

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 704

iTeh STANDARD PREVIEW
NAMING PRINCIPLES
(standards.iteh.ai)

ISO/R 704:1968

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BRIEF HISTORY

The ISO Recommendation R 704, *Naming principles*, was drawn up by Technical Committee ISO/TC 37, *Terminology (Principles and co-ordination)*, the Secretariat of which is held by the Österreichischer Normenausschuss (ONA).

Work on this question by the Technical Committee began in 1954 and led, in 1963, to the adoption of a Draft ISO Recommendation.

In September 1964, this Draft ISO Recommendation (No. 676) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Austria	Ireland	Romania
Chile	Israel	South Africa
Czechoslovakia	Italy	Rep. of
France	Morocco	Spain
Germany	Netherlands	Switzerland
Greece	Poland	United Kingdom
India	Portugal	U.S.A.

One Member Body opposed the approval of the Draft :

U.S.S.R.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council which decided, in April 1968, to accept it as an ISO RECOMMENDATION.

FOREWORD

Co-operation and communication between experts engaged in all branches of science and technology are assuming ever-increasing importance as essential conditions for progress, both within each country and between countries. For this exchange to be successful, technical terms should have the same meaning for everyone who uses them. This goal can be achieved only if there is general agreement on the meaning of these terms. Hence the importance of technical vocabularies, in which concepts and terms, as well as their definition, are standardized (terminological standards). It is just such standards which aid to assure mutual understanding.

These vocabularies are prepared by the National Standards Associations and by the Technical Committees of ISO. During the work on terminology carried out by these bodies it quickly became apparent that it was necessary to have directives applicable to any field of knowledge and that it was possible to establish them.

Accordingly, ISO set up a Technical Committee, known as ISO/TC 37, *Terminology (Principles and co-ordination)*, with the mission of finding out and formulating general principles on scientific terminology and terminological lexicography.

The ISO Recommendations prepared by this Technical Committee deal with questions that fall under the following four classes:

1. Vocabulary of terminology;
2. Procedure for preparing national or international standardized vocabularies;
3. National and international standardization of concepts, terms and their definitions : principles for their establishment and criteria of value;
4. Layout of monolingual and multilingual vocabularies, including lexicographical symbols.

The ISO Recommendation included in class 2 deals with guidance in the organization of the work, while the other classes are concerned with technical details.

The following ISO Recommendations have been or will be issued :

Class 1

ISO/R ...,* *Vocabulary of terminology*

Class 2

ISO/R ...,** *Guide for the preparation of classified vocabularies*

Class 3

ISO/R 704, *Naming principles*

ISO/R ...,*** *International unification of concepts and terms*

Class 4

ISO/R ...,**** *Layout of multilingual classified vocabularies*

ISO/R ..., *Layout of monolingual classified vocabularies*

ISO/R ..., *Lexicographical symbols*

ISO/R 639, *Symbols for languages, countries and authorities*

* At present Draft ISO Recommendation No. 781.

** At present Draft ISO Recommendation No. 792.

*** At present Draft ISO Recommendation No. 1189.

**** At present Draft ISO Recommendation No. 1659.

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SYMBOLS

(V...)	Indicates that the preceding term is defined in ISO Recommendation R ...,* <i>Vocabulary of terminology</i> under the serial number following the letter V (V = Vocabulary).**
┌	Beginning of the term (composed of several words) to which the symbol “(V:...)” following the term belongs.
D	German
E	English
F	French
I	Italian
R	Russian
S	Spanish
Sv	Swedish
USAS	American Standard (USA)
BS	British Standard
IEC	International Electrotechnical Commission
ISA	International Federation of the National Standardizing Associations
NBN	Belgian Standard
NF	French Standard
pNF	Draft French Standard
VSM	Swiss Society of Manufacturers of Machinery

* At present Draft ISO Recommendation No. 781.

** The terms designating the different types of vocabularies and glossaries (see clause 4.1) will appear only in the second edition of the *Vocabulary of terminology*.

NAMING PRINCIPLES

INTRODUCTION

This ISO Recommendation deals with questions falling under class 3 mentioned in the Foreword. Its purpose is to provide those who are dealing with the terminology in any scientific or technical field with a number of principles designed to help them to unify and standardize concepts and terms or to create new ones.

They are fundamental principles, capable of application to any language.

While the principles in this ISO Recommendation apply to any language, it is desirable that, as far as possible, the concepts and terms thus chosen in the various languages should correspond closely to one another. The principles designed to achieve this purpose are included in ISO Recommendation R ...,* *International unification of concepts and terms*, which also falls under class 3.

The technical terms of the terminology used to formulate the principles of this ISO Recommendation are defined in ISO Recommendation R ...,** *Vocabulary of terminology*. Reference to this vocabulary is made by superscript letter symbols after each of these terms (see list of symbols on page 6). ISO Recommendation R ...,** *Vocabulary of terminology* falls under class 1 of the items mentioned in the Foreword.

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1. SELECTION OF PRINCIPLES

1.1 Choice between conflicting principles (Principle No. 1)

A term (V 31) should meet a large number of requirements. The most important of these are summarized below in the form of principles.

Some of these principles frequently conflict with one another. In such a case, a search should be made for the principle to which priority should be given.

Important special cases. The principle regarding language economy (Principle No. 2) and the principle requiring that an established usage should not be changed (Principle No. 28) without cogent reasons.

Consequently, the present principles apply firstly to new terms and to the selection of the best term among synonyms (V 92).

1.2 Language economy (Principle No. 2)

In forming or using a term (V 31) it should be borne in mind that greater accuracy of expression very often involves less ease in speaking and understanding. Hence, one should not be more precise than the situation requires.

Special cases. Principles No. 11, 17, 18, 24 and 31.

* At present Draft ISO Recommendation No. 1189.

** At present Draft ISO Recommendation No. 781.

2. CONCEPTS AND DEFINITIONS

2.1 Concepts

2.1.1 *Nature of concepts (Principle No. 3).* It should always be borne in mind that concepts (V 2) cannot be taken for the individual object (V 1) themselves. They are mental constructions serving to classify the individual objects of the inner or outer world by way of a more or less arbitrary "abstraction".

Concepts should not be confounded with terms (V 31) which are the symbols of the concepts and which are also created by man in a more or less arbitrary manner.

2.1.2 *Delimitation of concepts (Principle No. 4).* In creating or defining a new concept (V 2), one should carefully determine the limits of the mental representation of the concept and also its relation to other existing concepts (V 9) within the same system. One should ascertain therefore the genus (V 5), its species (V 6) and the contiguous (neighbouring) concepts, as well as the parts of the object under consideration and the aggregates to which this object belongs.

2.1.3 *Synoptic tables of concepts (Principle No. 5).* It is recommended that the mutual delimitation of concepts (V 2) be illustrated by means of synoptic tables, i.e. by a classified list (V 16) of the concepts or by a graphic representation (V 15) of their genealogical tree.

2.1.4 *Order of preference of equivalent characteristics (Principle No. 6).* The characteristics (V 3) of concepts (V 2) can be considered under two main headings, as follows :

(a) Intrinsic (= inherent) characteristics (V 21), especially those of design (shape and size, material, hardness, etc.).

Examples : hollow ground (saw);
straight (saw);
disk (key);
rotating (field).

(b) Extrinsic characteristics (V 22), in particular in technology.

(b1) Characteristics of purpose (V 24) – (application, functioning, scope, location and positioning in an assembly).

Examples : (saw) for smooth cutting;
(saw) for amateurs;
milling (machine);
rear (wheel).

(b2) Characteristics of origin (V 23) – (method of manufacture; discoverer, describer, inventor; producer, country of origin; supplier).

Examples : pasteurized (milk);
Lancashire (boiler);
Woodruff (key);
Ferraris (field).

There is, generally, no doubt from which class the characteristics should be taken in order to form a concept, to define it and to designate it by a term.

Actually, the characteristics are determined in each case by the position which the concept under consideration occupies in the system of concepts (V 9) to which it belongs. In the concept *Ruhr coal*, for instance, the characteristic *Ruhr*, which is a characteristic of origin, cannot be replaced by an intrinsic characteristic such as composition, because this is too complex.

Sometimes, however, the choice is open between several equivalent characteristics (V 25). A *convex lens*, for instance, is always at the same time a *converging lens*, and vice versa.

In this case, it is recommended that consideration be given to the order of the three classes of characteristics as shown above and that, among equivalent characteristics, preference be given to that which comes first in this order.

2.1.4.1 Justification of the order of preference

Intrinsic characteristics (*a*) are more convenient than extrinsic characteristics (*b*) because they can be ascertained by inspection, and generally by anyone, as for example by warehouse men and dealers. They are self-sufficient, and a more detailed knowledge as to the purpose (*b1*) or to the origin (*b2*), is not required.

It is true, however, that intrinsic characteristics (*a*) are better suited to the naming of simple objects than to complex ones. For example, machines should be named in most cases according to their purpose (*b*).

Purpose (*b1*) offers better characteristics than origin (*b2*) because it generally relates to the essence of a concept, whereas the origin, for instance the person of the inventor, is connected with the nature of the object.

The purpose has the drawback that it is subject to changes without there being a change of intrinsic characteristics.

Origin (*b2*), as a characteristic, also has a drawback if determined by the name of a person, a legal entity or a geographical location. It is open to doubt whether the indication of origin concerns the product itself or merely the method of manufacture.

Examples :

Do not say	But
F <i>lame de scie circulaire à coupe lisse</i> ("circular saw blade for smooth cutting") (<i>b1</i>)	F <i>lame de scie circulaire évidée vers la centre</i> ("hollow ground circular saw blade") (<i>a</i>)
<i>hand saw for amateurs</i> (<i>b1</i>)	<i>straight-edged hand saw</i> (<i>a</i>)
<i>sulphuric ether*</i> (<i>b2</i>)	<i>diethyl ether</i> BS (<i>a</i>)
F <i>clavette Woodruff</i> VSM ("Woodruff key" USAS, BS, "Whitney key") (<i>b2</i>)	F <i>clavette-disque</i> NF <i>clavette disque</i> NBN ("disk key") (<i>a</i>)
F <i>denture américaine</i> ("American teeth") (<i>b2</i>)	F <i>denture en BM</i> ("BM-shaped teeth") (<i>a</i>)
<i>Ferraris field</i> (<i>b2</i>)	<i>rotating field</i> IEC (<i>a</i>)
<i>Kelvin effect</i> IEC (<i>b2</i>)	<i>skin effect</i> IEC (<i>a</i>)

The above examples are terms in which their components (V58) express characteristics.

2.2 Definitions

2.2.1 Definitions in general

2.2.1.1 *Definition as a point of departure (Principle No. 7).* In the process of selecting or seeking an appropriate term (V 31) for a concept (V 2) it is essential to achieve clarity concerning the definition of the concept.

For clarifying the concept, its intension (V 4) (i.e. its characteristics (V 3)) and its extensions by abstraction and collection (i.e. its species (V 6) and its parts) have to be determined.

2.2.1.2 *Concordance of definitions (Principle No. 8).* By the definition of a concept (V 2) is meant the determination of the position of that concept within the system of all related concepts (V 9) (see the principle set forth in clause 2.1.2).

Consequently, it is essential to select the characteristics (V 3) to be mentioned in a definition (V 27) so that they delimit the concept against related concepts. Every definition should be established with due regard for all definitions that relate to the same system of concepts. Only by comparing it with other definitions can its full meaning (V 83) be precisely stated.

Example : In some alphabetical dictionaries one can often ascertain that definitions of related concepts do not tally.

* Diethyl ether is obtained by the action of sulphuric acid on alcohol.