

Quantities and units - Part 2: Mathematical signs and symbols to be used in the natural sciences and technology (ISO 80000-2:2009)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 80000-2:2013 sisaldab Euroopa standardi EN ISO 80000-2:2013 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 80000-2:2013 consists of the English text of the European standard EN ISO 80000-2:2013.
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English Version

**Quantities and units - Part 2: Mathematical signs and symbols to
be used in the natural sciences and technology (ISO 80000-
2:2009)**

Grandeurs et unités - Partie 2: Signes et symboles
mathématiques à employer dans les sciences de la nature
et dans la technique (ISO 80000-2:2009)

Größen und Einheiten - Teil 2: Mathematische Zeichen für
Naturwissenschaft und Technik (ISO 80000-2:2009)

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Foreword

The text of ISO 80000-2:2009 has been prepared by Technical Committee ISO/TC 12 “Quantities and units” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 80000-2:2013.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2013, and conflicting national standards shall be withdrawn at the latest by October 2013.

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Endorsement notice

The text of ISO 80000-2:2009 has been approved by CEN as EN ISO 80000-2:2013 without any modification.

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Introduction

Arrangement of the tables

The first column “Item No.” of the tables contains the number of the item, followed by either the number of the corresponding item in ISO 31-11 in parentheses, or a dash when the item in question did not appear in ISO 31-11.

The second column “Sign, symbol, expression” gives the sign or symbol under consideration, usually in the context of a typical expression. If more than one sign, symbol or expression is given for the same item, they are on an equal footing. In some cases, e.g. for exponentiation, there is only a typical expression and no symbol.

The third column “Meaning, verbal equivalent” gives a hint on the meaning or how the expression may be read. This is for the identification of the concept and is not intended to be a complete mathematical definition.

The fourth column “Remarks and examples” gives further information. Definitions are given if they are short enough to fit into the column. Definitions need not be mathematically complete.

The arrangement of the table in Clause 16 “Coordinate systems” is somewhat different.

Quantities and units —

Part 2:

Mathematical signs and symbols to be used in the natural sciences and technology

1 Scope

ISO 80000-2 gives general information about mathematical signs and symbols, their meanings, verbal equivalents and applications.

The recommendations in ISO 80000-2 are intended mainly for use in the natural sciences and technology, but also apply to other areas where mathematics is used.

2 Normative references

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.

ISO 80000-1:—²⁾, *Quantities and units — Part 1: General*

3 Variables, functions and operators

Variables such as x , y , etc., and running numbers, such as i in $\sum_i x_i$ are printed in italic (sloping) type. Parameters, such as a , b , etc., which may be considered as constant in a particular context, are printed in italic (sloping) type. The same applies to functions in general, e.g. f , g .

An explicitly defined function not depending on the context is, however, printed in Roman (upright) type, e.g. \sin , \exp , \ln , Γ . Mathematical constants, the values of which never change, are printed in Roman (upright) type, e.g. $e = 2,718\ 218\ 8\dots$; $\pi = 3,141\ 592\dots$; $i^2 = -1$. Well-defined operators are also printed in Roman (upright) style, e.g. \div , δ in δx and each d in df/dx .

Numbers expressed in the form of digits are always printed in Roman (upright) style, e.g. 351 204; 1,32; 7/8.

The argument of a function is written in parentheses after the symbol for the function, without a space between the symbol for the function and the first parenthesis, e.g. $f(x)$, $\cos(\alpha + \varphi)$. If the symbol for the function consists of two or more letters and the argument contains no operation symbol, such as $+$, $-$, \times , \cdot or $/$, the parentheses around the argument may be omitted. In these cases, there should be a thin space between the symbol for the function and the argument, e.g. $\int 2,4$; $\sin n\pi$; $\operatorname{arcosh} 2,4$; $\operatorname{Ei} x$.

If there is any risk of confusion, parentheses should always be inserted. For example, write $\cos(x) + y$; do not write $\cos x + y$, which could be mistaken for $\cos(x + y)$.

2) To be published. (Revision of ISO 31-0:1992)