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Standard Practice for Compiling and Writing & Terminology[1]

This standard is issued under the fixed designation E 1964; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This practice describes a systematic procedure for compiling and writing a terminology.

1.2 This practice is intended to provide a systematic procedure for compiling and presenting a terminology, glossary, or system of terms for a committee or other organization.

1.3 The procedures outlined in this practice are intended to assist users in writing technical documentation for terms that are built on accurate and useful definitions.

2. Referenced Documents

2.1 *ISO Documents:*[2]

ISO 704:1987 Principles and Methods of Terminology

ISO 10241:1992 Terminology Standards Preparation and Layout

ISO 12620 Terminology—Computer Applications—Data Categories

ISO 1087 Terminology Studies—Vocabulary

3. Terminology

3.1 *Definitions:*

3.1.1 *definition*, *n*—statement that describes a concept and permits its differentiation from other concepts within a system of concepts. **(ISO 1087)**

3.1.2 *terminology*, *n*—a set of terms representing the concepts of a field.

4. Summary of Practice

4.1 This practice provides a systematic methodology for selecting terms and compiling a terminology.

5. Significance and Use

5.1 Lists of terms and their definitions are essential to the management of terminology. In a technical committee or other organization, terminology management helps ensure that terms are used and defined consistently within its publications, thereby contributing to a consistent level of quality in publications that promotes improved communication.

5.1.1 Readers of documents need to identify key terms used and to know the precise meanings intended by the authors.

5.1.2 Vocal and written communications are clearer and more effective when based on a conceptual comprehension of the significant terms.

5.1.3 Specialized terms used in documents serve as keywords for retrieving information from databases.

5.1.4 A comprehensive term list serves as the primary means of introducing the important technical concepts of a committee or organization.

5.2 This practice is intended for use by subject-matter specialists regardless of the extent of their knowledge in the field of terminology management. Use of the practice should provide a degree of assurance to an organization that attention has been paid to terminology issues.

5.3 This practice may also be used by an author of a document to provide a terminology for readers.

6. Procedure

6.1 Assemble relevant documents.

6.2 Select terms. List all significant terms whose meanings are needed for full and precise comprehension of the documents.

6.2.1 Generate the term list from the terms, abbreviations, and other short forms (such as a acronyms and initialisms) that are found in the documents. Include terms from titles, abstracts, and summaries. List abbreviated terms separately, even if they are also included as part of a term entry.

6.2.2 List terms in the title, scope, and abstract of the document that can serve as keys to the subject matter of the document.

6.2.3 Identify and list unique terms or those with unusual or novel meaning. Clearly identify those terms that are coined for the purposes of the document or given a specialized meaning that is applicable for the purposes of that document.

6.2.4 Include compound terms.

6.2.4.1 Avoid selecting a compound term with more than three words for a terminology, unless it forms part of a set of related terms that are used in the document and needs to be distinguished or clarified.

6.2.4.2 Accept compounds that are in common use in the field, even if they are longer than three words.

6.2.4.3 Do not editorially add hyphens in compound terms.

6.2.4.4 Recognize that a compound term of two or more words may result in more than one term being listed.

6.3 Identify and group the terms conceptually. Concepts may be identified by descriptions or draft definitions.

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[1] This practice is under the jurisdiction of ASTM Committee E-2 on Terminology and is the direct responsibility of E02.10 on Standards.

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[2] Available from American National Standards Institute, 11 W. 42nd St., 13th floor, New York, NY 10036.

6.3.1 Describe, as clearly as possible, significant concepts in the text to which terms have been assigned, and, if needed, identify related concepts that may require new terms to be assigned.

6.3.2 Group or associate terms referring to closely related concepts.

6.4 Write or choose definitions for the listed terms.

6.4.1 Before writing a definition, study possible source material for existing definitions that may be suitable.

6.4.2 If a suitable definition is found in a standardized terminology, specialized technical dictionary or general purpose dictionary, its use should be accompanied by appropriate attribution and attention to possible copyright and trademark issues.

6.5 If a definition must be newly written, consider the following point:

6.5.1 List the term followed by clear definitions.

6.5.2 Do not include details in the definition about how and why, or when a term is used. These may be provided in discussion (see Section 13). A terminology provides a specific answer to questions about what the concept is. For example, the concept following is described without details of how, why, or when.

6.5.2.1 *elbow, n—in anatomy* the joint that articulates between the upper arm and the lower arm.

6.5.3 Avoid using the terms to define itself. For example, an unacceptable definition of **body fluid simulant** would be:

6.5.3.1 *body fluid simulant, n*—a fluid used to simulate a body fluid (deprecated style of definition).

6.5.3.2 Rather, express the idea in other words that are clear and do not use the term to define itself. For example, an acceptable definition of **body fluid simulant** would be:

6.5.3.3 *body fluid simulant, n*—a substance used as a model to replicate a liquid that is produced, secreted, or excreted by the human body (recommended style of definition).

6.5.4 Use language that is understandable to non-experts. For example, an unacceptable definition of **evaporative resistance** would be:

6.5.4.1 *evaporative resistance, n*—the reciprocal of evaporative heat transmittance expressed in kilopascals per square metre of test specimen per watt.

6.5.4.2 This definition referring to a mathematical equation and probably unfamiliar units does not enlighten the reader with any more general phrase. An acceptable definition, understandable to a non-expert, might be:

6.5.4.3 *evaporative resistance, n*—an evaporative heat flux barrier, which may consist of either diffusive or convective barriers, or a combination of both, that impedes heat transfer.

6.5.4.4 This definition should be clear to an average reader even without a knowledge of diffusion and convection, the final phrase describing a comprehensible purpose.

6.6 Revise the term list following an examination of the draft definitions and relevant sources of definitions, including any referenced documents or other material that may be appropriate.

6.7 Examine the drafted definitions of compound terms for contained terms that themselves require definition.

6.8 If necessary, revise definitions so that related concepts are defined in a consistent manner. (This will assist writers and readers in distinguishing among related concepts.) Choose new terms and write new definitions to make needed distinctions between closely related concepts.

6.9 Recognize that the process is generally cyclical; terms are selected, concepts identified, and definitions written for the terms. New terms are added, concept relationships and their groupings are re-examined and, definitions are appropriately revised.

7. Delimiting Phrase

7.1 Consider the need for a delimiting phrase. A delimitation is not technically a part of a definition, but specifies the applicability of the definition that is being composed.

7.2 If a term can have different meanings in other technical fields or contexts, the term entry shall contain an italicized phrase that delimits the definition to its field of application. For example:

7.2.1 *beam, n—in a balance,* the horizontal pan support.

7.2.2 *beam, n—in a building,* a horizontal load-carrying structural member of the building frame.

7.2.3 *beam, n—in optics,* a concentrated unidirectional flow of radiant energy.

7.2.4 *beam, n—in textile dyeing,* a perforated cylinder on which fabric or yarn can be wound such that dye solution forced through the perforations will saturate the textile with colorant.

7.2.5 *beam, n—for textile yarns,* a spool-like device upon which may be wound long lengths of many parallel ends.

7.3 Do not delimit a definition to a specific field when, without the delimitation, the definition would have broader application. Avoid, for example,

7.3.1 *density, n—in aviation fuel,* mass per unit volume.

7.4 Do not use a delimiting phrase to justify another definition of a term for which there is an existing definition.

7.5 When a delimiting phrase would be repeated in a terminology standard to the point of triteness, choose a generic delimiting statement that is to be published in the scope or the terminology section of the standard with an explanation such as the following: “When any of the definitions in this standard are quoted or published out of context, editorially insert the delimiting statement (insert here the chosen statement) after the dash following the term, to properly limit the field of application of the term and definition to that defined by this committee.”

7.6 A significant term, when considered in the context of the standard, may sometimes require a delimiting phrase in the definition. Such a delimiting phrase should be used in addition to the generic delimiting statement for the class, whenever its use gives a clearer meaning to the definition. Frequently the generic delimiting statement for the class is sufficient.

8. Definitions—General

8.1 State the definition of the term in one sentence only. If two or more phrases are needed to fully state the meaning, connect them with semicolons. This helps prevent conflicts of meaning.

8.2 Generally, the definition should be of the type known as intensional definition. This type of definition first identifies the

concept for the term being defined as a member of a broader class or group of concepts having common characteristics. The broader class is called the *genus*. The concept is then distinguished from other members of the same class by adding distinguishing characteristics, called the *differentia*, to the definition for the term. For examples of definitions displaying this structure follow:

8.2.1 *optics, n*—the branch of science dealing with the properties and control of light radiation.

8.2.2 The term "optics" represents a concept that belongs in the genus "science" and is distinguished from other sciences by the differentia "dealing with the properties and control of light radiation."

8.2.3 *seaplane, n*—an airplane equipped with floats for take-offs and landings on water.

8.2.4 The term "seaplane" designates a species of the genus "airplane" that is distinguished by the differentia "equipped with floats."

8.3 Select a genus. The selection of a genus is perhaps the most difficult part of writing a definition. If the genus is too broad, the reader will not obtain sufficient information; if the genus is too narrow, the reader may be led on a trail through too many other definitions.

8.4 Define the term as broadly as possible for the probable users of the terminology without losing needed precision.

8.5 The process of composing an intensional definition is helpful to the thought process. It clarifies the nature of the concept, relating it properly to other concepts and their previously defined terms. It is also useful in developing a logical system of concepts for the field of application considered.

8.6 In occasional cases, it may be more precise to use an extensional definition, that is, to enumerate all of the individual instances of the concept's range.

8.7 Do not include procedural information or any information other than that needed to convey the basic meaning of the term and clearly identify the concept.

8.8 Do not insert explanatory phrases in a definition to define other terms used within the definition. If any such terms need to be defined, write separate definitions for them.

9. Definitions—Nouns

9.1 Define nouns using the genus and differentia form.

9.2 State a noun term in the singular unless the plural is the usual form in normal usage. When a singular noun has an unusual plural such as **differentiae**, the plural of **differentia**, also state the plural. When a plural noun has an unusual singular, such as **datum**, the singular of **data**, also state the singular.

9.3 Do not define mathematically defined quantities by merely paraphrasing a mathematical formula or expression. Although experts require a mathematical formula to express relationships of quantities, formulas are the substance of handbooks.

9.3.1 The definition of a quantity should express its qualitative conceptual meaning or significance in words, and may also indicate how the quantity is measured or calculated. If a formula is desirable in the definition, it should follow this verbal description to indicate application of the definition. This is illustrated by the following definition:

9.3.1.1 *resistivity, ρ, n*—the property of a material that determines its resistance to the flow of an electric current, expressed as $\rho = RA/L$, where R is the resistance of a conductor of cross-sectional area A and length L.

9.3.1.2 Alternatively, a discussion (see Section 13) may be used to present the formula along with any discussion of range of applicability, units, and so forth.

9.4 Qualitative nouns and adjectives that could be taken to denote or connote an absolute, unqualified, or unconditional property or capability shall not be used unless actually used and defined in their absolute sense. (Examples of such terms are: waterproof, stainless, unbreakable, vapor barrier, gas-free, flat, safe, rigid, pure, and so forth.)

9.4.1 Qualitative nouns and adjectives that denote or describe a quantitative determinable property or capability shall be used with caution, and shall be given a specialized quantitative definition wherever the lack thereof might lead to misinterpretation or confusion. (Examples or such terms are: high, strong, transparent, accurate, clean, thin, hot, and so forth) For some terms, tolerance limits may be used.

9.4.2 To obviate any misunderstanding, when an absolute term appears, its definition must be included in the terminology of the document.

10. Definition—Adjectives

10.1 If an adjective is used with several different nouns in a given field, it should be defined separately. Combinations of an adjective and a noun should be defined as compound terms only when the combination has a special meaning, symbol, or other significance that is not inferred from the separate definitions of the adjective and the noun.

10.2 Do not attempt to define an adjective when the concept in mind is best represented by a specific noun modified by that adjective, a compound term. In such cases, define the combination of adjective and noun, for example define:

10.2.1 *aplanatic lens, n*—a lens corrected for spherical aberration and coma.

10.2.2 Do not define **aplanatic,** adj.

10.3 When an adjective is sufficiently general to warrant a definition by itself, make sure that its definition is an adjectival phrase is gerund form, for example:

10.3.1 *acoustic, adj*—pertaining to sound waves or sound fields.

11. Definitions—Verbs

11.1 In conformance with common dictionary usage, state verbs in the infinitive rather than the participle form, for example, **abrade** rather than **abrading**. Follow the term with "v" to indicate the part of speech and begin the definition with "to". An example follows:

11.1.1 *sample, v*—to obtain a portion of a material.

11.1.2 Sometimes the participle or gerund form may be preferable if it is commonly used and treated as a noun, for example, *fretting, n,; glassblowing, n.*

11.1.3 Show "vi" or "vt" as part of speech for intransitive or transitive verbs if clarity dictates. In some cases the same word can be used as both a transitive and an intransitive verb. For example: *match* these colors (vt); these colors *match* (vi).

11.1.4 Although no general rules can be given for the logical structure of the definition of a verb, the genus and differentia approach is still applicable. For example:

11.1.5 *weld, v*—to join pieces of material by heat or pressure, or both, until they form an integral unit.

11.1.6 The genus is "to join pieces of material"; the rest of the definition is the differentia.

12. Organization and Presentation of Terminology

12.1 Decide on the data categories that may be included in the term entries. Follow any organizational policies that are in effect. For possible data categories, see ISO 12620

12.1.1 In ASTM, the data categories that may be used in term entries are:

12.1.1.1 term, abbreviation symbol, dimensions of quantities, measurement units, part of speech, delimiting phrase, definition (or statement of meaning) including specification limits, where applicable, cross-references to synonyms or related terms, discussion attribution.

12.1.1.2 Choose a uniform order of presenting the categories and, if necessary, select appropriate font, size, and so forth, for clarity to the reader. This is often specified by an organization, in its terminology management policy, for uniformity.

12.2 Decide on the ordering of the term entries in the terminology.

12.2.1 Alphabetical ordering of the term entries permits a given term to be found more expeditiously, but at the expense of separating term entries referring to closely related concepts. This requires additional cross referencing entries in order to assist the reader in finding terms for closely related concepts. For example:

12.2.1.1 *term, n*—a spoken or written representation of a concept.

12.2.1.2 *term, compound*—**see compound term.**

12.2.1.3 *term delimited*—see **delimited term.**

12.2.1.4 See also ISO 10241 and ISO 704.

12.2.2 Conceptual ordering of the entries permits the reader to obtain an overall view of the concept system. This type of ordering also allows entries to be more readily and precisely numbered systematically for reference. A separate alphabetical listing is often needed, additionally, so that a given term may be more readily found.

12.3 Present the terminology appropriately for the medium to be used, for example, printed page, file card, computer screen, and so forth.

12.4 Follow any organizational policies that are in effect.

13. Discussions

13.1 Use a discussion to supply desired information that serves to elaborate, qualify, or clarify the meaning or usage of a term entry. The following are some examples of the use of a discussion:

13.1.1 Examples or prototypes that may be desired to more fully clarify the term and its definition.

13.1.2 Restrictions on the application of the definition, including typical specifications or numerical ranges that are not referred to in the definition.

13.1.3 Instructions and examples on the use of the definition.

13.1.4 Mathematical formulae not referred to in the definition.

13.1.5 Figures to assist the conceptualization of a definition.

13.1.6 Tutorial information, including references to and distinctions among related concepts, that is, the place of the concept in relation to selected other concepts.

13.2 Discussion should be brief and should not be used to present an extended or encyclopedic treatment that is found more properly in a monograph or textbook.

14. Keywords

14.1 definition; management; terminology

APPENDIX

(Nonmandatory Information)

X1. BIBLIOGRAPHY

X1.1 The following are practical aids in developing and maintaining terminologies.

X1.1.1 "Standardization of Technical Terminology: Principles and Practice," *ASTM STP 806*, Charles G. "Interrante and Frank J. Heymann, eds., ASTM, 1983.

X1.1.2 "Standardization of Technical Terminology: Principles and Practices, (Second Volume)," *ASTM STP* 991, Richard A Strehlow, ed., ASTM, 1988.

X1.1.3 "Standardizing Terminology for Better Communication: Practice, Applied Theory, and Results," *ASTM STP 1166*, Richard A. Strehlow and Sue Ellen Wright, eds., ASTM, 1993.

X1.1.4 "Standardizing and Harmonizing Terminology: Theory and Practice," *ASTM STP* 1223, Sue Ellen Wright and Richard A. Strehlow, eds., ASTM, 1994.

X1.1.5 *Handbook of Terminology Management*, Vol I, Wright, Sue Ellen and Budin, Gerhard, John Benjamins North America, Philadelphia, PA, USA, 1997.