Australian Standard®

QUANTITIES, UNITS, AND SYMBOLS

Part 2—QUANTITIES AND UNITS OF PERIODIC AND RELATED PHENOMENA

This Australian standard was prepared by Committee MS/10, Quantities, Units and Conversions. It was approved on behalf of the Council of the Standards Association of Australia on 27 February 1986 and published on 7 April 1986.

The following interests are represented on Committee MS/10:

Australian Institute of Physics

Bureau of Steel Manufacturers of Australia

CSIRO, Division of Applied Physics

Department of Defence

Department of Science

Electricity Commission of New South Wales

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Part 2—QUANTITIES AND UNITS OF PERIODIC AND RELATED PHENOMENA

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PREFACE

This standard was prepared by the Association's Committee on Quantities, Units and Conversions. It is identical with and has been reproduced from International Standard ISO 31/2, Quantities and Units of Periodic and Related Phenomena.

This standard is one of a series of 14 standards on quantities, units and symbols, and, where appropriate, conversion factors. The other standards in the series are as follows:

AS 2900.0 Quantities, Units, and Symbols, Part 0—General Principles Concerning Quantities, Units, and Symbols

AS 2900.1 Quantities, Units, and Symbols, Part 1—Quantities and Units of Space and Time

AS 2900.3 Quantities, Units, and Symbols, Part 3—Quantities and Units of Mechanics

AS 2900.4 Quantities, Units, and Symbols, Part 4—Quantities and Units of Heat

AS 2900.5 Quantities, Units, and Symbols, Part 5—Quantities and Units of Electricity and Magnetism

AS 2900.6 Quantities, Units, and Symbols, Part 6—Quantities and Units of Light and Related Electromagnetic Radiations

AS 2900.7 Quantities, Units, and Symbols, Part 7—Quantities and Units of Acoustics

AS 2900.8 Quantities, Units, and Symbols, Part 8—Quantities and Units of Physical Chemistry and Molecular Physics

AS 2900.9 Quantities, Units, and Symbols, Part 9—Quantities and Units of Atomic and Nuclear Physics

AS 2900.10 Quantities, Units, and Symbols, Part 10—Quantities and Units of Nuclear Reactions and Ionizing Radiations

AS 2900.11 Quantities, Units, and Symbols, Part 11—Mathematical Signs and Symbols for Use in the Physical Sciences and Technology

AS 2900.12 Quantities, Units, and Symbols, Part 12—Dimensionless Parameters

AS 2900.13 Quantities, Units, and Symbols, Part 13—Quantities and Units of Solid State Physics

For the purpose of this Australian Standard, the text of the ISO standard used herein should be modified as follows:

(a) *Decimal sign:* A dot on the line should replace the comma wherever it appears as a decimal sign.

(b) *Cross-references:* The references to International Standards should be replaced by references to Australian Standards as follows:

Reference to International Standard	*Appropriate Australian Standard*
ISO 31, Part 0: General principles concerning quantities, units and symbols	AS 2900.0, Quantities, Units, and Symbols, Part 0—General Principles Concerning Quantities, Units, and Symbols
ISO 31, Part 1: Quantities and units of space and time	AS 2900.1, Quantities, Units, and Symbols, Part 1—Quantities and Units of Space and Time
ISO 31, Part 2: Quantities and units of periodic and related phenomena	AS 2900.2, Quantities, Units, and Symbols, Part 2—Quantities and Units of Periodic and Related Phenomena
ISO 31, Part 3: Quantities and units of mechanics	AS 2900.3, Quantities, Units, and Symbols, Part 3—Quantities and Units of Mechanics
ISO 31, Part 4: Quantities and units of heat	AS 2900.4, Quantities, Units, and Symbols, Part 4—Quantities and Units of Heat
ISO 31, Part 5: Quantities and units of electricity and magnetism	AS 2900.5, Quantities, Units, and Symbols, Part 5—Quantities and Units of Electricity and Magnetism

ISO 31, Part 6: Quantities and units of light and related electromagnetic radiations	AS 2900.6, Quantities, Units, and Symbols, Part 6—Quantities and Units of Light and Related Electromagnetic Radiations
ISO 31, Part 7: Quantities and units of acoustics	AS 2900.7, Quantities, Units, and Symbols, Part 7—Quantities and Units of Acoustics
ISO 31, Part 8: Quantities and units of physical chemistry and molecular physics	AS 2900.8, Quantities, Units, and Symbols, Part 8—Quantities and Units of Physical Chemistry and Molecular Physics
ISO 31, Part 9: Quantities and units of atomic and nuclear physics	AS 2900.9, Quantities, Units, and Symbols, Part 9—Quantities and Units of Atomic and Nuclear Physics
ISO 31, Part 10: Quantities and units of nuclear reactions and ionizing radiations	AS 2900.10, Quantities, Units, and Symbols, Part 10—Quantities and Units of Nuclear Reactions and Ionizing Radiations
ISO 31, Part 11: Mathematical signs and symbols for use in physical sciences and technology	AS 2900.11, Quantities, Units, and Symbols, Part 11—Mathematical Signs and Symbols for use in the Physical Sciences and Technology
ISO 31, Part 12: Dimensionless parameters	AS 2900.12, Quantities, Units, and Symbols, Part 12—Dimensionless Parameters
ISO 31, Part 13: Quantities and units of solid state physics	AS 2900.13, Quantities, Units, and Symbols, Part 13—Quantities and Units of Solid State Physics

The reference to IEC Publication 27-1(1971) should be replaced by a reference to AS 1046, Letter Symbols for Use in Electrotechnology, Part 1—General.

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QUANTITIES, UNITS, AND SYMBOLS

PART 2—QUANTITIES AND UNITS OF PERIODIC AND RELATED PHENOMENA

INTRODUCTION

This document, containing a table of *quantities and units of periodic and related phenomena,* is part II of ISO 31, which deals with quantities and units in the various fields of science and technology. The complete list of parts of ISO 31 is as follows:

Part 0: *General introduction — General principles concerning quantities, units and symbols.*

Part I: *Quantities and units of space and time.*

Part II: *Quantities and units of periodic and related phenomena.*

Part III: *Quantities and units of mechanics*

Part IV: *Quantities and units of heat*

Part V: *Quantities and units of electricity and magnetism.*

Part VI: *Quantities and units of light and related electromagnetic radiations*

Part VII: *Quantities and units of acoustics.*

Part VIII: *Quantities and units of physical chemistry and molecular physics*

Part IX: *Quantities and units of atomic and nuclear physics.*

Part X: *Quantities and units of nuclear reactions and ionizing radiations.*

Part XI: *Mathematical signs and symbols for use in the physical sciences and technology.*

Part XII: *Dimensionless parameters*

Part XIII: *Quantities and units of solid state physics.*

Arrangement of the tables

The tables of quantities and units in ISO 31 are arranged so that the quantities are presented on left-hand pages and the units on corresponding right-hand pages.

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

Where the numbering of the items has been changed in the revision of a part of ISO 31, the number in the preceding edition is shown in parentheses 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.

Tables of quantities

The most important quantities within the field of this document are given together with their symbols and, in most cases, definitions. These definitions are given merely for identification; they are not intended to be complete.

The vectorial character of some quantities is pointed out, especially when this is needed for the definitions, but no attempt is made to be complete or consistent.

In most cases only one symbol for the quantity is given[1]; where two or more symbols are given for one quantity and no special distinction is made, they are on an equal footing.

Tables of units

Units for the corresponding quantities are given together with the international symbols and the definitions. For further information, see also part 0.

The units are arranged in the following way:

1) The names of the SI units are given in large print (larger than text size). The SI units and their decimal multiples and sub-multiples formed by means of the SI prefixes are particularly recommended. The decimal multiples and sub-multiples are not explicitly mentioned.

2) The names of non-SI units which may be used together with SI units because of their practical importance or because of their use in specialized fields are given in normal print (text size).

(1) When two types of sloping letters exist (for example as with ϑ, θ; φ, ϕ; and g, g) only one of these is given; this does not mean that the other is not equally acceptable.