

# INTERNATIONAL STANDARD

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## **Terminology work — Harmonization of concepts and terms**

*Travail terminologique — Harmonisation des notions et des termes*



Reference number  
ISO 860:1996(E)

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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.

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.

International Standard ISO 860 was prepared by Technical Committee ISO/TC 37, *Terminology (principles and coordination)*, Subcommittee SC 1, *Principles of terminology*.

It cancels and replaces ISO Recommendation R 860:1968, of which it constitutes a technical revision.

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## Introduction

Concepts and terms develop differently in individual languages and language communities, depending on social, economic, cultural and linguistic factors.

Differences between parallel concept systems on the one hand and misleading similarities at the term level on the other, cause problems for international communication.

Terminology work is based on concepts because

- differences between concepts do not necessarily become apparent at the term level;
- similarity at the term level in different languages does not necessarily mean that the concepts behind the terms are identical.

Harmonization efforts should, therefore, always start at the concept level and continue at the term level.

Concepts and terms in International Standards have been developed for international use. They may not, however, necessarily be acceptable in an unaltered form in national contexts. This principle also applies for the official ISO languages at the various national levels. For instance, the wording in the English version of an International Standard may not be appropriate for a comparable American or British Standard.

# Terminology work — Harmonization of concepts and terms

## 1 Scope

This International Standard specifies a methodological approach to the international harmonization of concepts, concept systems, definitions, terms and term systems.

This International Standard applies to the development of national and international terminologies.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 704:1987, *Principles and methods of terminology*.

ISO 1087:1990, *Terminology — Vocabulary*.

ISO 10241:1992, *International terminology standards — Preparation and layout*.

ISO/IEC Guide 2:1991, *General terms and their definitions concerning standardization and related activities*.

## 3 Definitions

For the purposes of this International Standard, the definitions given in ISO 1087 and the following definitions apply.

### 3.1

#### **concept harmonization**

activity for reducing or eliminating minor differences between two or more concepts that are already closely related to each other

NOTE 1 Concept harmonization is an integral part of standardization.

### 3.2

#### **term harmonization**

activity leading to the designation of one concept in different languages by terms that reflect the same or similar characteristics or have the same or slightly different forms

## 4 Harmonization of concepts and concept systems

Harmonization of concepts and concept systems always involves a comparison and matching of concept systems in one language, among languages or among subject fields. It is never a direct transfer of one concept system as such to another language. (See figure 1.)

NOTE 2 Not all the principles listed below are equally applicable to all languages and subject fields.

### 4.1 Feasibility study

#### 4.1.1 Analysis of the subject field

Before embarking on concept harmonization, similarities and differences between the concepts and concept systems shall be examined in order to determine the feasibility of harmonization.

Chances for successful harmonization are better if the conditions listed in 4.1.1.1 are met.

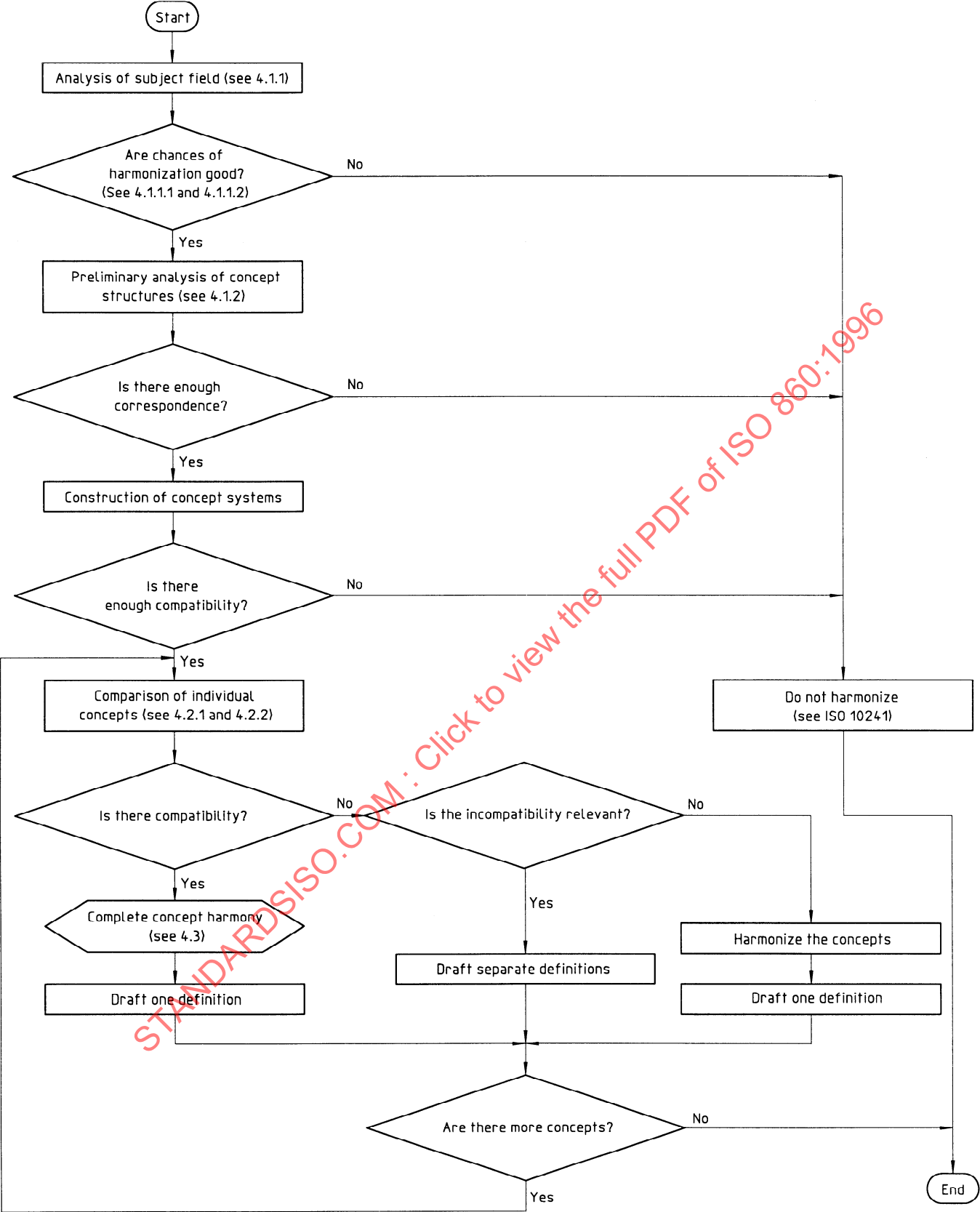


Figure 1 — The harmonization process

#### 4.1.1.1 Similarities among concepts

Concepts and concept systems specific to individual language communities or nations are likely to be closer to each other if

- a) the subject field is well established and relatively stable, or
- b) the subject field deals with concrete objects, such as machinery, tools, materials or industrial products, or
- c) there is a tradition of standardization in the subject field.

#### 4.1.1.2 Differences among concepts

Concepts and concept systems are likely to differ considerably if

- a) several theoretical positions prevail in the subject field, or
- b) the subject field is new and developing rapidly, or
- c) the subject field deals with the humanities or the social sciences (i.e. concerns philosophical, political, ideological issues, etc., or
- d) there is no tradition of standardization in the subject field.

#### 4.1.2 Preliminary analysis of concept systems

If the analysis in 4.1.1 reveals that chances for harmonization are good, a preliminary study of the different concept systems shall be carried out.

A comparison of the concepts designated by terms in the individual languages is a prerequisite for all concept harmonization. This analysis shall determine

- a) which characteristics the concepts of the individual languages have in common;
- b) which characteristics of the concepts differ from one language to another.

After this analysis, subject specialists shall decide whether harmonization of concepts is possible.

NOTE 3 If the preliminary analysis is conducted in connection with international standardization, it is important that it is not restricted to official languages alone.

### 4.2 Harmonization procedure

The list of basic terms shall be compiled and the concept systems outlined in accordance with ISO 10241.

#### 4.2.1 Comparison of concept systems

All relevant concept systems shall be compared, irrespective of their origin; i.e. whether they have been internationally or nationally standardized or otherwise established.

The comparative analysis of the different concept systems shall account for the following aspects (see figure 2):

- a) the number of concepts;
- b) the relationships between concepts;
- c) the depth of structuring;
- d) the types of characteristics used to develop the concept system.

Each concept system shall be constructed separately using identical types of structuring characteristics and, whenever possible, following the specifications of ISO 10241 concerning concept systems and their representation.

#### 4.4.2 Comparison of single concepts

Concepts shall be analysed by comparing their definitions, not their terms.

Definitions shall be collected from reliable sources including all available expertise within the subject field. After completing a comparative analysis of all definitions for one concept, it shall be determined which of the conditions described in 4.2.2.1 and 4.2.2.2 apply.

4.2.2.1 The terms in the different languages refer to the same concept.

In this case, no further steps are required.

4.2.2.2 There are differences between the intension or extension, or both, of the concept.

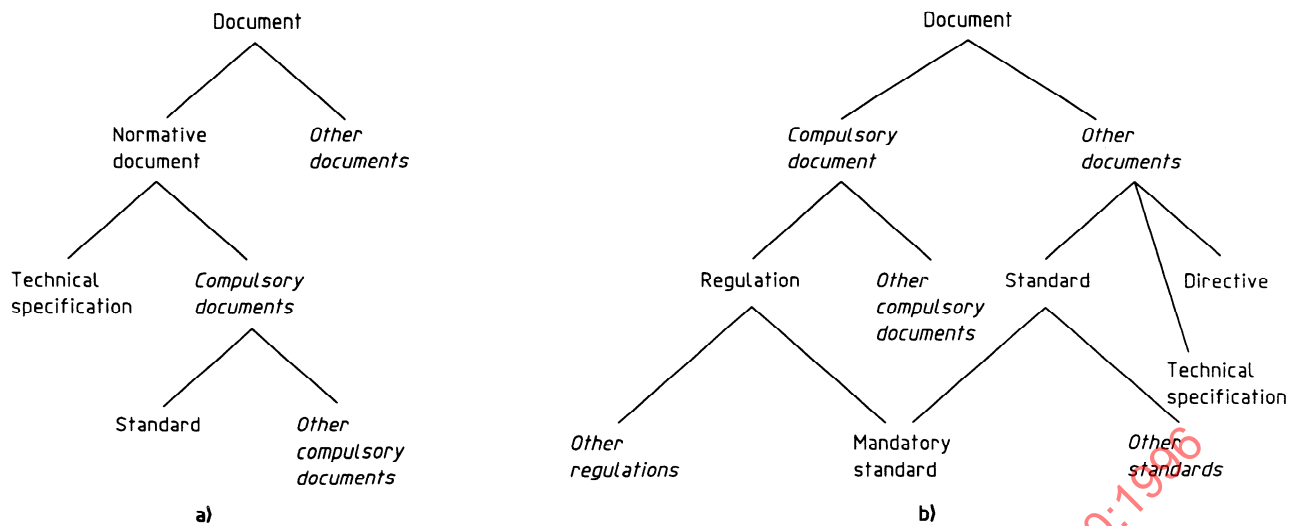
In such cases, experts in the subject field shall determine which of the following conditions applies.

- a) The differences are relevant. The conclusion is that there are several different concepts. Each concept shall be defined and assigned its position in the harmonized concept system (see figure 3).
- b) The differences are insignificant, therefore only one concept is required. This concept shall be defined in a consistent manner in all languages and assigned its position in the harmonized concept system.

NOTE 4 A consequence of 4.2.2.2 is that not all individual concept systems have a concept for all the nodes in a harmonized concept system. This does not, however, rule out the possibility of filling in these nodes if that is justifiable.

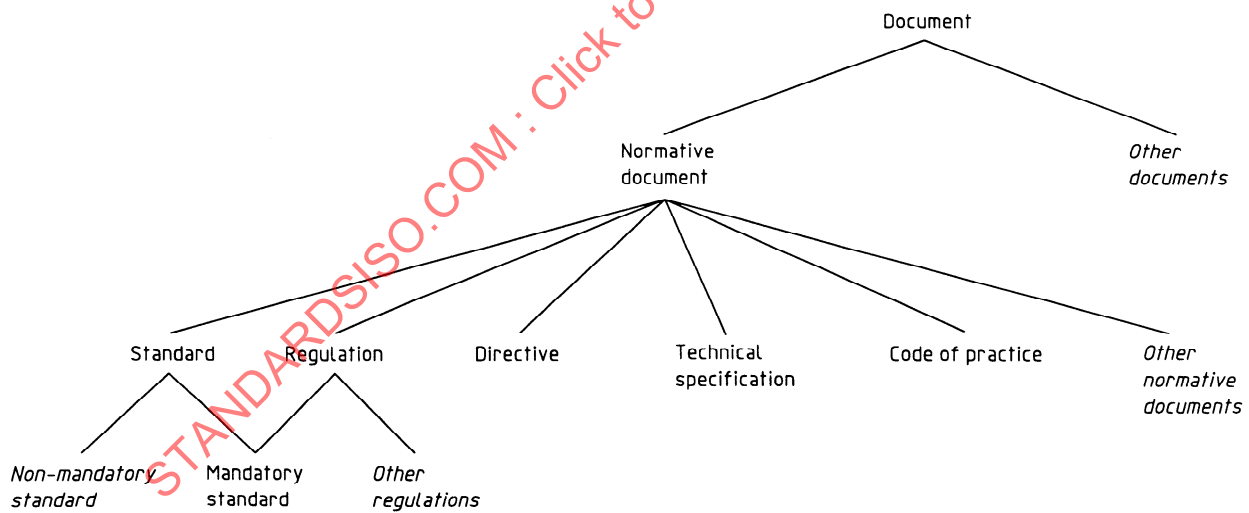
#### 4.3 Subsequent harmonization

If, at a later stage, an organization that has not taken part in the harmonization process wants to harmonize its concepts with an internationally standardized concept system, the method described in 4.2.2 should preferably be used.



NOTE — See ISO/IEC Guide 2 for definitions of terms. The terms in italics represent a set of concepts.

**Figure 2 — Examples of two individual concept systems needing harmonization**



NOTE — See ISO/IEC Guide 2 for definition of terms. The terms in italics represent a set of concepts.

**Figure 3 — Example of a harmonized system**



## 5 Description of concepts

Before formulating the harmonized definition, consensus shall be reached on

- a) the characteristics that are essential to the intension of the concept;
- b) the characteristics that are essential for inclusion in the definition.

Definitions shall be formulated in accordance with ISO 704 and ISO 10241.

All versions of a definition in the different languages shall include the same characteristics. The formulation of definitions, however, depends on the rules of the individual languages.

## 6 Harmonization of terms

Harmonization of terms is possible only if the underlying concepts are practically identical.

In the process of term harmonization, it is essential not to be misled by the superficial similarity of terms, by so-called "false friends" (for examples see 6.2.1.4).

### 6.1 Types of correspondence between terms

The types of correspondence existing between terms of different languages are given in 6.1.1 to 6.1.3.

#### 6.1.1 Correspondence based on the form of terms

In this type of correspondence among terms, identical or similar forms are used in individual languages.

NOTE 5 The forms are considered identical or similar in spite of the variations in spelling, word patterns, pronunciation or the alphabet used.

##### EXAMPLES

- a) English: physics  
French: physique  
Russian: физика
- b) English: history  
French: histoire  
Russian: история
- b) English: accredited laboratory  
French: laboratoire accrédité  
Russian: аккредитованная лаборатория

#### 6.1.2 Correspondence based on the meaning of terms

This type of correspondence is based on the parallel use of term components that have the same meaning.

##### EXAMPLES

- a) English: data processing  
French: traitement des données  
Russian: обработка данных
- b) English: load characteristic  
French: caractéristique de charge  
Russian: характеристика нагрузки

#### 6.1.3 Mixed types of correspondence

There are also combinations of the forms described in 6.1.1 and 6.1.2.

##### EXAMPLES

- a) English: additional element  
French: élément complémentaire  
Russian: дополнительный элемент
- b) English: magnetic tape  
French: bande magnétique  
Russian: магнитная лента

### 6.2 Term harmonization

At least the effects of the factors given in 6.2.1 to 6.2.4 shall be taken into consideration.

#### 6.2.1 Traditions of term formation within subject fields

**6.2.1.1** There are a number of subject fields in which the structure of the concept systems is reflected in term formation. Term harmonization should continue especially in subject fields with a long tradition of systematic term formation, often based on elements from Greek and Latin (e.g. the nomenclatures in chemistry, biology and medicine).

**6.2.1.2** Within science and technology, efforts towards term harmonization have often been successful and should be continued.

**6.2.1.3** Harmonization of terms should be carried out on a regional basis in subject fields where international cooperation is common and well established.

**6.2.1.4** In some subject fields, harmonization has not even been attempted at the concept level and consequently efforts towards term harmonization are premature. Harmonization attempts at the term level with no harmonization at the concept level will only lead to misunderstandings.