SLOVENSKI STANDARD
SIST EN 80000-13:2008

01-oktober-2008

Veliļine in enote - 13. del: Informacijska znanost in tehnologija (IEC 80000-13:2008)

Quantities and units - Part 13: Information science and technology (IEC 80000-13:2008)

Größen und Einheiten - Teil 13: Informationswissenschaft und -technik (IEC 80000-13:2008)

Grandeurs et unités - Partie 13: Science et technologies de l'information (CEI 80000-13:2008)

Ta slovenski standard je istoveten z: EN 80000-13:2008

ICS:

01.060	Veliļine in enote	Quantities and units
35.020	Informacijska tehnika in tehnologija na splošno	Information technology (IT) in general

SIST EN 80000-13:2008 **en,fr**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 80000-13

July 2008

ICS 01.040.35

Partially supersedes EN 60027-2:2007

English version

Quantities and units - Part 13: Information science and technology

(IEC 80000-13:2008)

Grandeurs et unités -
Partie 13: Science et technologies de l'information
(CEI 80000-13:2008)

Größen und Einheiten –
Teil 13: Informationswissenschaft und -technik
(IEC 80000-13:2008)

This European Standard was approved by CENELEC on 2008-06-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Ref. No. EN 80000-13:2008 E

Foreword

The text of document 25/371/FDIS, future edition 1 of IEC 80000-13, prepared by IEC TC 25, Quantities and units, and their letter symbols, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 80000-13 on 2008-06-01.

This European Standard supersedes Subclauses 3.8 and 3.9 of EN 60027-2:2007.

The only significant change is the addition of explicit definitions for some quantities.

The following dates were fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2009-03-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2011-06-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 80000-13:2008 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 60027-1	NOTE Harmonized as EN 60027-1:2006 (not modified).

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60027-3	2002	Letter symbols to be used in electrical technology - Part 3: Logarithmic and related quantities, and their units	EN 60027-3	2007
IEC 60050-704	1993	International Electrotechnical Vocabulary (IEV) - Chapter 704: Transmission	-	-
IEC 60050-713	1998	International Electrotechnical Vocabulary (IEV) - Part 713: Radiocommunications: transmitters, receivers, networks and operation	-	-
IEC 60050-715	1996	International Electrotechnical Vocabulary (IEV) - Chapter 715: Telecommunication networks, teletraffic and operation	-	-
IEC 60050-721	1991	International Electrotechnical Vocabulary (IEV) - Chapter 721: Telegraphy, facsimile and data communication	-	-
ISO/IEC 2382-16	1996	Information technology - Vocabulary - Part 16: Information theory	-	-

IEC 80000-13

Edition 1.0 2008-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Quantities and units –
Part 13: Information science and technology

Grandeurs et unités –
Partie 13: Science et technologies de l'information

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

QUANTITIES AND UNITS –

Part 13: Information science and technology

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 80000-13 has been prepared by IEC technical committee 25: Quantities and units, and their letter symbols.

This standard cancels and replaces subclauses 3.8 and 3.9 of IEC 60027-2:2005.

The only significant change is the addition of explicit definitions for some quantities.

The text of this standard is based on the following documents:

FDIS	Report on voting
25/371/FDIS	25/377/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

IEC 80000 consists of the following parts, under the general title *Quantities and units*:

Part 6: *Electromagnetism*

Part 13: *Information science and technology*

Part 14: *Telebiometrics related to human physiology*

The following parts are published by ISO:

Part 1: *General*

Part 2: *Mathematical signs and symbols to be used in the natural sciences and technology*

Part 3: *Space and time*

Part 4: *Mechanics*

Part 5: *Thermodynamics*

Part 7: *Light*

Part 8: *Acoustics*

Part 9: *Physical chemistry and molecular physics*

Part 10: *Atomic and nuclear physics*

Part 11: *Characteristic numbers*

Part 12: *Solid state physics*

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

0.1 Arrangements of the tables

The tables of quantities and units in ISO/IEC 80000 are arranged so that the quantities are presented on the left-hand pages and the units on the corresponding right-hand pages.

All units between two full lines on the right-hand pages belong to the quantities between the corresponding full lines on the left-hand pages.

Where the numbering of an item has been changed in the revision of a part of IEC 60027, the number in the preceding edition is shown in parenthesis on the left-hand page under the new number for the quantity; a dash is used to indicate that the item in question did not appear in the preceding edition.

0.2 Tables of quantities

The names in English and in French of the most important quantities within the field of this document are given together with their symbols and, in most cases, their definitions. These names and symbols are recommendations. The definitions are given for identification of the quantities in the International System of Quantities (ISQ), listed on the left hand pages of Table 1; they are not intended to be complete.

The scalar, vectorial or tensorial character of quantities is pointed out, especially when this is needed for the definitions.

In most cases only one name and only one symbol for the quantity are given; where two or more names or two or more symbols are given for one quantity and no special distinction is made, they are on an equal footing. When two types of italic letters exist (for example as with ϑ and θ; φ and ϕ; *a* and a; *g* and g) only one of these is given. This does not mean that the other is not equally acceptable. It is recommended that such variants should not be given different meanings. A symbol within parenthesis implies that it is a reserve symbol, to be used when, in a particular context, the main symbol is in use with a different meaning.

In this English edition the quantity names in French are printed in an italic font, and are preceded by *fr*. The gender of the French name is indicated by (m) for masculine and (f) for feminine, immediately after the noun in the French name.

0.3 Tables of units

0.3.1 General

The names of units for the corresponding quantities are given together with the international symbols and the definitions. These unit names are language-dependent, but the symbols are international and the same in all languages. For further information, see the SI Brochure (8th edition 2006) from BIPM and ISO 80000-1 (under preparation).

The units are arranged in the following way:

a) The coherent SI units are given first. The SI units have been adopted by the General Conference on Weights and Measures (Conférence Générale des Poids et Mesures, CGPM). The use of coherent SI units, and their decimal multiples and submultiples formed with the SI prefixes are recommended, although the decimal multiples and submultiples are not explicitly mentioned.

b) Some non-SI units are then given, being those accepted by the International Committee for Weights and Measures (Comité International des Poids et Mesures, CIPM), or by the International Organization of Legal Metrology (Organisation Internationale de Métrologie Légale, OIML), or by ISO and IEC, for use with the SI.

Such units are separated from the SI units in the item by use of a broken line between the SI units and the other units.

c) Non-SI units currently accepted by the CIPM for use with the SI are given in small print (smaller than the text size) in the “Conversion factors and remarks” column.

d) Non-SI units that are not recommended are given only in annexes in some parts of ISO/IEC 80000. These annexes are informative, in the first place for the conversion factors, and are not integral parts of the standard. These deprecated units are arranged in two groups:

   1) units in the CGS system with special names;

   2) units based on the foot, pound, second, and some other related units.

e) Other non-SI units given for information, especially regarding the conversion factors, are given in another informative annex.

0.3.2 Remark on units for quantities of dimension one, or dimensionless quantities

The coherent unit for any quantity of dimension one, also called a dimensionless quantity, is the number one, symbol 1. When the value of such a quantity is expressed, the unit symbol 1 is generally not written out explicitly.

EXAMPLE

Refractive index $n = 1{,}53 \times 1 = 1{,}53$

Prefixes shall not be used to form multiples or submultiples of this unit. Instead of prefixes, powers of 10 are recommended.

EXAMPLE

Reynolds number $Re = 1{,}32 \times 10^3$

Considering that plane angle is generally expressed as the ratio of two lengths and solid angle as the ratio of two areas, in 1995 the CGPM specified that, in the SI, the radian, symbol rad, and steradian, symbol sr, are dimensionless derived units. This implies that the quantities plane angle and solid angle are considered as derived quantities of dimension one. The units radian and steradian are thus equal to one; they may either be omitted, or they may be used in expressions for derived units to facilitate distinction between quantities of different kinds but having the same dimension.

0.4 Numerical statements in this International Standard

The sign = is used to denote “is exactly equal to”, the sign ≈ is used to denote “is approximately equal to”, and the sign := is used to denote “is by definition equal to”.

Numerical values of physical quantities that have been experimentally determined always have an associated measurement uncertainty. This uncertainty should always be specified. In this standard, the magnitude of the uncertainty is represented as in the following example.

EXAMPLE

$l = 2{,}347\ 82(32)$ m