SRI LANKA STANDARD 83:1975
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SI UNITS AND RECOMMENDATIONS FOR USE OF THEIR MULTIPLES AND OF CERTAIN OTHER UNITS (FIRST REVISION)

BUREAU OF CEYLON STANDARDS

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Sri Lanka Standards are subject to periodical revision in order to accommodate the progress made by industry. Suggestions for improvement will be recorded and brought to the notice of the Committees to which the revisions are entrusted.

This Standard does not purport to include all the necessary provisions of a contract.

SRI LANKA STANDARD
FOR
SI UNITS AND RECOMMENDATIONS FOR THE USE OF THEIR MULTIPLES AND OF CERTAIN OTHER UNITS
(FIRST REVISION)

FOREWORD

This Sri Lanka Standard was prepared by the Metric Divisional Committee and was authorized for adoption and publication by the Council of the Bureau on 1975-09-03.

This Sri Lanka Standard is based on the ISO 1000-1973(E) and supersedes CS 83:1969 Rules for the use of units of the International System of Units and a selection of the decimal multiples and sub-multiples of the SI Units.

The SI (International System of Units) is the system of metric units which has been adopted by the international metric authority, the General Conference on Weights and Measures (CGPM). It was formulated by that body in 1960. The International Organization for Standardization (ISO), the International Electrotechnical Commission (IEC) and the International Organization for Legal Metrology (ILOM) have adopted the system for the expression of international recommendations and its use is rapidly increasing in countries using the metric system.

The *Guide to the use of the International System of Units** which is complementary to this standard gives further details of the system.

1 SCOPE

This Sri Lanka Standard consists of two parts. In the first part (sections 2 and 3), the International System of Units is described. In the second part (sections 4 and 5, and the Annex), selected decimal multiples and sub-multiples of the SI units are recommended for general use, and certain other units are given which may be used with the International System of Units.

2 SI UNITS

2.1 The name *Systéme International d'Unités* (International System of Units), with the abbreviation SI, was adopted by the 11th Conference General *des Poids et Mesures* in 1960.

This system includes three classes of units:

a) base units;

b) supplementary units; and

c) derived units,

which together form the coherent system of SI units.

2.2 Base units

The International System of Units is founded on the seven base units listed in Table 1.

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* *Guide to the use of the International System of Units - Bureau of Ceylon Standards:1970.*

TABLE 1

QUANTITY	Name of base SI unit	Symbol
length	metre	m
mass	kilogram	kg
time	second	s
electric current	ampere	A
thermodynamic temperature	kelvin	K
amount of substance	mole	mol
luminous intensity	candela	cd

For the definitions of the base units and the supplementary units, see the Appendix.

2.3 Supplementary units

The *Conférence Générale des Poids et* Mesures has not classified certain units of the International System under either base units or derived units.

These units, listed in Tabel 2, are called *supplementary units* and may be regarded either as base units or as derived units.

TABLE 2

Quantity	Name of supplementary SI unit	Symbol
plane angle	radian	rad
solid angle	steradian	sr

2.4 Derived units

Derived units are expressed algebraically in terms of base units and/or supplementary units. Their symbols are obtained by means of the mathematical signs of multiplication and division; for example, the SI unit for velocity is metre per second (m/s) and the SI unit for angular velocity is radian per second (rad/s).

For some of the derived SI units, special names and symbols exist; those approved by the Conference *Generale des Poids et* Mesures are listed in Table 3.

It may sometimes be advantageous to express derived units in terms of other derived units having special names; for example, the SI unit for electric dipole moment is usually expressed as C-m instead of A s m.

3 MULTIPLES OF SI UNITS

The prefixes given in Table 4 (SI prefixes) are used to form names and symbols of multiples (decimal multiples and sub-multiples) of the SI units.

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TABLE 3

Quantity	Name of derived SI unit	Symbol	Expressed in terms of base of supplementary SI units or in terms of other derived SI units
frequency	hertz	Hz	1 Hz = 1 s^{-1}
force	newton	N	1 N = 1 kg m/s^2
pressure, stress	pascal	Pa	1 Pa = 1 N/m^2
energy, work quantity of heat	joule	J	1 J = 1 N m
power	watt	W	1 W = 1 J/s
electric charge quantity of electricity	coulomb	C	1 C = 1 A s
electric potential, tension, electromotive force	volt	V	1 V = 1 J/C
electric capacitance	farad	F	1 F = 1 C/V
electric resistance	ohm	Ω	1 Ω = 1 V/A
electric conductance	siemens	S	1 S = 1 Ω^{-1}
flux of magnetic induction, magnetic flux	weber	Wb	1 Wb = 1 V s
magnetic flux density, magnetic induction	tesla	T	1 T = 1 Wb/m^2
inductance	henry	H	1 H = 1 Wb/A
luminous flux	lumen	lm	1 lm = 1 cd sr
illuminance	lux	lx	1 lx = 1 lm/m^2
activity	becquerel	Bq	1 Bq = 1 s^{-1}
absorbed dose	grey	Gy	1 Gy = 1 J/kg

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The symbol of a prefix is considered to be combined with the unit symbol* to which it is directly attached, forming with it the symbol for a new unit which can be provided with a positive or negative exponent and which can be combined with other unit symbols to form symbols for compound units.

Examples

$1\ cm^3 = (10^{-2} m)^3 = 10^{-6} m^3$

$1\ \mu s^{-1} = (10^{-6} s)^{-1} = 10^6 s^{-1}$

$1\ mm^2/s = (10^{-3} m)^2/s = 10^{-6} m^2/s$

Compound prefixes should not be used; for example, write nm (nanometre) instead of mµm.

NOTE - Because the name of the base unit, kilogram, for mass contains the name of the SI prefix "kilo", the names of the decimal multiples and sub-multiples of the unit of mass are formed by adding the prefixes to the word "gram", for example, milligram (mg) instead of microkilogram (µkg).

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* *In this case, the term "unit symbol" means only a symbol for a base unit, a derived unit with a special name or a supplementary unit: see, however, the note about the base unit kilogram.*

TABLE 4

Factor by which the unit is multiplied	Prefix	
	Name	Symbol
10^{18}	exa	E
10^{15}	peta	P
10^{12}	tera	T
10^{9}	giga	G
10^{6}	mega	M
10^{3}	kilo	k
10^{2}	hecto	h
10	deca	da
10^{-1}	deci	d
10^{-2}	centi	c
10^{-3}	milli	m
10^{-6}	micro	μ
10^{-9}	nano	n
10^{-12}	pico	p
10^{-15}	femto	f
10^{-18}	atto	a

4 USE OF THE SI UNITS AND THEIR MULTIPLES

4.1 The choice of the appropriate multiple (decimal multiple or sub-multiple) of an SI unit is governed by convenience, the multiple chosen for a particular application being the one which will lead to numerical values within a practical range.

4.2 The multiple can usually be chosen so that the numerical values will be between 0.1 and 1 000.

Examples :

1.2×10^{4} N	can be written as	12 kN
0.003 94 m	can be written as	3.94 mm
1 401 Pa	can be written as	1.401 kPa
3.1×10^{-8} s	can be written as	31 ns

However, in a table of values for the same quantity or in a discussion of such values within a given context, it will generally be better to use the same multiple for all items, even when some of the numerical values will be outside the range 0.1 to 1 000. For certain quantities in particular applications, the same multiple is customarily used; for example, the millimetre is used for dimensions in most mechanical engineering drawings.

4.3 It is recommended that only one prefix be used in forming a multiple of a compound SI units.

4.4 Errors in calculations can be avoided more easily if all quantities are expressed in SI units, prefixes being replaced by powers of 10.

4.5 Rules for writing unit symbols :

4.5.1 Unit symbols should be printed in roman (upright) type (irrespective of the type used in the rest of the text), should remain unaltered in the plural, should be written without a final full stop (period) and should be placed after the complete numerical value in the expression for a quantity, leaving a space between the numerical value and the unit symbol.

Unit symbols should be written in lower-case letters except that the first letter is written in upper case when the name of the unit is derived from a proper name.

Examples :

m	metre
s	second
A	ampere
Wb	weber

4.5.2 When a compound unit is formed by multiplication of two or more units, this may be indicated in one of the following ways :

N.m N.m N m

NOTE - When using a unit symbol which coincides with the symbol for a prefix, special care should be taken to avoid confusion. The unit newton metre for torque should be written, for example, N m or m.N to avoid confusion with mN, the millinewton.

When a compound unit is formed by dividing one unit by another, this may be indicated in one of the following ways :

$\frac{m}{s}$ or m/s or by writing the product of m and s^{-1}, for example, $m.s^{-1}$.

In no case should more than one solidus (as in m/s) on the same line be included in such a combination unless parentheses be inserted to avoid all ambiguity. In complicated cases, negative powers or parentheses should be used.

5 NON SI UNITS WHICH MAY BE USED TOGETHER WITH THE SI UNITS AND THEIR MULTIPLES

5.1 There are certain units outside the SI which are nevertheless recognized by the *Comite International des Poids et Mesures* (CIPM) as having to be retained either because of their practical importance (Table 5) or because of their use in specialized fields (Table 6).

5.2 Prefixes given in Table 4 may be attached to many of the units given in Tables 5 and 6; for example, millilitre, ml; megaelectronvolt, MeV. See also the Annex, Column 6.

5.3 In a limited number of cases, compound units are formed with the units given in Tables 5 and 6 together with SI units and their multiples; for example, kg/h; km/h. See also the Annex, Columns 5 and 6.

TABLE 5

Quantity	Name of unit	Unit symbol	Definition
time	minute hour day	min h d	1 min = 60 s 1 h = 60 min 1 d = 24 h
plane angle	degree minute second	$^{\circ}$ ' "	$1^{\circ} = (\pi/180)$ rad $1' = (1/60)^{\circ}$ $1'' = (1/60)'$
volume	litre	l	$1 l = 1\ dm^3$
mass	tonne	t	$1 t = 10^3$ kg

TABLE 6

Quantity	Name of unit	Unit symbol	Definition
energy	electronvolt	eV	1 electronvolt is the kinetic energy acquired by an electron in passing through a potential difference of 1 volt in vacuum: 1 eV=1.602 19x10^{-19} J (approximately)
mass of an atom	atomic mass unit	u	1 (unified) atomic mass unit is equal to the fraction 1/12 of the mass of an atom of the nuclide ^{12}C; 1 u=1.660 53x10^{-27} kg (approximately)
length	astronomic unit	AU*	1 AU = 149 600 x 10^6m (System of astronomic constants, 1964)
	parsec	pc	1 parsec is the distance at which 1 astronomic unit subtends an angle of 1 second of arc; 1 pc = 206 265 AU = 30 857 x 10^{12} m (approximately)

**This unit has no international symbol: AU is the abbreviation of the English name; the abbreviation of the French name is UA.*

ANNEX

EXAMPLES OF DECIMAL MULTIPLES AND SUB-MULTIPLES OF SI UNITS AND OF SOME OTHER UNITS WHICH MAY BE USED

For a number of commonly used quantities, examples of decimal multiples and sub-multiples of SI units, as well as of some other units which may be used, are given in this Annex. It is suggested that the selection shown, while not intended to be restrictive, will none the less prove helpful in presenting values of quantities in an identical manner in similar contexts within the various sectors of technology. For some needs (for example, in applications in science and education) it is recognized that greater freedom will be required in the choice of decimal multiples and sub-multiples of SI units than is exemplified in the list which follows.

NOTE - Factors for conversion to SI units from the other units listed are given in relevant parts of ISO/R 31.

Item No.	Quantity	SI unit	Selection of multiples of the SI unit	Units outside the SI which are nevertheless recognized by the CIPM as having to be retained either because of their practical importance or because of their use in specialized fields		Remarks, and information about units used in special fields
				Units	Multiples of units given in Column 5	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
PART 1 : SPACE AND TIME						
1.1	plane angle	rad (radian)	mrad µrad	° (degree) ' (minute) " (second)		The units degree and grade (or gon), with their decimal subdivisions, are recommended for use when the unit radian is not suitable. grade (^{g}) or gon, $1^g = 1$ gon $= \frac{\pi}{200}$ rad
1.2	solid angle	sr (steradian)				
1.3	length	m (metre)	km cm mm µm nm			1 international nautical mile = 1 852 m

Item No.	Quantity	SI unit	Selection of multiples of the SI unit	Units outside the SI which are nevertheless recognized by the CIPM as having to be retained either because of their practical importance or because of their use in specialized fields		Remarks, and information about units used in special fields
				Units	Multiples of units given in Column 5	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.4	area	m^2	km^2 dm^2 cm^2 mm^2			ha (hectare), 1 ha = 10^4 m^2 a (are), 1 a = $10^2 m^2$
1.5	volume	m^3	dm^3 cm^3 mm^3	l (litre)	hl 1 hl=10^{-1} m^3 cl 1 cl=10^{-5} m^3 ml 1 ml=10^{-6} m^3 =1 cm^3	In 1964, the Conference Generale des Poids et Mesures declared that the name litre (l) may be used as a special name for the cubic decimetre (dm^3). However, it advised against the use of the name litre for high-precision measurements.
1.6	time	s (second)	ks ms µs ns	d (day) h (hour) min (minute)		Other units such as week, month and year (a) are in common use.
1.7	angular velocity	rad/s				
1.8	velocity	m/s			km/h 1 km/h=$\frac{1}{3.6}$m/s	1 knot=0.514 444 m/s
1.9	acceleration	m/s^2				

Item No.	Quantity	SI unit	Selection of multiples of the SI unit	Units outside the SI which are nevertheless recognized by the CIPM as having to be retained either because of their practical importance or because of their use in specialized fields		Remarks, and information about units used in special fields
				Units	Multiples of units given in Column 5	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
PART 2 : PERIODIC AND RELATED PHENOMENA						
2.1	frequency	Hz (hertz)	THz GHz MHz kHz			
2.2	rotational frequency	s^{-1}		min^{-1}		The designations revolution per minute (r/min) and revolution per second (r/s) are widely used in specifications on rotating machinery.
PART 3 : MECHANICS						
3.1	mass	kg (kilogram)	Mg g mg µg	t (tonne)		
3.2	linear density	kg/m	mg/m			1 tex = 10^{-6} kg/m The tex is used in the textile industry.
3.3	density (mass density)	kg/m^3	Mg/m^3 or kg/dm^3 or g/cm^3	t/m^3 or kg/l	g/ml g/l	For litre, see 1.5.
3.4	momentum	kg m/s				

Item No.	Quantity	SI unit	Selection of multiples of the SI unit	Units outside the SI which are nevertheless recognized by the CIPM as having to be retained either because of their practical importance or because of their use in specialized fields		Remarks, and information about units used in special fields
				Units	Multiples of units given in Column 5	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
3.5	moment of momentum, angular momentum	kg m^2/s				
3.6	moment of inertia	kg m^2				
3.7	force	N (newton)	MN kN mN µN			
3.8	moment of force	N m	MN m kN m mN m µN m			
3.9	pressure	Pa (pascal)	GPa MPa kPa mPa µPa	bar*	mbar µbar	1 bar = 10^5 Pa
3.10	stress	Pa or N/m^2	GPa MPa or N/mm^2 kPa			

**The use of the unit 'bar' is permitted only to measure atmospheric pressure in metereology.*

Item No.	Quantity	SI unit	Selection of multiples of the SI unit	Units outside the SI which are nevertheless recognized by the CIPM as having to be retained either because of their practical importance or because of their use in specialized fields		Remarks, and information about units used in special fields
				Units	Multiples of units given in Column 5	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
3.11	viscosity (dynamic)	Pa s	mPa s			P (poise)* 1 cP = 1 mPa.s
3.12	kinematic viscosity	m^2/s	mm^2/s			St (stokes)* 1 cSt = 1 mm^2/s
3.13	surface tension	N/m	mN/m			
3.14	energy, work	J (joule)	TJ GJ MJ kJ mJ	eV (electronvolt)	GeV MeV keV	The units W.h, kW.h, MW.h, GW.h and TW.h are used in the field of consumption of electrical energy. The units keV, MeV and GeV are used in atomic and nuclear physics and in accelerator technology.
3.15	power	W (watt)	GW MW kW mW μW			
PART 4 : HEAT						
4.1	thermodynamic temperature	K (kelvin)				

Belongs to the CGS system : ought not to be used together with SI units.

Item No.	Quantity	SI unit	Selection of multiples of the SI unit	Units outside the SI which are nevertheless recognized by the CIPM as having to be retained either because of their practical importance or because of their use in specialized fields: Units	Multiples of units given in Column 5	Remarks, and information about units used in special fields
(1)	(2)	(3)	(4)	(5)	(6)	(7)
4.2	Celsius temperature	^0C (degree Celsius)*				The Celsius temperature t is equal to the difference $t = T - T_o$ between two thermodynamic temperatures T and T_o, where T_o = 273,15K
4.3	temperature interval	K				For temperature interval, ^0C may be used instead of K.
4.4	linear expansion coefficient	K^{-1}				For degree Celsius, see footnote.
4.5	heat, quantity of heat	J	TJ GJ MJ kJ mJ			
4.6	heat flow rate	W	kW			
4.7	thermal conductivity	W/(m K)				For degree Celsius, see footnote
4.8	coefficient of heat transfer	$W/(m^2K)$				For degree Celsius, see footnote

**For the definition and the use of degree Celsius (^OC), see Note 2 under the definition of kelvin in the Appendix.*

Item No.	Quantity	SI unit	Selection of multiples of the SI unit	Units outside the SI which are nevertheless recognized by the CIPM as having to be retained either because of their practical importance or because of their use in specialized fields: Units	Multiples of units given in Column 5	Remarks, and information about units used in special fields
(1)	(2)	(3)	(4)	(5)	(6)	(7)
4.9	heat capacity	J/K	kJ/K			For degree Celsius see footnote, page 20
4.10	specific heat capacity	J/(kg K)	kJ/(kg K)			For degree Celsius see footnote, page 20
4.11	entropy	J/K	kJ/K			
4.12	specific entropy	J/(kg K)	kJ/(kg.K)			
4.13	specific energy	J/kg	MJ/kg kJ/kg			
4.14	specific latent heat	J/kg	MJ/kg kJ/kg			
PART 5 : ELECTRICITY AND MAGNETISM						
5.1	electric current	A (ampere)	kA mA µA nA pA			
5.2	electric charge, quantity of electricity	C (coulomb)	kC µC nC pC			1 A h = 3.6 kC

Item No.	Quantity	SI unit	Selection of multiples of the SI unit	Units outside the SI which are nevertheless recognized by the CIPM as having to be retained either because of their practical importance or because of their use in specialized fields		Remarks, and information about units used in special fields
				Units	Multiples of units given in Column 5	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
5.3	volume density of charge, charge density	C/m^3	C/mm^3 MC/m^3 or C/cm^3 kC/m^3 mC/m^3 $\mu C/m^3$			
5.4	surface density of charge	C/m^2	MC/m^2 or C/mm^2 C/cm^2 kC/m^2 mC/m^2 $\mu C/m^2$			
5.5	electric field strength	V/m	MV/m kV/m or V/mm V/cm mV/m µV/m			
5.6	electric potential, potential difference (tension), electromotive force	V (volt)	MV kV mV µV			
5.7	displacement	C/m^2	C/cm^2 kC/m^2 mC/m^2 $\mu C/m^2$			

Item No.	Quantity	SI unit	Selection of multiples of the SI unit	Units outside the SI which are nevertheless recognized by the CIPM as having to be retained either because of their practical importance or because of their use in specialized fields		Remarks, and information about units used in special fields
				Units	Multiples of units given in Column 5	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
5.8	electric flux, flux of displacement	C	MC kC mC			
5.9	capacitance	F (farad)	mF μF nF pF			
5.10	permittivity	F/m	μF/m nF/m pF/m			
5.11	electric polarization	C/m^2	C/cm^2 kC/m^2 mC/m^2 $\mu C/m^2$			
5.12	electric dipole moment	C m				
5.13	current density	A/m^2	MA/m^2 or A/mm^2 A/cm^2 kA/m^2			
5.14	linear current density	A/m	kA/m or A/mm A/cm			
5.15	magnetic field strength	A/m	kA/m or A/mm A/cm			

Item No.	Quantity	SI unit	Selection of multiples of the SI unit	Units outside the SI which are nevertheless recognized by the CIPM as having to be retained either because of their practical importance or because of their use in specialized fields		Remarks, and information about units used in special fields
				Units	Multiples of units given in Column 5	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
5.16	magnetic potential difference	A	kA mA			
5.17	magnetic flux density, magnetic induction	T (tesla)	mT μT nT			
5.18	magnetic flux (flux of magnetic induction)	Wb (weber)	mWb			
5.19	magnetic vector potential	Wb/m	kWb/m or Wb/mm			
5.20	self inductance, mutual inductance	H (henry)	mH μH nH pH			
5.21	permeability	H/m	μH/m nH/m			
5.22	electromagnetic moment, magnetic moment	$A\ m^2$				

Item No.	Quantity	SI unit	Selection of multiples of the SI unit	Units outside the SI which are nevertheless recognized by the CIPM as having to be retained either because of their practical importance or because of their use in specialized fields: Units	Multiples of units given in Column 5	Remarks, and information about units used in special fields
(1)	(2)	(3)	(4)	(5)	(6)	(7)
5.23	magnetization	A/m	kA/m or A/mm			
5.24	magnetic polarization	T	mT			
5.25	magnetic dipole moment	N m^2/A or Wb m				
5.26	resistance	Ω (ohm)	GΩ MΩ kΩ mΩ μΩ			
5.27	conductance	S (siemens)	kS mS μS			
5.28	resistivity	Ω m	GΩ m MΩ m kΩ m Ω cm mΩ m μΩ m nΩ m			μΩ cm = 10^{-8} Ω·m $\frac{\Omega\ mm^2}{m} = 10^{-6}$ Ω·m = μΩ·m are also used.
5.29	conductivity	S/m	MS/m kS/m			

Item No.	Quantity	SI unit	Selection of multiples of the SI unit	Units outside the SI which are nevertheless recognized by the CIPM as having to be retained either because of their practical importance or because of their use in specialized fields		Remarks, and information about units used in special fields
				Units	Multiples of units given in Column 5	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
5.30	reluctance	H^{-1}				
5.31	permeance	H				
5.32	impedance, modulus of impedance, reactance, resistance	Ω	MΩ kΩ mΩ			
5.33	admittance, modulus of admittance, susceptance, conductance	S	kS mS µS			
5.34	active power	W	TW GW MW kW mW µW nW			In electric power technology, "apparent power" is expressed in volt-amperes (VA) and "reactive power" is expressed in vars (var).
PART 6 : LIGHT AND RELATED ELECTROMAGNETIC RADIATIONS						
6.1	wavelength	m	nm pm			Å (angstrom). 1 Å = 10^{-10} m = 0.1 nm = 10^{-4} µm
6.2	radiant energy	J				

Item No.	Quantity	SI unit	Selection of multiples of the SI unit	Units outside the SI which are nevertheless recognized by the CIPM as having to be retained either because of their practical importance or because of their use in specialised fields		Remarks, and information about units used in special fields
				Units	Multiples of units given in Column 5	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
6.3	radiant flux, radiant power	W				
6.4	radiant intensity	W/sr				
6.5	radiance	$W/(sr\ m^2)$				
6.6	radiant exitance	W/m^2				
6.7	irradiance	W/m^2				
6.8	luminous intensity	cd (candela)				
6.9	luminous flux	lm (lumen)				
6.10	quantity of light	lm s				1 lm h = 3600 lm s
6.11	luminance	cd/m^2				
6.12	luminous exitance	lm/m^2				
6.13	illuminance	lx (lux)				
6.14	light exposure	lx s				
6.15	luminous efficacy	lm/W				

Item No.	Quantity	SI unit	Selection of multiples of the SI unit	Units outside the SI which are nevertheless recognized by the CIPM as having to be retained either because of their practical importance or because of their use in specialized fields		Remarks, and information about units used in special fields
				Units	Multiples of units given in Column 5	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
PART 7 : ACOUSTICS						
7.1	period, periodic time	s	ms µs			
7.2	frequency	Hz	MHz kHz			
7.3	wavelength	m	mm			
7.4	density (mass density)	kg/m³				
7.5	static pressure, (instantaneous) sound pressure	Pa	mPa µPa			
7.6	(instantaneous) sound particle velocity	m/s	mm/s			
7.7	(instantaneous) volume velocity	m³/s				
7.8	velocity of sound	m/s				
7.9	sound energy flux, sound power	W	kW mW µW pW			

Item No.	Quantity	SI unit	Selection of multiples of the SI unit	Units outside the SI which are nevertheless recognized by the CIPM as having to be retained either because of their practical importance or because of their use in specialized fields		Remarks, and information about units used in special fields
				Units	Multiples of units given in Column 5	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
7.10	sound intensity	W/m^2	mW/m^2 $\mu W/m^2$ pW/m^2			
7.11	specific acoustic impedance	Pa s/m				
7.12	acoustic impedance	Pa s/m^3				
7.13	mechanical impedance	N s/m				
7.14	sound power level					dB (decibel)
7.15	sound pressure level					dB
7.16	sound reduction index, sound transmission loss					dB
7.17	equivalent absorption area of a surface or object	m^2				
7.18	reverberation time	s				

Item No.	Quantity	SI unit	Selection of multiples of the SI unit	Units outside the SI which are nevertheless recognized by the CIPM as having to be retained either because of their practical importance or because of their use in specialized fields		Remarks, and information about units used in special fields
				Units	Multiples of units given in Column 5	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
PART 8 : PHYSICAL CHEMISTRY AND MOLECULAR PHYSICS						
8.1	amount of substance	mol (mole)	kmol mmol µmol			
8.2	molar mass	kg/mol	g/mol			
8.3	molar volume	m^3/mol	dm^3/mol cm^3/mol	l/mol		
8.4	molar internal energy	J/mol	kJ/mol			
8.5	molar heat capacity	J/(mol K)				
8.6	molar entropy	J/(mol K)				
8.7	concentration	mol/m^3	mol/dm^3 or $kmol/m^3$	mol/l		
8.8	molality	mol/kg	mmol/kg			
8.9	diffusion coefficient	m^2/s				
8.10	thermal diffusion coefficient	m^2/s				

APPENDIX

DEFINITIONS OF THE BASE UNITS AND SUPPLEMENTARY UNITS OF THE INTERNATIONAL SYSTEM OF UNITS

BASE UNITS

metre

The metre is the length equal to 1 650 763.73 wavelengths in vacuum of the radiation corresponding to the transition between the levels $2p_{10}$ and $5d_5$ of the krypton-86 atom.

(11th CGPM (1960), Resolution 6)

kilogram

The kilogram is the unit of mass; it is equal to the mass of the international prototype of the kilogram.

(1st CGPM (1889) and 3rd CGPM (1901))

second

The second is the duration of 9 192 631 770 periods of the radiation corresponding to the transition between the two hyperfine levels of the ground state of the caesium-133 atom.

(13th CGPM (1967), Resolution 1)

ampere

The ampere is that constant electric current which, if maintained in two straight parallel conductors of infinite length, of negligible circular cross-section, and placed 1 metre apart in vacuum, would produce between these conductors a force equal to 2×10^{-7} newton per metre of length.

(CIPM (1946), Resolution 2 approved by the 9th CGPM (1948))

kelvin

The kelvin, unit of thermodynamic temperature, is the fraction 1/ 273.16 of the thermodynamic temperature of the triple point of water.

(13th CGPM (1967), Resolution 4)

NOTES

1 The 13th CGPM (1967, Resolution 3) also decided that the unit kelvin and its symbol K should be used to express an interval or a difference of temperature.

2 In addition to the thermodynamic temperature (symbol T) expressed in kelvins, use is also made of Celsius temperature (symbol t) defined by the equation $t = T - T_0$ where $T_0 = 273, 15$ K by definition. The Celsius temperature is in general expressed in degrees Celsius (symbol $^{\circ}C$). The unit "degree Celsius" is thus equal to the unit "kelvin" and an interval or a difference of Celsius temperature may also be expressed in degrees Celsius.

mole

The mole is the amount of substance of a system which contains as many elementary entities as there are atoms in 0.012 kilogram of carbon 12. When the mole is used, the elementary entities must be specified and may be atoms, molecules, ions, electrons, other particles, or specified groups of such particles.

(14th CGPM (1971), Resolution 3).

candela

The candela is the luminous intensity, in the perpendicular direction, of a surface of 1/600 000 square metre of a black body at the temperature of freezing platinum under a pressure of 101 325 newtons per square metre.

(13th CGPM (1967), Resolution 5)

SUPPLEMENTARY UNITS

radian

The radian is the plane angle between two radii of a circle which cut off on the circumference an arc equal in length to the radius.

(ISO Recommendation R 31, part 1, second edition, December 1965)

steradian

The steradian is the solid angle which, having its vertex in the centre of a sphere, cuts off an area of the surface of the sphere equal to that of a square with sides of length equal to the radius of the sphere.

(ISO Recommendation R 31, part 1, second edition, December 1965)

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BUREAU OF CEYLON STANDARDS

The Bureau of Ceylon Standards (BCS) is the national standards organization of Sri Lanka and was established by the Hon. Minister of Industries & Fisheries, as provided for by the Bureau of Ceylon Standards Act. No. 38 of 1964.

The principal objects of the Bureau as set out in the Act are to promote standards in industry and commerce, prepare national Standards Specifications and Codes of Practice and operate a Standardization Marks Scheme and provide testing facilities, as the need arises.

The Bureau is financed by Government grants and the sale of its publications. Financial and administrative control is vested in a Council appointed in accordance with the provisions of the Act.

The detailed preparation of Standard Specifications is done by Drafting Committees composed of experts in each particular field assisted by permanent officers of the Bureau. These Committees are appointed by Divisional Committees, which are appointed by the Council. All members of the Drafting and Divisional Committees render their services in an honorary capacity. In preparing the Standard Specifications, the Bureau endeavours to ensure adequate representation of all view points.

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