
**Systems to manage terminology,
knowledge and content — Concept-
related aspects for developing and
internationalizing classification
systems**

*Systèmes de gestion de la terminologie, de la connaissance et
du contenu — Aspects conceptuels du développement et de la
localization des systèmes des classement*



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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 22274 was prepared by Technical Committee ISO/TC 37, *Terminology and other language and content resources*, Subcommittee SC 3, *Systems to manage terminology, knowledge and content*.

Introduction

Classifying things is a common technique humans use to cope with the complexity of the world around us. The role of classification systems in our daily life can hardly be overestimated.

Classification systems organize content in a systematic way. They are highly influenced by their respective domain-specific terminologies and can, in turn, have an effect on those domain-specific terminologies. Classification systems make domain knowledge accessible to a broad audience beyond the specialists who are directly involved in that domain. Terms are established and knowledge is systematized in classification systems.

In many cases, classification systems are used to structure large collections of data supporting functions such as data mining or information retrieval. Dictionaries, libraries or catalogues, as well as web pages or retrieval systems, are examples of data collections that may benefit from being structured by classification systems.

Classification systems allow people to communicate about topics by providing sets of concepts that help to reduce the complexity of the topic to a level which is manageable for their users. These concepts allow us to direct the information flow within or between software applications, to communicate with experts from different domains or to communicate with people of different backgrounds.

If the classification system is to be used in more than one linguistic community, it needs to be localized to account for the languages, social conventions, and cultures of its users. To facilitate localization, the classification system needs to be designed so that it is clear, easy to use, and otherwise prepared to be localized.

This International Standard provides advice on how to design classification systems and how to express their content so that they are adaptable to different linguistic environments. This International Standard complements existing documents, e.g. ISO/IEC Guide 77,^[19] ISO 13584,^[9] IEC 61360,^[18] ISO 22745,^[15] and ISO/IEC 11179.^[7]

Systems to manage terminology, knowledge and content — Concept-related aspects for developing and internationalizing classification systems

1 Scope

This International Standard establishes basic principles and requirements for ensuring that classification systems are suitable for worldwide application, considering such aspects as cultural and linguistic diversity as well as market requirements. By applying principles relating to terminology work, this International Standard provides guidelines for creating, handling, and using classification systems for international environments.

This International Standard addresses the need in many domains for classification systems that are concept based to ensure that they are suitable for worldwide use and can be adapted to specific user communities. It provides information about the design, development, and use of classification systems that are fully enabled for diverse linguistic, cultural, and market-based environments.

This International Standard primarily specifies the factors that need to be considered when creating and populating a classification system for use in diverse linguistic environments. These factors include the specification of principles for incorporating internationalization aspects into classification systems, and maintaining and using those aspects for the structuring of activities, products, services, agents, and other entities of a company or organization.

The following are within the scope of this International Standard:

- a) guidelines on information content to support internationalization of classification systems and their underlying concept systems;
- b) terminological principles applicable to classification systems;
- c) requirements for internationalization of classification systems;
- d) considerations on workflow and administration of classification system content to support worldwide use.

The following are outside the scope of this International Standard:

- providing formal data models for representing classification systems in machine-readable form;
- prescribing classification system content for specific business domains or products;
- harmonization of classification systems.

This International Standard is intended for those who develop content for classification systems. This includes terminologists and content managers who are called upon to apply the principles of terminology work to ensure that cultural and linguistic diversity are appropriately reflected in classification systems. It is also relevant for people who design and model appropriate IT tools.

NOTE Formal data models for implementation of classification systems in information technology environments can be obtained from technical committees such as ISO/TC 184 or IEC/TC 3.

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 1087-1:2000, *Terminology work — Vocabulary — Part 1: Theory and application*

ISO/IEC 6523 (all parts), *Information technology — Structure for the identification of organizations and organization parts*

ISO/IEC 15418, *Information technology — Automatic identification and data capture techniques — GS1 Application Identifiers and ASC MH10 Data Identifiers and maintenance*

ISO/IEC 15459-6, *Information technology — Automatic identification and data capture techniques — Unique identification — Part 6: Groupings*

ISO/TS 29002-5, *Industrial automation systems and integration — Exchange of characteristic data — Part 5: Identification scheme*

ISO/IEC Directives, Supplement:2012, *Procedures specific to IEC*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1087-1 and the following apply.

3.1 associative relation

relation between two **concepts** (3.7) having a non-hierarchical thematic connection by virtue of experience

EXAMPLE An associative relation exists between the concepts “education” and “teaching” or “baking” and “oven”.

[SOURCE: ISO 1087-1:2000, 3.2.23, modified]

3.2 attribute

data element for the computer-sensible description of a **property** (3.25), a relation or a **class** (3.4)

[SOURCE: ISO/IEC Guide 77-2:2008, 2.2]

EXAMPLE Creation date of a class **object** (3.22) in a computer system.

3.3 characteristic

distinguishing feature

NOTE 1 A characteristic can be inherent or assigned.

NOTE 2 A characteristic can be qualitative or quantitative.

NOTE 3 There are various **classes** (3.4) of characteristic, such as the following:

- physical (e.g. mechanical, electrical, chemical or biological characteristics);
- sensory (e.g. related to smell, touch, taste, sight, hearing);
- behavioural (e.g. courtesy, honesty, veracity);
- temporal (e.g. punctuality, reliability, availability);
- ergonomic (e.g. physiological characteristic or related to human safety);
- functional (e.g. maximum speed of an aircraft).