



SLOVENSKI STANDARD SIST ISO 80000-11:2013

01-maj-2013

Nadomešča:

SIST ISO 31-12:1995/Amd. 1:2001

SIST ISO 31-12+A1:2008

Veličine in enote - 11. del: Značilna števila

Quantities and units - Part 11: Characteristic numbers

iTeh STANDARD PREVIEW
(standards.itteh.ai)

Grandeurs et unités - Partie 11: Nombres caractéristiques

[SIST ISO 80000-11:2013](https://standards.itteh.ai/catalog/standards/sist/28-5619-d18-14750-a7eb-22fcc2a5ed66/sist-iso-80000-11-2013)

Ta slovenski standard je istoveten z: ISO 80000-11:2008

ICS:

01.060

Veličine in enote

Quantities and units

SIST ISO 80000-11:2013

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST ISO 80000-11:2013](#)

<https://standards.iteh.ai/catalog/standards/sist/f38e7619-dd8e-4750-a7eb-22fcc2a5ed66/sist-iso-80000-11-2013>

INTERNATIONAL
STANDARD

ISO
80000-11

First edition
2008-12-15

**Quantities and units —
Part 11:
Characteristic numbers**

Grandeurs et unités —

Partie 11: Nombres caractéristiques

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST ISO 80000-11:2013](https://standards.iteh.ai/catalog/standards/sist/b38e7619-dd8e-4750-a7eb-22fcc2a5ed66/sist-iso-80000-11-2013)

<https://standards.iteh.ai/catalog/standards/sist/b38e7619-dd8e-4750-a7eb-22fcc2a5ed66/sist-iso-80000-11-2013>

Reference number
ISO 80000-11:2008(E)



ISO 80000-11:2008(E)

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST ISO 80000-11:2013](https://standards.iteh.ai/catalog/standards/sist/b38e7619-dd8e-4750-a7eb-22fcc2a5ed66/sist-iso-80000-11-2013)

<https://standards.iteh.ai/catalog/standards/sist/b38e7619-dd8e-4750-a7eb-22fcc2a5ed66/sist-iso-80000-11-2013>

**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2008

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Names, symbols, and definitions	1
4 Momentum transport	2
5 Transport of heat	4
6 Transport of matter in a binary mixture	6
7 Constants of matter	8
8 Magnetohydrodynamics	9

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST ISO 80000-11:2013](https://standards.iteh.ai/catalog/standards/sist/f38e7619-dd8e-4750-a7eb-22fcc2a5ed66/sist-iso-80000-11-2013)

<https://standards.iteh.ai/catalog/standards/sist/f38e7619-dd8e-4750-a7eb-22fcc2a5ed66/sist-iso-80000-11-2013>

ISO 80000-11:2008(E)

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 80000-11 was prepared by Technical Committee ISO/TC 12, *Quantities, units, symbols, conversion factors* in co-operation with IEC/TC 25, *Quantities and units*.

This first edition of ISO 80000-11 cancels and replaces the third edition of ISO 31-12:1992 and ISO 31-12:1992/Amd.1:1998. The major technical changes from the previous standard are the following:

— the *normative references* have been changed.

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

- *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*

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*

Introduction

0.1 Arrangements of the tables

All characteristic numbers are quantities of *dimension one*. Hence the coherent unit of all characteristic numbers is the number one, symbol 1. This unit is not repeated in the following tables.

Where the numbering of an item has been changed in the revision of a part of ISO 31, the number in the preceding edition is shown in parenthesis 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 in the tables; 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 α , 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 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 1 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 2 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 kind but having the same dimension.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST ISO 80000-11:2013](#)

<https://standards.iteh.ai/catalog/standards/sist/f38e7619-dd8e-4750-a7eb-22fcc2a5ed66/sist-iso-80000-11-2013>

Quantities and units —

Part 11: Characteristic numbers

1 Scope

ISO 80000-11 gives the names, symbols and definitions for characteristic numbers used in the description of transport phenomena.

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 80000-3:2006, *Quantities and units — Part 3: Space and time*

ISO 80000-4:2006, *Quantities and units — Part 4: Mechanics*

ISO 80000-5:2007, *Quantities and units — Part 5: Thermodynamics*

IEC 80000-6:2008, *Quantities and units — Part 6: Electromagnetism*

ISO 80000-8:2007, *Quantities and units — Part 8: Acoustics*

ISO 80000-9:—¹⁾, *Quantities and units — Part 9: Physical chemistry and molecular physics*

3 Names, symbols, and definitions

The names, symbols, and definitions for characteristic numbers are given on the following pages.

1) To be published. (Revision of ISO 31-8:1992)