BSI Standards Publication

Terminological entries in standards

Part 2: Adoption of standardized terminological entries

National foreword

This British Standard is the UK implementation of ISO 10241-2:2012.

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INTERNATIONAL STANDARD

Terminological entries in standards —

Part 2:
Adoption of standardized terminological entries

Articles terminologiques dans les normes —

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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 10241-2 was prepared by Technical Committee ISO/TC 37, *Terminology and other language and content resources*, Subcommittee SC 2, *Terminographical and lexicographical working methods.*

ISO 10241 consists of the following parts, under the general title *Terminological entries in standards*:

— *Part 1: General requirements and examples of presentation*

— *Part 2: Adoption of standardized terminological entries*

Introduction

The "Agreement on Technical Barriers to Trade" (TBT Agreement) of the World Trade Organization (WTO) requires its members to ensure that they do not create unnecessary barriers to trade through regulations or conformity assessment schemes that deviate from international standards. Under the TBT Agreement, WTO members are bound to use international standards whenever possible. According to the TBT Agreement, therefore, regional and national standards should be based on international standards, thus ensuring technical equivalence and avoiding any conflicts or inconsistencies with regard to trade. The same principle applies equally to the adoption of standardized terminological entries.

To ensure unambiguous comprehension and interpretation of the main terms and other kinds of designation used in their subject field, committees may specify all or part of their standardized terminology in the form of a terminology standard, or in sections defining terminology in other standards.

ISO/IEC Guide 21-1 specifies methods for the adoption of International Standards[1] as regional or national standards: endorsement by authority, publication with a regional or national coversheet and publication by reprinting, translation and redrafting. When adopting international standards, specific care might be needed with regard to the terminological entries. For example, standardizing bodies using languages or language variants other than the official languages of the international standard being adopted often encounter difficulties in the preparation of equivalent terminological entries.

According to ISO/IEC Guide 21-1, "The adoption of an International Standard as a regional or national standard will be extremely difficult if the regional or national rules or traditions concerning structure and layout of regional or national standards differ from those of the standard being adopted. It is therefore recommended to apply, as far as possible, the ISO/IEC Directives, Part 2, for the preparation of regional and national standards." Additionally, when preparing terminological entries in regional or national standards, there are issues specific to terminological entries that merit consideration in the adoption process.

ISO/IEC Guide 21 outlines the principles used to determine whether an International Standard can be adopted as a regional or national standard, including a method to assess the degree to which an International Standard corresponds to national or regional standardization needs. In comparison, this part of ISO 10241 defines rules for the adoption of terminological entries from international standards[2] into regional or national standards, as well as the principles used to determine the degree to which terminological entries, concepts, and concept systems from an international standard correspond to national or regional realities.

Issues similar to those involved in the adoption of a complete document from one cultural or linguistic environment into another can occur when adopting only the terminological entries because different cultural and linguistic communities perceive and conceptualize objects differently. In some communities, for instance, the "first floor" is the floor above the entrance or ground level, whereas in others "first floor" means the entrance or ground level. Such differences also have an impact on the standardization of terminological entries.

This part of ISO 10241 establishes guidelines for dealing with key issues to be considered in the process of adopting standardized terminological entries. It clarifies the challenges faced by standardizing bodies in the process of adopting internationally standardized terminological entries. It also indicates how nationally standardized terminological entries developed in accordance with the guidelines in ISO 10241-1 can serve as a resource or starting point for standardizing terminological entries at the international or regional level.

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[1] Where the first letter of each word in the term, *International Standard*, is capitalized, it is defined as "international standard where the international standards organization is ISO or IEC".

[2] Where the term, *international standard*, is entirely in lower-case letters, it is defined as "standard adopted by an international standardizing/standards organization and made available to the public".

Terminological entries in standards —

Part 2:
Adoption of standardized terminological entries

1 Scope

This part of ISO 10241 addresses the introduction of standardized terminological entries into other cultural and linguistic environments, and in particular the adoption of internationally standardized terminological entries by regional and national standardizing bodies. It establishes principles and guidelines for dealing with the key issues to be considered in this process.

It also provides examples of, and solutions to, problems that occur when the adopting standardizing body

— adopts internationally standardized terminological entries,

— aligns the concept systems of the adopting standardizing body with internationally standardized concept systems, and

— prepares standardized terminological entries as additions or supplements to internationally standardized terminological entries.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

NOTE 1   In the selection and wording of the terminological entries contained in this clause, preference has been given to general comprehensibility. Therefore, commonly used terms (which are generally understandable) are not defined. Some terminological entries that have been taken from other sources have been modified to meet the needs of the target group of this part of ISO 10241. In accordance with ISO 10241-1, the modifications are indicated by the string "modified" following the source.

NOTE 2   Because most of the terminological entries listed here have been selected from other standards, complete concept systems are not represented. The terminological entries are thus presented in mixed order.

2.1
standard
document, established by consensus and approved by a recognized body, that provides for common and repeated use, rules, guidelines and characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context

Note 1 to entry: Standards should be based on the consolidated results of science, technology and experience, and aimed at the promotion of optimum community benefits.

[SOURCE: ISO/IEC Guide 2:2004, 3.2]

1

2.2
standardizing body
standardizing organization
standards developing organization
SDO
body or organization that carries out recognized activities in the area of standardization such as the development, adoption and publication of *standards* (2.1) and whose membership may be composed of national, regional or other standardizing bodies, or of organizations such as companies, governmental, academic or other institutions and individuals.

[SOURCE: ISO/IEC Guide 2:2004, 4.3, modified — By extending the definition to any kind of standards developing organization, the definition now covers all standardizing bodies and organizations.]

2.3.1
terminology standardization
development of *terminological entries* (2.3.3) in *terminology standards* (2.3.2) and of terminology sections in other standards, and their approval by a *standardizing body* (2.2)

[SOURCE: ISO 15188:2001, 3.5, modified— "establishment of terminology standards" has been replaced by "development of terminological entries in terminology standards", "technical standards" has been replaced by "other standards" and "approval by an authoritative body" has been replaced by "approval by a standardizing body" for the sake of consistency in this part of ISO 10241.]

2.3.2
terminology standard
standard (2.1) that is concerned with *terms* (2.6.2) accompanied by their *definitions* (2.5), and sometimes by explanatory notes, illustrations, examples, etc.

Note 1 to entry: As a rule, both terminology standards and terminology sections in other standards comprise more than a single standardized terminological entry, i.e. they comprise a terminological data collection.

Note 2 to entry: A terminology standard can be an international, regional or national terminology standard.

[SOURCE: ISO 10241-1:2011, 3.1.1 — Notes 1 and 2 to entry have been added to explain the broader use of the term terminology standard within the scope of this part of ISO 10241.]

2.3.3
terminological entry
part of a terminological data collection that contains the *terminological data* (ISO 10241-1:2011, 3.1.3) related to one *concept* (2.4.1.1)

Note 1 to entry: A terminological entry prepared in accordance with the principles and methods given in ISO 704 follows the same structural principles whether it is monolingual or multilingual.

2.3.4
standardized terminological entry
terminological entry (2.3.3) that has been standardized by a *standardizing body* (2.2)

Note 1 to entry: A concept is considered standardized if the entire terminological entry or the definition (or non-verbal representation in those domains or subjects in which non-verbal representations are conventionally used) and the designations assigned to it have been standardized.

Note 2 to entry: A terminological entry can be standardized at the international, regional or national level.

Note 3 to entry: ISO 10241-1:2011, Annex A, provides examples of monolingual and multilingual standardized terminological entries.

2.3.5
terminological data model
<terminology management> conceptual structure for organizing terminological data, typically for implementation in database management systems, on which a terminological entry (2.3.3) is based, including the terminological *data categories* (ISO 10241-1:2011, 3.1.4) with their properties and inter-relationships

Note 1 to entry: In terminology standardization, the terminological data model is based on the terminological data categories referred to in ISO 10241-1:2011, together with their properties and inter-relationships. It is not equivalent to the structure of a standard (ISO/IEC Guide 21-1:2005, 3.10) or other document, defined in ISO/IEC Guide 21-1 as the "order of the clauses, subclauses, paragraphs, tables, figures, annexes".

Note 2 to entry: If demanded by the culture or language of the adopting standardizing body, it is possible both to add or delete language- or culture-related terminological data categories and to adapt the presentation of the terminological data (to different renderings depending on user needs, the purpose of the terminological data collection, etc.) without changing the technical content of the adopted terminological entry or its underlying terminological data model.

2.4.1.1
concept
unit of knowledge created by a unique combination of *characteristics* (ISO 1087-1:2000, 3.2.4)

Note 1 to entry: Concepts are not necessarily bound to particular languages. They are, however, influenced by the social or cultural background, which often leads to different categorizations.

[SOURCE: ISO 1087-1:2000, 3.2.1]

2.4.1.2
concept harmonization
activity leading to the establishment of a correspondence between two or more closely related or overlapping *concepts* (2.4.1.1) having professional, technical, scientific, social, economic, linguistic, cultural or other differences, in order to eliminate or reduce minor differences between them

Note 1 to entry: The purpose of concept harmonization is to improve communication.

[SOURCE: ISO 860:2007, 3.1]

2.4.2.1
concept system
DEPRECATED: system of concepts
<terminology standardization> set of *concepts* (2.4.1.1) structured according to the relations among them

[SOURCE: ISO 1087-1:2000, 3.2.11]

2.4.2.2
concept system harmonization
activity leading to the establishment of a correspondence between two or more closely related or overlapping *concept systems* (2.4.2.1) having professional, technical, scientific, social, economic, linguistic, cultural or other differences, in order to eliminate or reduce minor differences between them

Note 1 to entry: The purpose of concept system harmonization is to improve communication.

[SOURCE: ISO 860:2007, 3.2]

2.5
definition
<terminology standardization> representation of a *concept* (2.4.1.1) by a descriptive statement which serves to differentiate it from related *concepts*

Note 1 to entry: Usually, a non-verbal representation can only complement a definition, and not replace it. However, in certain domains or subjects (e.g. within a system of interdependent formulae), non-verbal representations are conventionally used instead of a descriptive statement.

[SOURCE: ISO 10241-1:2011, 3.4.2.1]

2.6.1
designation
designator
<terminology standardization> representation of a *concept* (2.4.1.1) by a signifier which denotes it

Note 1 to entry: In terminology work, three types of designations are distinguished: symbols, appellations and terms.

Note 2 to entry: In everyday language, the word representation can have several meanings. Here, it means expressing or denoting by means of words, a figure or a symbol. In accordance with ISO 10241-1, 3.4.1.1.3, symbols can be letter symbols, graphical symbols or other kinds of symbol.

[SOURCE: ISO 1087-1:2000, 3.4.1, modified — By adding Note 2 to entry so that it is consistent with ISO 10241-1.]

2.6.2
term
verbal *designation* (2.6.1) of a *general concept* (ISO 1087-1:2000, 3.2.3) in a specific *domain* (ISO 10241-1:2011, 3.3.1) or *subject* (ISO 10241-1:2011, 3.3.2)

Note 1 to entry: Terms can include letters and letter symbols, numerals, mathematical symbols, typographical signs and syntactic signs (e.g. punctuation marks, hyphens, parentheses, square brackets and other connectors or delimiters) sometimes in character styles (i.e. fonts and bold, italic, bold italic, or other style conventions) governed by domain-, subject- or language-specific conventions.

Note 2 to entry: A term may have variants, e.g. different forms of spelling.

Note 3 to entry: Terms may be quite complex, containing two or more roots or two or more words.

Note 4 to entry: Several terms in a given language representing the same concept are synonymous terms (synonyms). Terms in different languages representing the same concept are equivalent terms (equivalents).

[SOURCE: ISO 10241-1:2011, 3.4.1.1.2]

2.6.3
borrowed term
term (2.6.2) taken from another language or from another *domain* (ISO 10241-1:2011, 3.3.1) or *subject* (ISO 10241-1:2011, 3.3.2)

2.7.1
adoption
<standards development> publication of a regional or national normative document based on a relevant International Standard, or endorsement of the International Standard as having the same status as a national normative document, with any deviations from the International Standard identified

Note 1 to entry: Adapted from ISO/IEC Guide 2:2004, definition 10.1.

Note 2 to entry: The term "taking over" is sometimes used to cover the same concept as "adoption".

Note 3 to entry: For the conditions of adoption of an International Standard as a regional or national standard, see ISO/IEC Guide 21-1:2004, 4.1.

[SOURCE: ISO/IEC Guide 21-1:2004, 3.6, modified — By adding <standards development> in front of the definition in order to make the context of ISO/IEC Guide 21-1 clear. For the same reason, "ISO/IEC Guide 21-1:2004," has been added to Note 3 to entry.]

2.7.2
adoption of a standardized terminological entry
<terminology standardization> taking over of a *standardized terminological entry* (2.3.4) by another *standardizing body* (2.2), with any *technical deviations* (2.8.3) identified

Note 1 to entry: While the adoption of an International Standard concerns the entire document, the basic principles and rules of adopting standards largely apply also to the adoption of terminological entries. The latter concerns individual terminological entries, concepts and concept systems, and the constituent elements of terminological entries. Therefore, the kinds of information to be adopted are different from those of entire standards texts, and the adoption processes might differ accordingly.

Note 2 to entry: In practice, the adoption of a standardized terminological entry can involve "translating" a standardized terminological entry. In terminology standardization, "translating" refers to the expression of some or all of the textual data from a standardized terminological entry in the language of the adopting standardizing body, together with the adaptation of textual or non-textual data to the language or terminological data model of the adopting standardizing body.

2.7.3.1
translated text
translation
<terminology standardization> text expressing the equivalent of a source text in another language

2.7.3.1.1
faithful translation
<terminology standardization> *translated text* (2.7.3.1) without *technical deviation* (2.8.3)

Note 1 to entry: Textual information in a terminological entry; formally speaking, a text is any string of characters that can be interpreted as linguistically meaningful.

Note 2 to entry: The faithful translation of an internationally standardized terminological entry results in a terminological entry which is identical, in terms of technical content, in the language of the adopting standardizing body.

2.7.3.1.2
adapted translation
<terminology standardization> *translated text* (2.7.3.1) with adaptations

Note 1 to entry: The adaptations can relate to different conventions or to the specificities of the language of the adopting standardizing body.

Note 2 to entry: The adapted translation of a terminological entry results in a "modified" terminological entry in the language of the adopting standardizing body.

2.8.1
technical content
<terminology standardization> set of characteristics of a *concept* (2.4.1.1) in a *standardized terminological entry* (2.3.4) expressed through a *definition* (2.5) and other *terminological data* (ISO 10241-1:2011, 3.1.3)

2.8.2
editorial change
<terminology standardization> any change that does not alter the *technical content* (2.8.1)

Note 1 to entry: A list of editorial changes permitted in the case of an identical adoption is given in 3.2.2.

[SOURCE: ISO/IEC Guide 21-1:2004, 3.7, modified — By adding "<terminology standardization>" in front of the definition, cross-referencing to entry 2.8.1 "technical content", removing "permitted" after "change", and adapting the cross-reference in Note 1 to entry so that it reflects the scope of this part of 10241.]

2.8.3
technical deviation
<terminology standardization> any difference between the *technical content* (2.8.1) of the internationally *standardized terminological entry* (2.3.4) and that of the adopted *standardized terminological entry* (2.3.4)

[SOURCE: ISO/IEC Guide 21-1:2004, 3.8, modified — By adding "<terminology standardization>" in front of the definition and adapting the definition so that it reflects the scope of this part of 10241.]

2.8.4
change in wording
<terminology standardization> replacement of single words or phrases in the regionally or nationally *standardized terminological entry* (2.3.4) by synonyms to reflect domain-, subject- and language-specific conventions in the region or country of the adopting standardizing body

EXAMPLE: Some countries use "lift" whereas others use "elevator" for the same device.

[SOURCE: ISO/IEC Guide 21-1:2004, 3.9, modified — By adding "<terminology standardization>" in front of the definition and adapting the definition so that it reflects the scope of this part of 10241.]

2.8.5
vice versa principle
<terminology standardization> principle whereby anything that is contained in an internationally *standardized terminological entry* (2.3.4) in terms of *technical content* (2.8.1) is contained in the regionally or nationally standardized terminological entry and vice versa

Note 1 to entry: Adherence to the terminological data model (2.3.1) as provided in ISO 10241-1 facilitates the fulfilment of the *vice versa principle*.

[SOURCE: ISO/IEC Guide 21-1:2004, 3.11, modified — By adding "<terminology standardization>" in front of the definition as well as adapting the definition and adding Note 1 to entry so that it reflects the scope of this part of 10241.]

2.9
special language
language for special purposes
DEPRECATED: LSP
language used in a *domain* (ISO 10241-1:2010, 3.3.1) or *subject* (ISO 10241-1:2010, 3.3.2), and characterized by the use of specific linguistic means of expression

Note 1 to entry: The specific linguistic means of expression always include domain- and subject-specific terminology and phraseology, as well as other kinds of designation, and can also cover ways of presentation (e.g. character styles such as script fonts, typeface such as bold, italic, bold italic and other style conventions) governed by domain-, subject- and language-specific conventions.

3   Principles for the adoption of standardized terminological entries

3.1   General principles

The following principles shall be applied when deciding how to adopt standardized terminological entries:

— standardized terminological entries should be adopted if possible without technical deviation;

— any modification shall be clearly explained;

— to ensure identical technical content, a standardizing body representing specific cultural and linguistic as well as domain-specific and subject-specific communities should, if necessary, take special measures to address discrepancies between concept systems;

— the adopting standardizing body shall take responsibility for any documentation on culture-, language-, domain- or subject-specific issues;

— difficulties in adopting an internationally standardized terminological entry shall be recorded and reported to the respective international standardizing body so that the latter can serve as a resource for future harmonization of the terminological entries involved.

If there are distinct rules in a given standardizing body for the terminological data model, the wording or presentation of individual standardized terminological entries, the presentation of the respective concept systems or other constituent elements of terminological entries, these rules, or at least a reference to them, can be provided using Annex A.

3.2   Degrees of correspondence

3.2.1   General

To enable the comparison of regionally or nationally standardized terminological entries with the respective internationally standardized terminological entries, an indication of their degree of correspondence is essential

if their relationship is to be easily understood. ISO/IEC Guide 21-1 identifies, for standards, three *degrees of correspondence* which can be applied to an entire terminological entry or parts of it (see also Table 1).

— **Identical**

   The regionally or nationally standardized terminological entry is identical to the internationally standardized terminological entry in technical content, terminological data model and wording; it may, however, contain minor editorial changes (see 3.2.2). The vice versa principle is fulfilled.

— **Modified**

   The regionally or nationally standardized terminological entry has clearly identified and explained technical changes or adaptations to the terminological data model of the internationally standardized terminological entry (see 3.2.3). The vice versa principle is not fulfilled.

— **Not equivalent**

   The regionally or nationally standardized terminological entry is not equivalent to the internationally standardized terminological entry in technical content and the terminological data model, and the changes have not been clearly identified (see 3.2.4). This degree of correspondence does not constitute an adoption.

Table 1 — Relationship between the degrees of correspondence and the methods of adoption and publication

Degree of correspondence	Adoption/publication method	Permitted type of changes		
		Editorial changes (as per 3.2.2)	**Changes in terminological data model**	**Technical deviations**
Identical	Endorsement	No [except those listed in 3.2.2 b)]	No [except those listed in 3.2.2 b)]	No
	Faithful translation	Yes[a] (see 3.2.2)	No	No
Modified	Adapted translation	Yes[b]	Yes[b]	Yes[b]
Not equivalent	Does not constitute an adoption: the regionally or nationally standardized terminological entry is not equivalent to the internationally standardized terminological entry in technical content and the terminological data model, and the changes have not been clearly identified	Yes	Yes	Yes

[a]   "Identical" is also applicable to language variants in the same language, such as en AU, en UK and en US.

[b]   Provided that the technical deviations are identified and explained.

3.2.2   Identical

According to the rules set out in ISO/IEC Guide 21-1, the regionally or nationally standardized terminological entry is identical to the internationally standardized terminological entry under one or the other of conditions a) and b):

a)   the regionally or nationally standardized terminological entry is identical in technical content, terminological data model and wording (or is a faithful translation);

b) the regionally or nationally standardized terminological entry is identical in technical content and terminological data model, although it may contain the following minor editorial changes:

1) substitution of a decimal comma for a decimal point and adaptation of thousands separators;

2) correction of a misprint (e.g. spelling error);

3) change in numbering;

4) deletion of text that does not change the technical content;

5) inclusion of any technical corrigenda or amendments to the internationally standardized terminological entry;

6) inclusion of any regional or national informative information (e.g. content that does not alter, add to, or delete from the technical content of the internationally standardized terminological entry, such as language- or culture-specific examples and notes to entry);

7) different lexicographical symbols;

8) addition of grammatical information;

9) deletion of "to" for terms that are verbs;

10) deletion in the definition of a leading article and a trailing full point;

11) change in the format in which time indications and code symbols for the names of languages and countries are presented;

12) changes to, or deletion of, information in the internationally standardized terminological entry not relevant to the culture or language of the adopting standardizing body (such as the deletion of a note to entry that does not apply to the culture or language of the adopting standardizing body, or the replacement of an example by one better suited to the culture or language of the adopting standardizing body);

13) changes in wording as defined in 2.8.4;

14) addition, for informative purposes, of recalculated values of quantity units where a different measurement system is used in the adopting country.

With the above conditions, the vice versa principle is fulfilled.

Any changes in the presentation (including also the presentation in electronic versions) have no impact on the degree of correspondence.

3.2.3 Modified

Technical deviations shall be indicated as modifications by the string "modified" following the source, and further explained by using expressions such as "adding", "replacing" and "deleting". The following examples illustrate how the technical deviations for modified standardized terminological entries (see 3.2.2) can be indicated and explained.

Regionally or nationally standardized terminological entries are considered as modified, if

— they contain less or more terminological data categories than the internationally standardized terminological entry,

— the wording of the definition is either less restrictive and less detailed, or more restrictive and more detailed, than that of the internationally standardized terminological entry,

— a regionally or nationally standardized terminological entry contains fewer, more or different examples and notes to entry compared with the internationally standardized terminological entry, but the technical content is unchanged,

— a different normative status (e.g. referring to a borrowed designation as being preferred, admitted or deprecated) is assigned, or

— a combination of the above modifications.

3.2.4 Not equivalent

The regionally or nationally standardized terminological entry is not equivalent to the internationally standardized terminological entry if the scope of the technical changes made to the technical content or to the terminological data model extends beyond those described in 3.2.2 and 3.2.3, or if the changes have not been clearly identified, or both.

This lack of correspondence means that the regionally or nationally standardized terminological entry cannot be claimed to be an adoption of the internationally standardized terminological entry. However, reference may be made to the internationally standardized terminological entry for information.

3.3   Specific principles related to the method of adoption

When an internationally standardized terminological entry is adopted as a regionally or nationally standardized terminological entry, the source of the internationally standardized terminological entry shall be clearly stated.

When adopting an internationally standardized terminological entry, the latest version (including existing amendments and technical corrigenda) of that entry shall be adopted.

For an adopted internationally standardized terminological entry that is identical (degree of correspondence), care shall be taken to incorporate any future revisions of the internationally standardized terminological entry as soon as possible after their publication.

For an adopted internationally standardized terminological entry that is modified (degree of correspondence), the adopting standardizing body shall inform the international standardizing body of the modifications as soon as possible after their publication. In this way, the modifications can be reviewed for possible inclusion in a future revision of the internationally standardized terminological entry.

NOTE   This provision will necessitate detailed rules for joint maintenance of distributed or federated repositories of standardized terminological entries, including pertinent mechanisms at entry level.

For an adopted internationally standardized terminological entry that is translated, care shall be taken not to introduce changes in the presentation or wording that hide (or disguise) technical deviations, or which make comparison between the internationally standardized terminological entry and the adopted standardized terminological entry difficult. Difficulties in comparing internationally standardized and adopted standardized terminological entries can cause problems in determining their degree of correspondence as well as the degree of correspondence of different adopted standardized terminological entries from different regions and countries.

4   Adoption of internationally standardized terminological entries as a means of harmonization

4.1   General

Different cultures often perceive and conceptualize the same object differently. Likewise, standardized concepts and the respective concept systems might need to be structured differently in various cultural and linguistic environments. Therefore the concepts and the concept system of a specific collection of national terminological entries might differ considerably from those of an international standard.

Identical technical content with the internationally standardized terminological entry should be maintained in the course of adoption by following the principles and methods laid down in ISO 860, which distinguishes between the harmonization of

— single concepts,

— concept systems,

— terms or other designations, and

— definitions.

Term harmonization might be necessary for selecting the designation and establishing term equivalence between languages, and also for identifying synonymous terms and term variants within each language [ISO 860:2007, 4.3.4.2.1].

For the purposes of this part of ISO 10241, all data categories referring to a concept have to be taken into account when taking over internationally standardized terminological entries. This includes non-verbal representations, examples, notes to entry and source indications, as well as related secondary data categories.

4.2   Adoption of internationally standardized concepts

4.2.1   Adoption of single internationally standardized concepts

When adopting internationally standardized concepts, the characteristics of the concepts must first be analysed and compared with those of existing regional or national concepts. In internationally standardized terminological entries formulated in accordance with ISO 704, the characteristics are described in the definition or in a non-verbal representation, and additional information may be contained, for example, in a note to entry [ISO 860:2007, 4.3.4.1].

Where concepts in the concept systems of different languages are exactly the same and their characteristics coincide, there is no need for concept harmonization. However, it might still be necessary to harmonize terms and other designations, and also other parts of the terminological entry (for further information, see ISO 860:2007, 4.3.4.2).

Where a complete adoption of an internationally standardized concept comprising all its terminological data is not possible, the differences in the regionally or nationally standardized concept and the respective concept system shall be clearly explained in a note to entry.

If a given standardizing body has distinct rules for the adoption and harmonization of concepts, these rules, or at least a reference to them, can be provided, together with any rules governing the wording, structuring and presentation of single standardized terminological entries and the presentation of concept systems and other parts of terminological entries, using the template given in Annex A.

4.2.2   Conceptual relations

4.2.2.1   Conceptual relations between standardized concepts to be adopted and existing concepts

The following cases of conceptual matching will be observed in the course of adopting internationally standardized concepts:

— identical concepts;

— overlapping concepts;

— concepts that exist in one concept system but not in another;

— a single concept in a concept system corresponding to two or more concepts in another.

[ISO 860:2007, Clause 4]

On closer examination, when adopting internationally standardized concepts, the following cases of conceptual match may be observed. Table 2 and Figure 1 provide further details for each of these cases.

Table 2 — Conceptual relations between standardized concepts to be adopted and existing concepts

Identical concepts	Concepts A and B are identical (see 4.2.2.2)
Overlapping concepts	Overlapping concepts, A and B (see 4.2.2.3.1)
	One internationally standardized concept, A, corresponds to two or more regional or national concepts, B1, B2, etc. (see 4.2.2.3.2)
	Two or more internationally standardized concepts, A1, A2, etc. correspond to one regional or national concept, B (see 4.2.2.3.3)
Concepts exist in one concept system but not in another	No internationally standardized concept A exists for a regional or national concept B (see 4.2.2.4.1)
	No regional or national concept B exists for an internationally standardized concept A (see 4.2.2.4.2)

Internationally standardized terminological entry, A　　　　**Regional or national terminological entry, B**
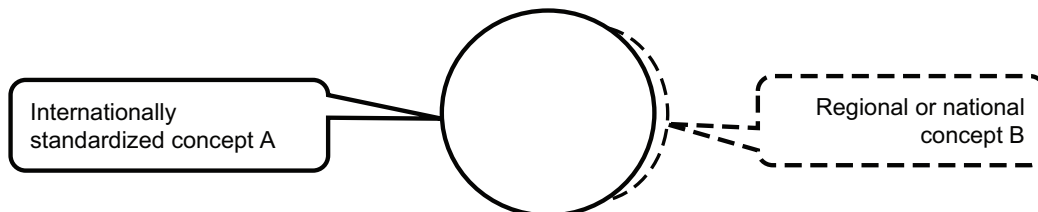
Case 1: Identical concepts (see 4.2.2.2)
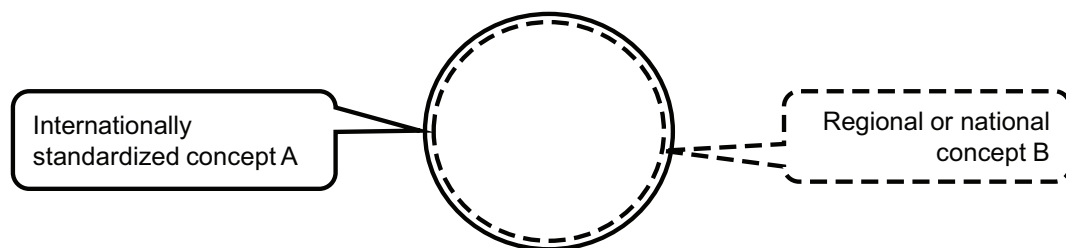
　　11

Internationally standardized terminological entry, A

Regional or national terminological entry, B

Case 2: Conceptual overlap (see 4.2.2.3)

Internationally standardized concept A

Regional or national concept B

Case 2 a): Overlapping concepts, A and B (see 4.2.2.3.1)

Single internationally standardized concept A

Regional or national concept B1

Regional or national concept B2
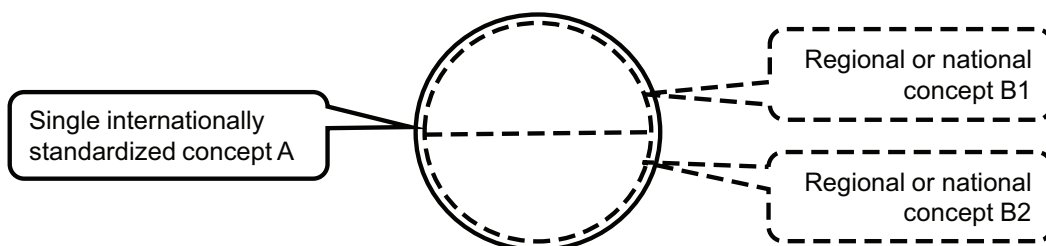
Case 2 b): One internationally standardized concept, A, corresponds to two or more regional or national concepts, B1, B2, etc. (see 4.2.2.3.2)

Internationally standardized concept A1

Internationally standardized concept A2

Single regional or national concept B

Case 2 c) Two or more internationally standardized concepts, A1, A2, etc. correspond to one regional or national concept, B (see 4.2.2.3.3)

Case 3: Concepts which exist in one concept system but not in another (see 4.3.3)

Concept does not exist in internationally standardized terminology

Regionally or nationally standardized concept B exists
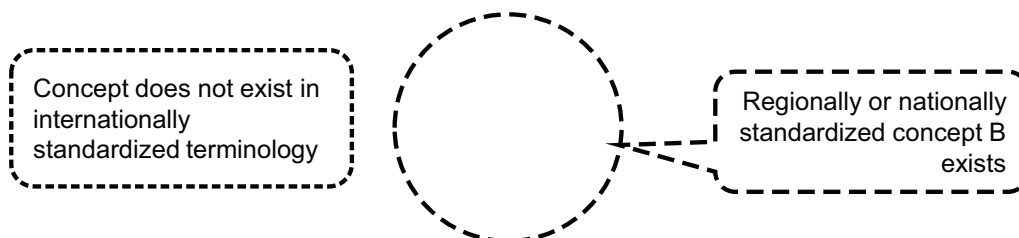
Case 3 a): No internationally standardized concept A exists for a regional or national concept B
(see 4.2.2.4.1)

**Internationally standardized
terminological entry, A**

Regional or national terminological entry, B

Concept A exists in
internationally
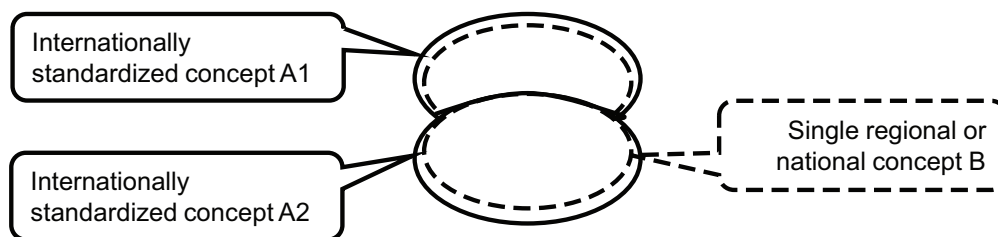standardized terminology

Regionally or nationally
standardized concept to
be developed
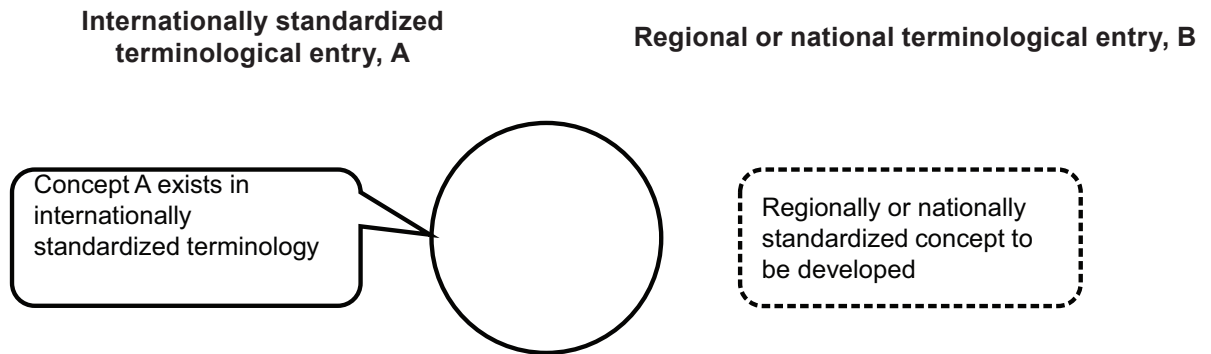
Case 3 b) No regional or national concept B exists for an internationally standardized concept A
(see 4.2.2.4.2)

Figure 1 — Conceptual relations between existing standardized concepts and concepts to be adopted

In the last case, the adopting standardizing body is responsible for creating a regionally or nationally standardized concept, although this concept may serve as a resource for future review of the internationally standardized concept.

4.2.2.2   Identical concepts

When adopting an internationally standardized concept as a regionally or nationally standardized concept, special care shall be taken to ensure identical technical content in the definition. The vice versa principle is fulfilled if the regionally or nationally standardized definition — and, if applicable, other parts of the standardized terminological entry, such as an example and a note to entry — can be back-translated to the internationally standardized definition without loss to, or change in, the concept's characteristics. The concepts are considered identical if

— the regionally or nationally standardized definition is identical in technical content, terminological data model and wording (or is a faithful translation), or

— the regionally or nationally standardized definition is identical in technical content and terminological data model, while containing minor editorial changes (see 3.2.2).

4.2.2.3   Conceptual overlap

4.2.2.3.1   Overlapping concepts, A and B

In most cases, the definitions given for internationally standardized concepts also apply to regional or national concepts and their respective concept systems, or can be adopted with certain modifications (see 3.2.3), while preserving technical content that is equivalent to that of the internationally standardized concept. Technical deviations can be the result of modifications to the regionally or nationally standardized definition and, possibly, to other terminological data in the standardized terminological entry referring to a concept or its representations.

A regionally or nationally standardized concept shall be considered as modified if its terminological entry differs from the adopted internationally standardized terminological entry as follows:

— it contains less information in terms of available data categories and pertinent information provided, has less stringent wording, etc.;

— it contains more information in terms of additional data categories and pertinent information provided, has more stringent wording, includes additional notes, etc.;

— part of the internationally standardized definition has been altered in such that only part of the technical content is equivalent to the regionally or nationally standardized definition and the wording is very different;

— the designation is assigned a different normative status as being preferred, admitted or deprecated.

In the above cases, the vice versa principle does not apply. The modifications made in the adopted terminological entries shall be clearly explained.

After a review of the characteristics of the modified concepts and of the formal correctness of the regional or national terminological entries, a further review of the related internationally standardized terminological entries shall be proposed to the appropriate international standardizing body for consideration in the next revision of these entries.

4.2.2.3.2   One internationally standardized concept, A, corresponds to two or more regional or national concepts, B1, B2, etc.

Where an internationally standardized concept corresponds to two or more regional or national concepts, the internationally standardized concept as a whole shall be maintained. The corresponding two or more regional or national concepts, with definitions that include additional characteristics or cover subordinate concepts, should either be replaced with the adopted internationally standardized concept, or else be added to the terminological entry for the adopted internationally standardized concept represented. It shall be clearly indicated which terminological entries represent the internationally standardized concept and which represent the additional regionally or nationally standardized concepts.

The additional regionally or nationally standardized terminological entries shall be proposed to the appropriate international standardizing body for consideration in a future review of the relevant internationally standardized terminological entry.

4.2.2.3.3   Two or more internationally standardized concepts, A1, A2, etc., correspond to one regional or national concept, B

Where one regional or national concept corresponds to two or more internationally standardized concepts, the regional or national concept should be either

a)   replaced by adopting the relevant two or more internationally standardized terminological entries,

b)   maintained, but clearly marked as a regionally or nationally standardized concept and with a reference to the two or more internationally standardized terminological entries in a note to entry, or

c)   maintained and clearly marked as a regionally or nationally standardized concept, with the two or more internationally standardized terminological entries additionally adopted, with the necessary cross-references.

In case c), the comprehensive regionally or nationally standardized terminological entry shall be proposed to the appropriate international standardizing body for consideration in a future review of the internationally standardized terminological entries.

4.2.2.4   Concepts exist in one concept system but not in another

4.2.2.4.1   No internationally standardized concept A exists for a regionally or nationally standardized concept B

There may be a number of reasons why regionally or nationally standardized concepts have no internationally standardized concepts. If, for instance, concepts pertaining to regional or national environments or cultures, such as traditional techniques or arts, are not covered by internationally standardized terminological entries, such concepts should be added to the corresponding internationally standardized concepts with a clear indication of the regional or national standardizing body.

The terminological entries for regionally or nationally standardized concepts that are missing in an international terminology standard shall be registered at the appropriate international standardizing body so that they can be taken into account in future international terminology standardization.

4.2.2.4.2   No regionally or nationally standardized concept B exists for an internationally standardized concept A

If a concept only exists as an internationally standardized concept, there are several options for establishing a regionally or nationally standardized concept. While taking over the definition of the internationally standardized concept into the language(s) of the adopting standardizing body, the following situations can occur:

— a common word or expression in the language of the adopting standardizing body may be used as the term to designate the concept [ISO 704:2009, B.3.3];

— an existing term in the same domain or subject in the language of the adopting standardizing body may be semantically transferred to designate the internationally standardized concept by logical extension, resulting in homographic terms in the same domain or subject: however, this can in turn cause communication problems within that domain or subject [ISO 704:2009, B.3.4];

— an existing term in a different domain or subject in the language of the adopting standardizing body may be borrowed to designate the internationally standardized concept [ISO 704:2009, B.3.5];

— the concept may be represented by using the term of the internationally standardized concept as a borrowed term or by creating a loan translation [ISO 704:2009, B.4];

— the lack of a term shall be explicitly indicated by means of a sign indicating its non-existence, while during the further development of the terminological data collection every effort should be made to provide a term in accordance with the principles and examples for term formation [ISO 704:2009, Clause 7].

NOTE   When no adequate term is found in a given language for a defined concept, and when no new term can be formed, ISO and IEC indicate this by means of a string of five half-high dots "·····" in place of the term [ISO 10241-1:2011, 4.4.2, note].

For regionally or nationally standardized terminological entries created in one of the above-mentioned ways, it can be useful to append to the adopted terminological entry an explanatory text in a note to entry or an example (such a note to entry or example would be additional to any notes to entry and examples constituting part of the terminological entry to be adopted).

4.2.2.5   Impact of concept adoption on the harmonization of the respective concept systems

Application of the solutions outlined above will serve not only to harmonize standardized concepts but also to avoid inconsistencies between internationally standardized concept systems and regionally or nationally standardized concept systems.

Where there is an unavoidable technical deviation between an internationally standardized concept and a regionally or nationally standardized concept, the nature of the technical deviation shall be explained as specified in 4.2.2.3.

The principles and rules of ISO 860 for the harmonization of concepts also apply to the adoption of standardized terminological entries.

4.3   Adoption of internationally standardized concept systems

4.3.1   Goals of adopting internationally standardized concept systems

Concept systems may vary not only because of cultural and linguistic differences, but also because of domain- and subject-specific conventions (e.g. in professional, technical, scientific, social, economic and other specialized activities). In practice, the goal of adopting or harmonizing concept systems is either to arrive at a single concept system that incorporates existing concept systems or to differentiate the concept systems from one another more clearly [ISO 860:2007, 4.3.5].

An internationally standardized concept system may therefore be adopted to

— fill a gap in terms of a missing regional or national concept system,

— respond to a need expressed by the adopting standardizing body, or

— replace an incomplete or insufficient regionally or nationally standardized concept system by an internationally standardized one.

The adoption of complete internationally standardized concept systems helps to improve communication at all levels.

If a given standardizing body has distinct rules for the adoption and harmonization of concept systems, these rules, or at least a reference to them, can be provided using Annex A.

4.3.2   Process of adopting internationally standardized concept systems

4.3.2.1   Steps in the adoption of internationally standardized concept systems

The adoption of an internationally standardized concept system by a regional or national standardizing body should largely follow the model outlined in ISO 860 for the harmonization of concept systems. This model comprises the following phases:

— feasibility study (see 4.3.2.2);

— harmonization and adoption procedure (see 4.3.2.3);

— maintenance of the adopted concept system (see 4.3.2.4).

4.3.2.2   Feasibility study

4.3.2.2.1   Preliminary investigation

Before an internationally standardized concept system is adopted by a regional or national standardizing body, the internationally standardized concept system and the concepts it comprises shall be examined in order to determine feasibility of adoption. First, it should be determined whether the standardized concept system to be adopted is largely new to the adopting standardizing body, or whether a similar concept system already exists in the language of the adopting standardizing body. In the latter case, it should be determined whether

— the internationally standardized concept system to be adopted has the same domain or subject as an existing regional or national concept system,

— both contain the same concepts,

— the internationally standardized concept system and regional or national concept system overlap,

— all or only some of the concepts of the internationally standardized concept system will be adopted.

Adoption is more likely if the following conditions are met:

a)   a subset of the standardized concept system to be adopted has already been harmonized;

b)   the domain or subject of the internationally standardized concept system is well established and relatively stable;

c)   the domain or subject has a tradition of standardization in general, and of terminology standardization in particular.

4.3.2.2.2   Analysis of key concepts of the internationally standardized concept system and regional or national concept system

Key concepts of the internationally standardized concept system to be adopted shall be compared with those of the regional or national concept system. This comparison shall determine

— which concepts of the internationally standardized concept system share characteristics with the corresponding concepts in the regional or national concept system,

— which concept characteristics in the internationally standardized concept system and the regional or national concept system are different, and

— which characteristics are essential to each key concept.

The results of the above preliminary investigation and analysis constitute the feasibility study and have an impact on the decisions to be taken concerning the adoption procedure.

Adoption is more likely to be successful if the following conditions are met:

a) the concepts of both concept systems are closely related to one another and have common characteristics;

b) the essential characteristics in the internationally standardized concept system and the regional or national concept system are the same or similar;

c) a correspondence can be established between the key concepts in the internationally standardized concept system and those in the regional or national concept system.

Care shall be taken to ensure that, unless harmonization is the main purpose of the adoption, the mapping of the concept system structure does not deviate from real usage in the user community.

4.3.2.3 Procedure for adoption of internationally standardized concept systems

4.3.2.3.1 In-depth comparison and decisions to be taken

An in-depth comparison during the feasibility study will reveal the extent to which the internationally standardized concept system can be adopted. This comparison shall take into account

— the number of concepts to be adopted,

— the relations between the concepts,

— the depth of structuring, and

— the criteria of subdivision used in the internationally standardized concept system to be adopted.

If only some of the concepts in the internationally standardized concept system are adopted, the differences between the resulting regionally or nationally standardized concept system and the internationally standardized concept system shall be made explicit.

4.3.2.3.2 Adoption of an internationally standardized concept system

The formal adoption procedure follows the general rules of the adopting standardizing body according to ISO/IEC Guide 21.

While not affecting the adoption of the internationally standardized concept system in essence, specific rules of the standardizing body concerning the wording, structuring and presentation of individual standardized terminological entries, and the presentation of concept systems, can have an impact on the presentation of the adopted concept system and any individual terminological entry in the language(s) of the adopting standardizing body.

4.3.2.4 Maintenance of the regionally or nationally adopted internationally standardized concept systems

Depending on the scope of the adoption project, the adopted internationally standardized concept system may cover one or more domains or subjects of the adopting standardizing body. If the concept system covers more than one domain or subject, its maintenance may require the involvement of more than one technical committee.

To ensure that an internationally standardized concept system and a corresponding regionally or nationally standardized concept system remain equivalent in technical content, multilateral coordination procedures should be organized involving all standardizing bodies concerned.

4.4 Adoption of internationally standardized definitions

4.4.1 Adoption of international standardized definitions into regional or national standards

Regionally or nationally standardized definitions shall be renderings of the adopted internationally standardized definitions in the language(s) of the adopting standardization body. This means that they

— may sometimes be literal translations,

— shall not be too freely translated, thereby giving rise to ambiguities,

— should observe the linguistic rules and conventions of the language as well as domain- and subject-specific conventions of the special language of the adopting standardizing body, and

— should observe the provisions of ISO 860 and ISO 704 as closely as possible.

The definitions shall reveal the intension or extension of the concept in the form that best complies with the linguistic rules and conventions in the language of the adopting standardizing body.

4.4.2 Nature of definitions

According to ISO 704, while *intensional* definitions are the most explicit and precise type of definition, other types of definition (extensional, ostensive, lexical, precising and stipulative) are also in current usage.

If appropriate, it is acceptable to use a different type of definition in the language of the adopting standardizing body from that used in the internationally standardized terminological entry provided that the substance of the internationally standardized concept is preserved in the regionally or nationally standardized definition. A note to entry in the relevant regionally or nationally standardized terminological entry shall indicate how the definition is modified. The vice versa principle is not fulfilled in such a case.

4.4.3 Wording of definitions

According to ISO 704, a definition shall reflect the concept system by describing the concept and its relationship with other concepts in the concept system. For example, coordinate concepts should be defined using the same genus (i.e. term for the superordinate concept), and should be differentiated from one another by at least one delimiting characteristic.

Depending on the language(s) of the adopting standardizing body, there may be a range of problems when an internationally standardized definition is taken over. Whatever linguistic adaptations may be required, it is essential to ensure that the wording of the internationally standardized definition and the regionally or nationally standardized definition is equivalent in technical content.

Equivalent technical content is preserved, for instance, if a negative subject is adapted into a sentence with a positive subject combined with a negative predicate. In languages that have no relative clauses, special care should be taken with the word order to keep the definitions identical or equivalent in technical content. The meanings of articles in English, for instance, may be translated by adding a modifier in languages that do not have articles.

If a given standardizing body has distinct rules for the wording of definitions, these rules, or at least a reference to them, can be provided (see Annex A).

4.4.4 Defining concepts in the language of the adopting standardizing body

In addition to the differences in morphosyntactic features between internationally standardized designations and the equivalents in the language of the adopting standardizing body, word segmentation and compounding may be different in the language of the adopting standardizing body. This may pose difficulties in adopting the internationally standardized definition. Taking over an internationally standardized definition in languages using ideographic characters to represent concepts may also present difficulties.

The rules for taking over term systems corresponding to concept systems into the language of the adopting standardizing body, or at least an extract from them, can be provided using the template given in Annex A.

4.4.5 Avoidance of deficient definitions

Common types of deficient definitions are

— circular definitions (tautology),

— inaccurate definitions, and

— negative definitions.

[ISO 704:2009, 6.5]

When terminological entries are adopted by a regional or national standardizing body, particular care should be taken to avoid the drafting of deficient definitions.

In languages such as Chinese and Japanese that use ideographic characters in their script, terms composed of such characters often indicate important characteristics of the concept represented, and this makes it difficult to follow the wording of the definition of the internationally standardized concept. The regionally or nationally standardized definition may need to be significantly adapted (i.e. degree of correspondence modified) while maintaining technical content equivalence. Such adaptations shall be made explicit in a note to entry explaining the modification.

4.5 Wording of other textual constituents of terminological entries

When adopting internationally standardized terminological entries, an example, a note to entry or other kind of textual information may need to be replaced, deleted (if it is obsolete) or supplemented in the regionally or nationally standardized terminological entry.

It often happens that examples, particularly if they are language- or culture-specific, cannot be taken over or translated and appropriate new examples may have to be found to replace them. If necessary, such new examples can be explained in a note to entry.

Within any standardized terminological data collection, it shall be possible to refer uniquely to each note to entry [ISO 10241-1]. Therefore, all notes to entry shall be numbered. A note to entry that applies only to a given language of the internationally standardized terminological entry and is not applicable in the language of the adopting standardizing body shall be indicated as such. Likewise, any note to entry that only applies to the language of the adopting standardizing body shall be indicated as such.

If a given standardizing body has distinct rules for textual constituents of terminological entries other than the wording of definitions, these rules, or at least a reference to them, can be provided using the template given in Annex A.

4.6 Non-verbal representations

Internationally standardized non-verbal representations should not be modified. If this is not possible in general or in certain applications, modifications shall be made explicit and explained by the adopting standardizing body.

If a given standardizing body has distinct rules for non-verbal representations, these rules, or at least an extract from them, can be provided using the template given in Annex A.

4.7 Selection and formation of designations

4.7.1 Types of designation

A designation is the representation of a concept by linguistic or non-linguistic means. Designations include terms, appellations (including proper names) and symbols — letter symbols, graphical symbols and other non-linguistic symbols. Graphical symbols are non-verbal designations. Some non-verbal designations are culture-dependent.

Some letter symbols, such as certain international symbols for quantities and units, look like an abbreviated form of the name of the quantity or unit, but the symbols have additional communicative functions. Complex letter symbols can include numerals, mathematical symbols, typographical signs and syntactic signs (e.g.

punctuation marks, hyphens, parentheses, square brackets, and other connectors and delimiters) whose character styles (i.e. fonts and bold, italic, bold italic and other style conventions) are governed by domain-, subject- or language-specific conventions. It follows that letter symbols can be ordered in indexes according to linguistic rules (extended if necessary), whereas graphical symbols cannot.

NOTE   According to ISO 704, not all symbols are designations.

Special care should be taken to ensure that an adopted designation does not become a homograph in the language of the adopting standardizing body, and that unnecessary synonyms are avoided. If an adopted designation is similar to a registered trade name or trade mark in the adopting region or country, it shall not be taken over into the language of the adopting standardizing body.

If a given standardizing body has distinct rules for designations, these rules, or at least a reference to them, can be provided using the template given in Annex A.

4.7.2   Terms and other verbal designations

4.7.2.1   General observations on terms and other verbal designations

According to ISO 10241-1, verbal designations comprise terms (including full forms and abbreviated forms as well as synonymous terms, variants, homonyms, antonyms and equivalent terms in other languages), letter symbols and appellations.

Terms may be quite complex, containing two or more roots or two or more words: a simple term contains only one root and a term containing two or more roots is called a complex term [ISO 704:2009, 7.2.1]. When adopting an internationally standardized term, a complex term, especially if converted into a different script, may become a simple term, while a simple term may become a complex term in the written form of the language of the adopting standardizing body. Morphological elements of term formation may become obscured or even lost in the language of the adopting standardizing body, while other morphological elements may have to be added because of the linguistic conventions of the language of the adopting standardizing body.

Terms can include letters and letter symbols, numerals, mathematical symbols, typographical signs and syntactic signs (e.g. punctuation marks, hyphens, parentheses, square brackets and other connectors and delimiters) sometimes in character styles (i.e. fonts and bold, italic, bold italic and other style conventions) governed by domain-, subject- or language-specific conventions. In the language or script of the adopting standardizing body, the way in which these term elements or features is represented might differ from that used in the internationally standardized entries.

4.7.2.2   Variants, synonymous terms, homographs and homophones

A term can have variants such as different forms of spelling. When a term is adopted, especially if it is converted into the script of the adopting standardizing body, existing variants of the adopted internationally standardized terminological entry can converge into one term. On the other hand, new potential variants can emerge due to the phonological characteristics of the language of the adopting standardizing body. The adopting standardizing body should avoid creating any additional variants.

Several terms in a given language representing the same concept are synonymous terms (synonyms). Synonyms reflect the language of the adopting standardizing body. Therefore, even when the internationally standardized terminological entry contains synonyms for the term, there need not be any synonyms or the same number of synonyms in the language of the adopting standardizing body. This also applies to variants.

A homograph (see ISO 704:2009, 7.2.3) referred to in an internationally standardized terminological entry is not necessarily a homograph in the language or script of the adopting standardizing body. Homophones (see ISO 704:2009, 7.2.3) that are not homographs in one language can become homographs in another language or script. The same applies to homographs that are not homophones in one language, and which can become homophones in another language or script. In some languages, especially those with ideographic scripts, homographs can be disambiguated by pronunciation (e.g. by a different intonation or tone). On the other hand, there can be homophones that are disambiguated by the written form. These phenomena might necessitate the development of specific rules to be used by the adopting standardizing body.

4.7.2.3 Finding, forming or borrowing terms or other verbal designations

One of the main purposes of terminology standardization is to eliminate or at least reduce the number of synonyms, homographs or homophones and variants. Both, on the one hand, the finding or forming of new terms for existing or emerging new standardized concepts and, on the other, the taking of borrowed terms from standardized terminological entries can inevitably lead to the creation of undesired synonyms, homographs or homophones, and variants in the language of the adopting standardizing body.

An increase in the number of homographs or homophones in the language of the adopting standardizing body can cause misunderstanding in communication. Therefore, care should be taken to avoid homographs and homophones as much as possible.

Any term found or formed to represent an internationally standardized concept and any internationally standardized term taken over as a borrowed term should be checked to ensure that it will not become an additional synonym, a homograph or homophone, or an appellation in the language of the adopting standardizing body.

Appellations occurring in internationally standardized terminological entries can be mistaken for two or more similar names. Also, they can constitute a legally protected name or mark, or they can be represented in different ways (i.e. they have variants) in the language of the adopting standardizing body. Furthermore, a term or parts of a term representing an internationally standardized concept can become, or can be mistaken for, an appellation in the language of the adopting standardizing body. Therefore, the standardizing body needs to check the emergence or use of appellations, and it might need to establish rules for their use.

Depending on the language or script of the adopting standardizing body, found or newly formed terms as well as borrowed terms can have variants in their written form and varying differences in pronunciation, or variants in their written form and varying pronunciation in the language of the adopting standardizing body. Some of the variants may also be homographs or homophones, and this will have an impact on domain communication as well as on searching, sorting and other processes employed in natural language processing.

It is acceptable to use variants to help the user to find the correct preferred term (e.g. in indexes that point to terminological entries). If variants are used in this way, they should be duly identified as non-preferred terms or deprecated variants in the given context.

If a given standardizing body has distinct rules for term selection or term formation, these rules, or at least an extract from them, can be provided using the template given in Annex A.

4.7.2.4 The univocal relationship between terms and concepts

Ideally, when precise and accurate communication is required by given domain- or subject-specific conventions, it is necessary to ensure, within that domain or subject, that a given term is assigned to one concept only, and that a given concept is represented by one preferred term [ISO 704:2009, 7.2.1]. The generally recognized goal of terminology standardization is to facilitate communication by minimizing synonyms and homographs and the resulting ambiguities. In practice, however, synonyms, homographs and homophones often exist, and the respective term–concept relationships shall therefore be made explicit in terminology standardization.

Since languages and domain- or subject-specific conventions in different language communities rarely develop in a synchronized way, a regional or national terminological entry can have more or fewer synonyms and homographs than the internationally standardized terminological entry. Conversely, the internationally standardized terminological entry can have more synonyms and homographs than the equivalent regional or national terminological entry. Furthermore,

— a term may have an abbreviated form in one language, but not in another language,

— the number of homonyms in one language may differ from that in another language, and

— the normative status of the terms in one language may differ from that in another language.

Therefore, there is typically no one-to-one correspondence between the number and nature of terms and other verbal designations in standardized terminological entries in different languages that are equivalent in technical content.

This array of differences is further complicated by concept and term borrowing between languages; this becomes even more complex when different scripts are used.

4.7.2.5 Term selection and term formation

4.7.2.5.1 General principles of term selection and term formation

Various International Standards provide guidance on term selection and formation for standardizing bodies adopting standardized terminological entries. The utmost effort should be made to select or form an adequate term in the language of the adopting standardizing body.

ISO 704 gives the following principles for term formation:

— transparency;

— consistency;

— appropriateness;

— linguistic economy;

— derivability and compoundability;

— linguistic correctness;

— preference for native language.

Different term formation rules in the language of the adopting standardizing body can pose problems when an internationally standardized terminological entry is being taken over. Sometimes the internationally standardized term does not comply with the principles for term formation, but is widely used in domain communities. On the other hand, it is not recommended that terms be "translated" when adopting internationally standardized terminological entries: problems include the fact that the translated term may inherit undesirable properties from the source term.

4.7.2.5.2 Selecting or forming a new term in the language of the adopting standardizing body

If no suitable term to represent the concept in an internationally standardized terminological entry exists in the language of the adopting standardizing body, the following options exist to select or form a regional or national term:

— create a new term by following the general principles of term formation [ISO 704:2009, Annex B];

— borrow a word or expression from everyday language [ISO 704:2009, B.3.3];

— borrow an existing term from the same domain or subject [ISO 704:2009, B.3.4] (not recommended, since the existence of homographic terms in the same domain or subject can lead to ambiguous communication);

— borrow an existing term from a different domain or subject [ISO 704:2009, B.3.5];

— use the term from the internationally standardized terminological entry;

— translate (literally) the term from the internationally standardized terminological entry [ISO 704:2009, B.4] (not recommended, since undesirable properties may be inherited from an adopted term that does not comply with the above general principles for term formation);

— indicate explicitly the lack of a term by means of a sign — during the further development of the terminological data collection, every effort should be made to provide a term in accordance with the principles and examples for term formation provided in ISO 704:2009, Clause 7.

NOTE   When no adequate term is found in a given language for a defined concept, and when no new term can be formed, ISO and IEC indicate this by means of a string of five half-high dots "·····" in place of the term (ISO 10241-1:2010, 4.4.2).

If a term has to be selected or newly formed, care should be taken not only to respect the general principles of term formation, but also to ensure that the term

a) fits the definition of the standardized concept to be adopted,

b) conforms to the legal provisions, standards and both linguistic and domain- or subject-specific conventions of the language of the adopting standardizing body,

c) does not establish a homograph or homophone in the language of the adopting standardizing body, and

d) is not similar to a homographic or homophonic trade name.

If the selected or newly formed term is used to supplement or replace an existing term, it constitutes a synonym, and its normative status shall be made clear in relation to the existing or replaced term.

4.7.2.5.3 Dealing with different morphosyntactic features

When taking over an internationally standardized term as a borrowed term, certain morphosyntactic features can become lost or can pose difficulties in the language of the adopting standardizing body. Examples of such features include

— the order of term elements as well as segmentation or compounding,

— the gender or word class,

— the inflection and conjugation,

— the affixes (i.e. prefixes, suffixes and infixes),

— the number (i.e. plural or singular), and

— the way of pointing to, or counting, objects.

If rules do not yet exist in the adopting standardizing body, it might be advisable to establish, or even standardize, comprehensive and systematic rules for coping with such features.

The rules for dealing with morphosyntactic features of internationally standardized terms in the language of the adopting standardizing body, or at least an extract from them, can be provided using the template given in Annex A.

4.7.2.5.4 Terms in newly emerging domains or subjects

Especially in newly emerging domains or subjects, the creation of new terms or the use of existing terms in the language of the adopting standardizing body is often necessary and can require discussion among experts. The new or selected term should comply with the principles for term formation. Sometimes, a term representing a similar concept can be used if it is accompanied by a modifier to avoid ambiguity.

If no term exists in the language of the adopting standardizing body, or if existing terms are not considered to be appropriate for representing an internationally standardized concept to be adopted, term borrowing can provide a solution. Terms can be borrowed to represent new concepts

— by taking a term from the same domain or subject (intra-disciplinary borrowing), preferably by adding a modifier in order to avoid homographs or homophones,

— by taking a term from a different domain or subject (inter-disciplinary borrowing), preferably by adding a modifier if it is from a related domain or subject;

— by assigning a general language word or expression to the concept to be adopted,

— by taking the internationally standardized term (if there is only one term) as the borrowed term,

— by taking one or a selection of the internationally standardized terms (if there is more than one term) as one or more borrowed terms as long as due consideration is given to matters such as normative status and linguistic issues, or

— by taking the abbreviated form of the full form of an internationally standardized term as the borrowed term.

NOTE   Languages that use ideographic characters to represent concepts have a wide range of different possibilities of term borrowing compared with other languages.

4.7.2.5.5   Choosing an internationally standardized term

When choosing an internationally standardized term, many aspects have to be taken into account, including

— the variants of the internationally standardized term,

— any linguistic issues related to transcription,

— the sociolinguistic and psycholinguistic aspects of acceptance,

— the normative status in relation to the existing terms,

— the emergence of variants in the language of the adopting standardizing body, and

— the emergence of new synonyms and homonyms in the language of the adopting standardizing body.

Care should be exercised before adopting an internationally standardized term for a regionally or nationally standardized terminological entry. If the borrowed term does not seem "natural" in the language of the adopting standardizing body, the user community may not accept it. On the other hand, the user community may actually prefer the borrowed term, even if it does not fit well, linguistically speaking, into the language of the adopting standardizing body. This applies in particular to internationally standardized symbols or nomenclatures where it may be desirable, or even necessary, to adopt the respective term in its original form, thereby preserving its unique features. Careful consideration should be given to these questions and systematic rules established whenever necessary.

An internationally standardized term can include unfamiliar elements in the language of the adopting standardizing body, such as mathematical signs and symbols, syntactic signs and typographical signs, diacritics and letter symbols. These elements are sometimes rendered in character styles (i.e. script fonts, typeface such as bold, italic and bold italic, and other style conventions) that are unfamiliar in the domain-, subject- or language-specific conventions of the language of the adopting standardizing body. If such a term is taken as a borrowed term by the adopting standardizing body, such elements and their rendering are sometimes overlooked because their significance is either not recognized or is inadvertently omitted or changed; this can result in undesirable consequences such as the creation of unnecessary term variants.

If an internationally standardized term is taken as a borrowed term from a language with a different script, additional phenomena might need to be taken into consideration and specific rules might need to be established.

4.7.2.5.6   Term systems that correspond to concept systems

In some domains or subjects, terms are formed according to systematic rules based on lexical and morphological structures so that they reflect the system of concepts they represent. Scientific nomenclatures constitute an example of this. At the very least, these rules should be respected; sometimes they are mandatory. In such cases, the internationally standardized term should be borrowed in its existing form, and it is advisable to establish, and even standardize, comprehensive and systematic rules in the language of the adopting standardizing body. This is particularly true in the case of languages whose morphosyntactic features are very different from those of the language of the international standard, and of languages that have their own systematic term formation rules.

The rules for taking over term systems that correspond to concept systems in the language of the adopting standardizing body, or at least an extract from them, can be provided using Annex A.

4.7.2.6   Appellations (including proper names)

Many of the rules and principles of term formation also apply to appellations [ISO 704:2009, Annex C]. Some of the most important categories of appellation are

— names of persons (e.g. experts, inventors and discoverers),

— names of bodies, institutions and organizations,

— titles of meetings,

— position titles,

— program and product names,

— honorary distinctions,

— social phenomena,

— scientific and technological phenomena,

— toponyms, ethnonyms and the names of public spaces,

— methods and procedures, and

— document names.

Appellations can also be part of a term, and can even become a term. Depending on the kind of appellation, the various applicable conventions may not be the same in different linguistic, cultural or even domain- or subject-specific environments.

If an appellation, possibly as part of a term, is borrowed into another language, especially into a language with a different script, a whole array of issues (e.g. potential legal and copyright consequences of adopting personal names or trademarks) may need to be addressed, and specific rules might need to be established. Depending on the language or script, parts of a complex appellation can even be translated, while the rest of the complex appellation is transcribed according to established conventions.

NOTE   Languages that use ideographic characters to represent concepts may be able to borrow appellations that are not available in other languages.

4.7.2.7   Abbreviated forms

There may be legally prescribed, standardized or conventional rules in the language of the adopting standardizing body for forming abbreviations for the full form of terms and for appellations. If internationally standardized abbreviated forms are directly taken over, they may cause confusion or violate prescribed or standardized conventions for forming abbreviated forms, and they may face opposition from the user communities.

Abbreviated forms commonly used in the language of the adopting standardizing body may have to be added as synonyms. In this case, their normative status shall be made explicit.

NOTE   Languages that use ideographic characters to represent concepts may be able to deal with abbreviated forms that are not available in other languages.

4.7.2.8   Symbols

4.7.2.8.1   General

Standardized symbols are an important aid to international communication. They include letter symbols, numerals, graphical symbols and any combination thereof. Only symbols that represent concepts are considered to be designations [ISO 704].

Like any other designation, symbols can have a normative status, such as preferred, admitted or deprecated [ISO 10241-1:2010, 3.4.1.11].

A symbol should be

— simple, easy to recognize and, if possible, self-explanatory,

— monosemic in a given context,

— unambiguous,

— easy and economical to reproduce, and

— consistent and appropriate (i.e. designed to permit coordination with, and differentiation from, other related symbols) [ISO 704:2009, 7.5].

NOTE   Languages that use ideographic characters to represent concepts deal with symbols differently from languages which do not.

4.7.2.8.2   Letter symbols

Letter symbols are composed of one or more characters used to perform special communicative functions in a domain expert community [ISO 10241-1:2010, 3.4.1.1.4]. Some letter symbols, such as international symbols for quantities and units, resemble an abbreviated form of the name of the quantity or unit, but the symbols have additional communicative functions. Complex letter symbols can also include numerals, mathematical symbols, typographical signs and syntactic signs (e.g. punctuation marks, hyphens, parentheses, square brackets, and other connectors and delimiters), whose character styles (i.e. fonts and bold, italic, bold italic and other style conventions) are governed by domain-, subject- or language-specific conventions. Terms may include letter symbols.

Letter symbols can be ordered in indexes according to linguistic rules (extended if necessary).

There may be different domain- or subject-specific conventions for letter symbols in a language or script, but internationally standardized symbols shall be used in their internationally standardized rendering.

4.7.2.8.3   Graphical symbols

Graphical symbols are visually perceptible figures with a particular meaning, used to transmit information independently of language (e.g. those used in safety signs and in diagrams, icons of the type used in information technology). They are designed to represent the concept independently of any given language.

Graphical symbols cannot be ordered in indexes according to linguistic rules.

Graphical symbols can be culture- and even application-dependent; internationally standardized graphical symbols should not be modified. Meanwhile, if modifications are necessary, they shall be made explicit and explained by the adopting standardizing body.

5   Conventions of the adopting standardizing body for the presentation and layout of terminological entries

5.1   General observations

As noted in 4.7.2.1, terms can include letter symbols, numerals, mathematical symbols, typographical signs and syntactic signs, sometimes in fonts, typefaces or styles governed by domain- and subject-specific conventions. Such conventions may differ in the language of the adopting standardizing body, and if so, this can have an impact on the presentation and layout of the adopted terminological entries, including in respect of

— the standardized terminological data model,

— the indication of normative status,

— lexicographical ordering,

— lexicographical symbols,

— the numbering of the terminological entries,

— typographical signs and syntactical signs,

— fonts, typefaces and styles,

— the form of a note to entry, example or source indication, and

— the method of citation of a source.

If possible, conventions specific to the adopting standardizing body should be kept to a minimum and made explicit when adopting internationally standardized terminological entries.

NOTE   According to ISO/IEC Guide 21, modifications to the presentation and layout of terminological entries do not necessarily constitute modifications to an internationally standardized terminological entry.

If the adopting standardizing body has distinct rules for the presentation and layout of terminological entries that have an impact on the internationally standardized terminological entries to be adopted, these rules, or at least an extract from them, can be provided using the template given in Annex A.

5.2   Modification of the standardized terminological data model

Some types of data in internationally standardized terminological entries might not be necessary in national or regional entries. Conversely, it is sometimes necessary to include data in a national or regional terminological entry that do not exist in the internationally standardized entry. The adopting standardizing body should establish systematic rules about the types of data required.

To guarantee the integrity of exchanged terminological data, special care should be taken not to change the terminological data model of internationally standardized terminological entries. However, if modifications or extensions to the terminological data model are necessary, for example, because of the culture or language of the adopting standardizing body, they shall be done such that compatibility for data interchange is maintained. This requirement is particularly important in the light of future needs to consolidate terminological resources and establish a network of distributed repositories of standardized terminological entries.

5.3   Indication of normative status

If the conventions for indicating the normative status of a designation in the language of the adopting standardizing body are different from those of the internationally standardized terminological entry (e.g. highlighting), equivalent visual or textual indicators shall be established and used consistently.

5.4   Lexicographical ordering

The lexicographical ordering of entries in the language or script and the conventions of the adopting standardizing body may be different from those of internationally standardized terminological entries. Rules shall be established by the adopting standardizing body to ensure that the ordering is consistent.

NOTE   Languages that use ideographic characters to represent concepts have specific rules or conventions for lexicographical ordering.

5.5   Lexicographical symbols

Lexicographical symbols are those used in dictionaries and other lexicographical products to efficiently represent additional information (e.g. pointers to cross-references) in the layout of lexicographical and terminological entries. Lexicographical symbols are highly dependent on the lexicographical traditions of the language community. It follows that lexicographical symbols used in the community of the national or regional standardizing body may differ from those used in the international standard. Whenever possible, the symbols used in an international standard should be adopted in the local or national standard. When different symbols are used, they shall be concisely explained.

Annex A

(informative)

Template for reporting specific provisions concerning the adoption of standardized terminological entries

Subject	Rule(s) or reference to documents containing pertinent rules
Adoption of internationally standardized terminological entries as a means of harmonization	
Different linguistic, professional, technical, scientific, social, economic, cultural and other conventions in general	
Selection of verbal designations (including terms, synonyms, abbreviated forms and appellations)	
Wording of definitions	
Selection of symbols (including letter symbols and graphical symbols)	
Conventions for the presentation and layout of standardized terminological entries (including the rendering of the terminological entry, normative status, lexicographical ordering and lexicographical symbols)	
Typographical signs and syntactic signs	
Presentation of secondary data categories (such as note to entry, example, source indication and citation methods)	
Any other regional or national rules and conventions used by the adopting standardizing body	
Rules and conventions to accommodate accessibility by persons with disabilities	
Use only sources with standardized, legal or otherwise authoritative rules. It is not necessary to indicate rules or the sources of rules for every subject in the table. In some cases there might be one standard or authoritative source covering all of the subjects of the table, in which case the indication of the source is sufficient. If there are no standardized, legal or otherwise authoritative rules for a subject in the table, for which there should be rules, indicate "There is no authoritative rule for this subject, but the following rule(s) is(are) recommended: …."	

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