettering – Part 5: CAD- lettering of the Latin alphabet, numerals and marks*

ISO 5455, *Technical drawings – Scales*

ISO 5456-2, *Technical drawings – Projection methods – Part 2: Orthographic representations*

ISO 5457:1999, *Technical product documentation – Sizes and layout of technical drawing sheets*

ISO 80000 (all parts), *Quantities and units*

ISO 81714-1, *Design of graphical symbols for use in the technical documentation of products – Part 1: Basic rules*

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## COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

### ÉTABLISSEMENT DES DOCUMENTS UTILISÉS EN ÉLECTROTECHNIQUE –

#### Partie 1: Règles

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La Norme internationale IEC 61082-1 a été établie par le comité d'études 3 de l'IEC: Structures d'information, documentation et symboles graphiques.

Elle a le statut d'une norme horizontale conformément au Guide 108 de l'IEC.

Cette troisième édition annule et remplace la deuxième édition parue en 2006. Cette édition constitue une révision technique et inclut les principales modifications techniques suivantes:

- a) inclusion de règles de présentation pour les interconnexions sans fil
- b) description de cas exceptionnels pour l'application de règles pour le positionnement des désignations de référence dans les schémas
- c) correction d'erreurs et mise à jour des références normatives



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d) harmonisation des définitions par rapport aux publications référencées.

Le texte de cette norme est issu des documents suivants:

FDIS	Rapport de vote
3/1189/FDIS	3/1196/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à l'approbation de cette norme.

Une liste de toutes les parties de la série IEC 61082, publiées sous le titre général *Établissement des documents utilisés en électrotechnique*, peut être consultée sur le site web de l'IEC.

Cette publication a été rédigée selon les Directives ISO/IEC, Partie 2.

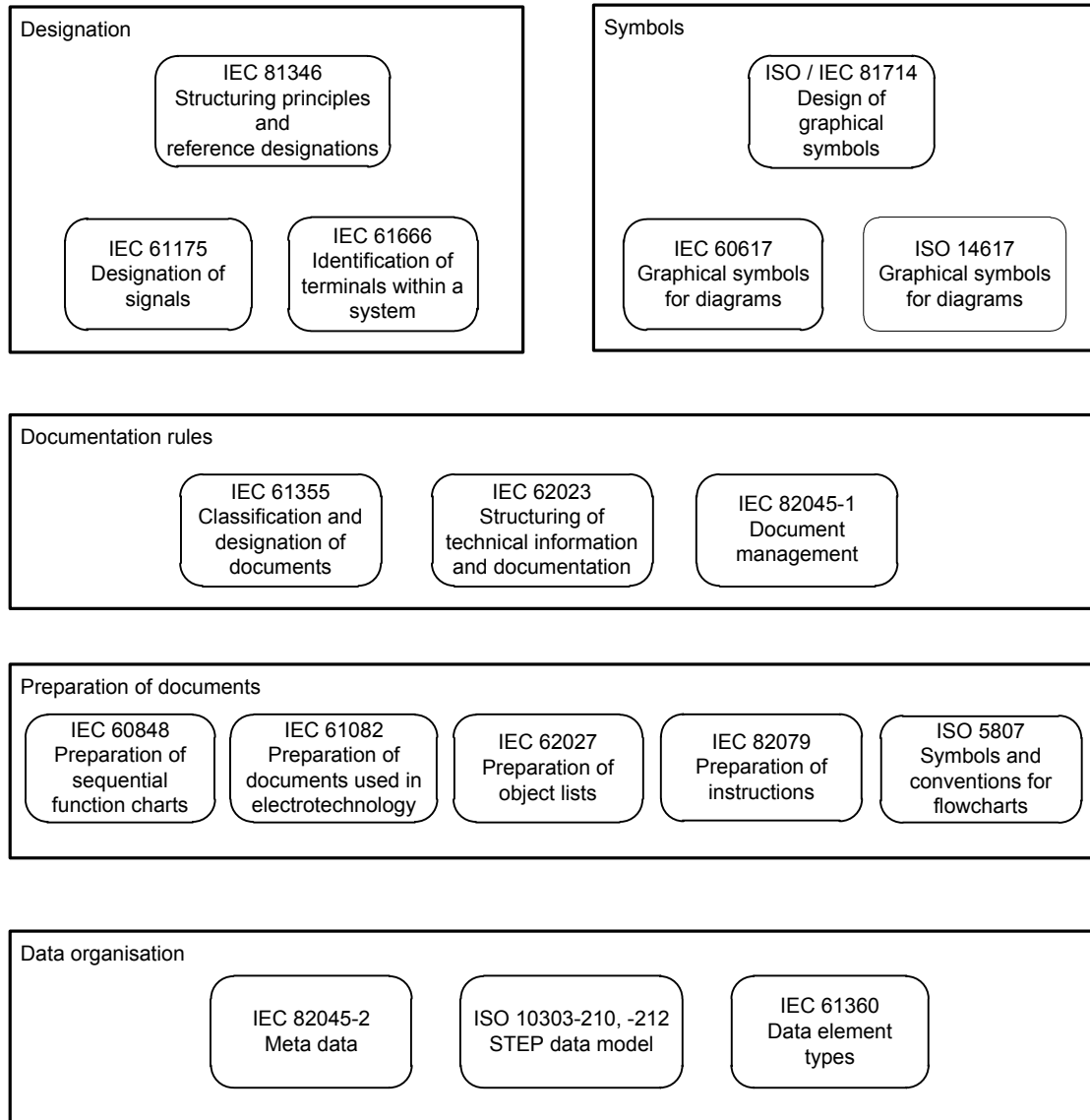
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- reconduite,
- supprimée,
- remplacée par une édition révisée, ou
- amendée.

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## INTRODUCTION

L'IEC 61082-1 traite de la présentation des informations dans les documents. Une partie de ces informations est décrite dans d'autres normes internationales. La Figure 1 donne une vue d'ensemble des relations qui existent entre certaines de ces normes.



IEC

### Légende

Anglais	Français
Designation	Désignation
IEC 81346 Structuring principles and reference designations	IEC 81346 Principes de structuration et désignations de référence
IEC 61175 Designation of signals	IEC 61175 Désignation des signaux
IEC 61666 Identification of terminals within a system	IEC 61666 Identification des bornes dans le cadre d'un système
Symbols	Symboles
ISO/IEC 81714 Design of graphical symbols	ISO/IEC 81714 Création de symboles graphiques utilisables
IEC 60617 Graphical symbols for diagrams	IEC 60617 Symboles graphiques pour schémas

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Anglais	Français
IEC 14617 Graphical symbols for diagrams	IEC 14617 Symboles graphiques pour schémas
Documentation rules	Règles de documentation
IEC 61355 Classification and designation of documents	IEC 61355 Classification et désignation des documents
IEC 62023 Structuring of technical information and documentation	IEC 62023 Structuration des informations et de la documentation techniques
IEC 82045-1 Document management	IEC 82045-1 Gestion de documents
Preparation of documents	Préparation de documents
IEC 60848 Preparation of sequential function charts	IEC 60848 Établissement des diagrammes fonctionnels en séquence
IEC 61082 Preparation of documents used in electrotechnology	IEC 61082-1 Établissement des documents utilisés en électrotechnique
IEC 62027 Preparation of object lists	IEC 62027 Établissement des listes d'objets
IEC 82079 Preparation of instructions	IEC 82079 Établissement des instructions d'utilisation
ISO 5807 Symbols and conventions for flowcharts	ISO 5807 Symboles et conventions applicables aux organigrammes d'analyse
Data organisation	Organisation des données
IEC 82045-2 Meta data	IEC 82045-2 Métadonnées
ISO 10303-210, -212 STEP data model	ISO 10303-210, -212 Modèle de données STEP
IEC 61360 Data element types	IEC 61360 Types d'éléments de données

**Figure 1 – Vue d'ensemble des normes relatives à la présentation des informations dans les documents**

Les exemples donnés dans la présente partie de l'IEC 61082 sont destinés à illustrer une règle donnée et ne sont pas nécessairement représentatifs de documents complets.

## ETABLISSEMENT DES DOCUMENTS UTILISES EN ÉLECTROTECHNIQUE –

### Partie 1: Règles

#### 1 Domaine d'application

La présente partie de l'IEC 61082 définit des règles générales et sert de guide pour la présentation des informations dans les documents et définit des règles particulières pour les schémas, les dessins et les tableaux utilisés en électrotechnique.

Les règles et les lignes directrices pour tous les types de présentations audio, vidéo ou tactile sont exclues de la présente partie de l'IEC 61082.

Cette norme horizontale est essentiellement destinée à l'usage des comités d'études dans la préparation des normes, conformément aux principes établis dans le Guide 108 de la CEI.

Une des responsabilités d'un comité d'études est, partout où cela est possible, de se servir des normes horizontales lors de la préparation de ses publications. Le contenu de cette norme horizontale ne s'appliquera pas, à moins qu'il ne soit spécifiquement désigné ou inclus dans les publications concernées.

#### 2 Références normatives

Les documents suivants sont cités en référence de manière normative, en intégralité ou en partie, dans le présent document et sont indispensables pour son application. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

IEC 60027 (toutes les parties), *Symboles littéraux à utiliser en électrotechnique*

IEC 60375, *Conventions concernant les circuits électriques et magnétiques*

IEC 60757, *Code de désignation de couleurs*

IEC 60617, *Symboles graphiques pour schémas*. Disponible à l'adresse:  
<<http://std.iec.ch/iec60617>>

IEC 60848, *Langage de spécification GRAFCET pour diagrammes fonctionnels en séquence*

IEC 61175, *Systèmes, installations, appareils et produits industriels – Désignation des signaux*

IEC 61286, *Technologie de l'information – Jeu de caractères graphiques codés pour emploi dans l'établissement de documents utilisés en électrotechnique et pour échange de l'information*

IEC 61293, *Marquage des matériels électriques avec des caractéristiques assignées relatives à l'alimentation électrique – Prescriptions de sécurité*

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IEC 61355-1:2008, *Classification et désignation des documents pour installations industrielles, systèmes et matériels – Partie 1: Règles et tableaux de classification*

IEC 61666, *Systèmes industriels, installations et appareils, et produits industriels – Identification des bornes dans le cadre d'un système*

IEC 62023, *Structuration des informations et de la documentation techniques*

IEC 62027, *Établissement des listes d'objets, y compris les nomenclatures de composants*

IEC 62491, *Systèmes industriels, installations et appareils et produits industriels - Étiquetage des câbles et des conducteurs isolés*

IEC 81346-1, *Systèmes industriels, installations et appareils, et produits industriels – Principes de structuration et désignations de référence – Partie 1: Règles de base*

IEC 81714-2:2006, *Création de symboles graphiques utilisables dans la documentation technique de produits – Partie 2: Spécification pour symboles graphiques sous forme adaptée à l'ordinateur, y compris les symboles pour bibliothèque de références, et exigences relatives à leur échange*

IEC 82045-1:2001, *Gestion de documents – Partie 1: Principes et méthodes*

IEC 82045-2, *Gestion de documents – Partie 2: Éléments de métadonnées et modèle d'information de référence*

IEC 82079-1, *Établissement des instructions d'utilisation – Structure, contenu et présentation – Partie 1: Principes généraux et exigences détaillées*

ISO 128-22, *Dessins techniques – Principes généraux de représentation – Partie 22: Conventions de base et applications pour les traits de rappel de cote et traits de référence*

ISO 128-30, *Dessins techniques – Principes généraux de représentation – Partie 30: Conventions de base pour les vues*

ISO 2594, *Dessin de bâtiment – Méthodes de projection*

ISO 3098-5, *Documentation technique de produits – Écriture – Partie 5: Écriture en conception assistée par ordinateur de l'alphabet latin, des chiffres et des signes*

ISO 5455, *Dessins techniques – Échelles*

ISO 5456-2, *Dessins techniques – Méthodes de projection – Partie 2: Représentations orthographiques*

ISO 5457:1999, *Documentation technique de produits – Formats et présentation des éléments graphiques des feuilles de dessin*

ISO 80000 (toutes les parties), *Grandeurs et unités*

ISO 81714-1, *Création de symboles graphiques à utiliser dans la documentation technique de produits – Partie 1: Règles fondamentales*