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Veličine in enote - 4. del: Mehanika (ISO/DIS 80000-4:2016)

Quantities and units - Part 4: Mechanics (ISO/DIS 80000-4:2016)

Größen und Einheiten - Teil 4: Mechanik (ISO/DIS 80000-4:2016)

Grandeurs et unités - Partie 4: Mécanique (ISO/DIS 80000-4:2016)

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01.060	Veličine in enote	Quantities and units
17.020	Meroslovje in merjenje na splošno	Metrology and measurement in general

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Part 4:
Mechanics

Grandeurs et unités —

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 12, Quantities and units.

This second edition cancels and replaces the first edition of ISO 80000-4:2006.

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

— *Part 1: General*

— *Part 2: Mathematics*

— *Part 3: Space and time*

— *Part 4: Mechanics*

— *Part 5: Thermodynamics*

— *Part 7: Light and Radiation*

— *Part 8: Acoustics*

— *Part 9: Physical chemistry and molecular physics*

— *Part 10: Atomic and nuclear physics*

— *Part 11: Characteristic numbers*

— *Part 12: Condensed matter physics*

IEC 80000 consists of the following parts (in collaboration with IEC/TC 25), under the general title *Quantities and units*:

— *Part 6: Electromagnetism*

— *Part 13: Information science and technology*

— *Part 14: Telebiometrics related to human physiology*

Quantities and units — Part 4: Mechanics

1 Scope

ISO 80000-4 gives names, symbols and definitions for quantities and units of mechanics. Where appropriate, conversion factors are also given.

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 e dition of the referenced document (including any amendments) applies.

ISO 80000-1:2009, *Quantities and units — Part 1: General*

ISO 80000-2:2009, *Quantities and units — Part 2: Mathematics*

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

3 Names, symbols, definitions and units of quantities

The names, symbols, definitions and units for quantities of mechanics are given on the following pages.

Item No.	Quantity			Unit	Remarks
	Name	Symbol	Definition	Symbol	
4-1	mass	m	property of a body which expresses itself in terms of inertia with regard to changes in its state of motion as well as its attraction to other bodies	kg	
4-2	mass density, density	ρ	scalar quantity describing the distribution of mass with respect to volume equal to the quotient of the mass dm (item 4-1) contained in an infinitesimal spherical 3D domain with centre in point with position vector $\boldsymbol{r}$ by the volume dV (ISO 80000-3:2006, item 3-4) of this domain: $\rho(\boldsymbol{r}) = \mathrm{d}m/\mathrm{d}V$	$\mathrm{m}^{-3}\,\mathrm{kg}$	
4-3	specific volume	v	reciprocal of mass density $v = 1/\rho$ where ρ is mass density (item 4-2)	$\mathrm{m}^{3}\,\mathrm{kg}^{-1}$	
4-4	relative mass density, relative density	d	quotient of mass density of a substance and mass density of a reference substance under conditions that should be specified for both substances $d = \rho/\rho_0$ where ρ is the mass density (item 4-2) of a substance and ρ_0 is the mass density (item 4-2) of a reference substance	1	