

Annex I (Normative)

**Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)**

The table column titled “Level/Category” identifies the normative relevance of the unit:
 level 1 – normative = SI normative units, standard and commonly used multiples
 level 2 – normative equivalent = SI normative equivalent units (UK, US, etc.) and commonly used multiples
 level 3 – informative units omitted from this normative annex but found in the informative annexes, Annex II and Annex III

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
Space and Time						
angle (plane)		1	radian	rad	$m \times m^{-1} = 1$	C81
		1S	milliradian	mrad	10^{-3} rad	C25
		1S	microradian	μrad	10^{-6} rad	B97
	#	1	degree [unit of angle]		$1,745\,329 \times 10^{-2} \text{ rad}$	DD
	#	1	minute [unit of angle]	'	$2,908\,882 \times 10^{-4} \text{ rad}$	D61
	#	1	second [unit of angle]	"	$4,848\,137 \times 10^{-6} \text{ rad}$	D62
	D	2	grade		= gon	A91
		2	gon	gon	$1,570\,796 \times 10^{-2} \text{ rad}$	A91
solid angle		1	steradian	sr	$m^2 \times m^{-2} = 1$	D27
length,		1	metre	m	m	MTR
breadth		1M	decimetre	dm	10^{-1} m	DMT
height		1S	centimetre	cm	10^{-2} m	CMT
thickness,		1S	micrometre (micron)	μm	10^{-6} m	4H
radius,		1S	millimetre	mm	10^{-3} m	MMT
radius of curvature		1M	hectometre	hm	10^2 m	HMT
cartesian coordinates	X	1S	kilometre	km	10^3 m	KTM
diameter,	+	1S	kilometre	km	10^3 m	KMT
length of path		1S	nanometre	nm	10^{-9} m	C45
distance		1S	picometre	pm	10^{-12} m	C52

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		1S	femtometre	fm	10^{-15} m	A71
		1M	decametre	dam	10 m	A45
		1	nautical mile	n mile	1 852 m	NMI
		1	angstrom	Å	10^{-10} m	A11
		1	astronomical unit	AU	$1,495\,978\,70 \times 10^{11}$ m	A12
		1	parsec	pc	$3,085\,678 \times 10^{16}$ m	C63
		2	fathom	fth	1,828 8 m	AK
		2	chain	ch	20,116 8 m	X1
		2	inch	in	$25,4 \times 10^{-3}$ m	INH
		2	micro-inch	µin	$25,4 \times 10^{-9}$ m	M7
		2	foot	ft	0,304 8 m	FOT
		2	yard	yd	0,914 4 m	YRD
		2	mile (statute mile)	mile	1 609,344 m	SMI
		2	milli-inch	mil	$25,4 \times 10^{-6}$ m	77
		2	light year	l.y.	$9,460\,53 \times 10^{15}$ m	B57
area		1	square metre	m ²	m ²	MTK
		1S	square kilometre	km ²	10^3 m ²	KMK
		1	are	a	10^2 m ²	ARE
		1M	decare	daa	10^3 m ²	DAA
		1S	hectare	ha	10^4 m ²	HAR
		1S	square centimetre	cm ²	10^{-4} m ²	CMK
		1S	square decimetre	dm ²	10^{-2} m ²	DMK
		1S	square millimetre	mm ²	10^{-6} m ²	MMK
		2	square inch	in ²	$6,451\,6 \times 10^{-4}$ m ²	INK
		2	square foot	ft ²	$9,290\,304 \times 10^{-2}$ m ²	FTK
		2	square yard	yd ²	$8.361\,274 \times 10^{-1}$ m ²	YDK
		2	square mile	mile ²	2,589 988 km ²	MIK

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		2	acre	acre	4 046,856 m ²	ACR
volume		1	cubic metre	m ³	m ³	MTQ
		1M	mega litre	MI	10 ³ m ³	MAL
		1	litre	l	10 ⁻³ m ³	LTR
		1S	cubic millimetre	mm ³	10 ⁻³ m ³	MMQ
		1S	cubic centimetre	cm ³	10 ⁻² m ³	CMQ
		1S	cubic decimetre	dm ³	10 ⁻¹ m ³	DMQ
		1S	millilitre	ml	10 ⁻⁶ m ³	MLT
		1S	hectolitre	hl	0,1 m ³	HLT
		1S	centilitre	cl	10 ⁻⁵ m ³	CLT
		1M	decilitre	dl	10 ⁻⁴ m ³	DLT
		1M	microlitre	µl	10 ⁻⁹ m ³	4G
		1M	kilolitre	kl	m ³	K6
		1M	decalitre	dal	10 ⁻² m ³	A44
		2	standard cubic foot	std	4,672 m ³	5I
		2	cubic inch	in ³	16,387 064 x 10 ⁻⁶ m ³	INQ
		2	cubic foot	ft ³	2,831 685 x 10 ⁻² m ³	FTQ
		2	cubic yard	yd ³	0,764 555 m ³	YDQ
		2	gallon (UK)	gal (UK)	4,546 092 x 10 ⁻³ m ³	GLI
		2	gallon (US)	gal (US)	3,785 412 x 10 ⁻³ m ³	GLL
		2	pint (US)	pt (US)	4, 731 76 x 10 ⁻⁴ m ³	PT
		2	pint (UK)	pt (UK)	5, 682 61 x 10 ⁻⁴ m ³	PTI
		2	quart (UK)	qt (UK)	1,136 522 5 x 10 ⁻³ m ³	QTI
		2	liquid pint (US)	liq pt (US)	0,473 176 5 dm ³	PTL
		2	liquid quart (US)	liq qt (US)	0,946 353 dm ³	QTL
	2	dry pint (US)	dry pt (US)	5,506 105 x 10 ⁻⁴ m ³	PTD	
	2	fluid ounce (UK)	fl oz (UK)	2,841 306 x 10 ⁻⁵ m ³	OZI	

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		2	quart (US)	qt (US)	$0,946\ 352\ 9 \times 10^{-3} \text{ m}^3$	QT
		2	fluid ounce (US)	fl oz (US)	$2,957\ 353 \times 10^{-5} \text{ m}^3$	OZA
		2	bushel (UK)	bushel (UK)	$3,636\ 872 \times 10^{-2} \text{ m}^3$	BUI
		2	bushel (US)	bu (US)	$3,523\ 907 \times 10^{-2} \text{ m}^3$	BUA
	#	2	barrel (US)	barrel (US)	$158,987\ 3 \times 10^{-3} \text{ m}^3$	BLL
		2	dry barrel (US)	bbl (US)	$1,156\ 27 \times 10^{-1} \text{ m}^3$	BLD
		2	dry gallon (US)	dry gal (US)	$4,404\ 884 \times 10^{-3} \text{ m}^3$	GLD
		2	dry quart (US)	dry qt (US)	$1,101\ 221 \times 10^{-3} \text{ m}^3$	QTD
time	#	1	second [unit of time]	s	s	SEC
	#	1	minute [unit of time]	min	60 s	MIN
		1	hour	h	3 600 s	HUR
		1	day	d	86 400 s	DAY
		1S	kilosecond	ks	10^3 s	B52
		1S	millisecond	ms	10^{-3} s	C26
		1S	microsecond	µs	10^{-6} s	B98
		1S	nanosecond	ns	10^{-9} s	C47
		2	week	wk	604 800 s	WEE
		2	month	mo	2 629 746 s (approx)	MON
		2	year	a	$3,155\ 76 \times 10^7 \text{ s}$	ANN
		2	tropical year	atrop	$3,155\ 693 \times 10^7 \text{ s}$	D42
angular velocity		1	radian per second	rad/s	0,159 155 Hz/s	2A
angular acceleration		1	radian per second squared	rad/s ²	0,159 155 Hz/s ²	2B
velocity, phase velocity, group velocity		1	metre per second	m/s	m/s	MTS
		1S	kilometre per hour	km/h	0,277 778 m/s	KMH
		1S	millimetre per second	mm/s	10^{-3} m/s	C16
		1S	centimetre per second	cm/s	10^{-2} m/s	2M
		1M	metre per minute	m/min	0,016 666 m/s	2X

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	 X #	1	knot	kn	0,514 444 m/s	KNT
		2	foot per minute	ft/min	5,08 x 10 ⁻³ m/s	FR
		2	inch per second (vibration)	in/s		IU
		2	inch per second	in/s	0,025 4 m/s	IU
		2	foot per second	ft/s	0,304 8 m/s	FS
		2	mile per hour	mile/h	0,447 04 m/s	HM
acceleration,		1	metre per second squared	m/s ²	m/s ²	MSK
acceleration of free fall, acceleration due to gravity	 X #	1S	gal	Gal	10 ⁻² m/s ²	A76
		1M	milligal	mGal	10 ⁻⁵ m/s ²	C11
		2	foot per second squared	ft/s ²	0,304 8 m/s ²	A73
		2	inch per second squared (acceleration)	in/s ²	0,025 4 m/s ²	IV
		2	inch per second squared	in/s ²	0,025 4 m/s ²	IV
curvature		1	reciprocal metre	m ⁻¹	m ⁻¹	C92

Periodic and related phenomena						
frequency		1	hertz	Hz	Hz	HTZ
		1S	kilohertz	kHz	10 ³ Hz	KHZ
		1S	megahertz	MHz	10 ⁶ Hz	MHZ
		1S	terahertz	THz	10 ¹² Hz	D29
		1S	gigahertz	GHz	10 ⁹ Hz	A86
rotational frequency	 	1	reciprocal second	s ⁻¹	s ⁻¹	C97
		1	revolutions per second	r/s	1,047 198 rad/s	RPS
		1	revolutions per minute	r/min	1,047 198 rad/(60 x s)	RPM
		1S	reciprocal minute	min ⁻¹	60 s ⁻¹	C94
angular frequency, pulsatance	 	1	radian per second	rad/s	0,159 155 Hz/s	2A
		1	reciprocal second	s ⁻¹	s ⁻¹	C97

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wavelength		1	metre	m	m	MTR
		1	angstrom	Å	10 ⁻¹⁰ m	A11
wave number, attenuation coefficient, phase coefficient, propagation coefficient, repetency		1	reciprocal metre	m ⁻¹	m ⁻¹	C92
level of a field quantity, level of a power quantity		1	neper	Np	Np	C50
		1	decibel	dB	0,115 129 3 Np	2N
damping coefficient		1	reciprocal second	s ⁻¹	s ⁻¹	C97
		1	neper per second	Np/s	Np/s	C51
logarithmic decrement		1	neper	Np	Np	C50

Mechanics						
mass		1S	microgram	µg	10 ⁻⁹ kg	MC
		1M	decagram	dag	10 ⁻² kg	DJ
		1M	decigram	dg	10 ⁻⁴ kg	DG
		1	Kilogram A unit of mass equal to one thousand grams.	kg	kg	KGM
		1S	gram	g	10 ⁻³ kg	GRM
		1M	centigram	cg	10 ⁻⁵ kg	CGM
		1S	tonne (metric ton)	t	10 ³ kg	TNE
		1M	decitonne	dt or dtn	10 ² kg	DTN
		1S	milligram	mg	10 ⁻⁶ kg	MGM
		1M	hectogram	hg	10 ² g	HGM
		1M	kilotonne	kt	10 ⁶ kg	KTN
		1S	megagram	Mg	10 ³ kg	2U
		2	pound	lb	0,453 592 37 kg	LBR
2	grain	gr	64,798 91 x 10 ⁻⁶ kg	GRN		

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		2	ounce	oz	2,834 952 x 10 ⁻² kg	ONZ
		2	hundred weight (UK)	cwt (UK)	50,802 35 kg	CWI
	#	2	hundred pounds (cwt) / hundred weight (US)	cwt (US)	45,359 2 kg	CWA
		2	ton (UK) or long ton (US)	ton (UK)	1,016 047 x 10 ³ kg	LTN
		2	stone (UK)	st	6,350 293 kg	STI
		2	ton (US) or short ton (UK/US)	ton (US)	0,907184 7 x 10 ³ kg	STN
	#	2	troy ounce or apothecary ounce	tr oz	31,103 476 8 g	APZ
density, mass density, volumic mass		1	kilogram per cubic metre A unit of weight expressed in kilograms of a substance that fills a volume of one cubic metre.	kg/m ³	kg/m ³	KMQ
		1S	gram per cubic centimetre	g/cm ³	10 ³ kg/m ³	23
		1S	tonne per cubic metre	t/m ³	10 ³ kg/m ³	D41
		1S	gram per millilitre	g/ml	10 ³ kg/m ³	GJ
		1S	kilogram per litre	kg/l or kg/L	10 ³ kg/m ³	B35
		1S	gram per litre	g/l	kg/m ³	GL
		1M	gram per cubic metre	g/m ³	10 ⁻³ kg/m ³	A93
		1M	milligram per cubic metre	mg/m ³	10 ⁻⁶ kg/m ³	GP
		1S	megagram per cubic metre	Mg/m ³	10 ³ kg/m ³	B72
		1S	kilogram per cubic decimetre	kg/dm ³	10 ³ kg/m ³	B34
	#	1M	milligram per litre	mg/l	10 ⁻³ kg/m ³	M1
		1M	microgram per cubic metre	µg/m ³	10 ⁻⁹ kg/m ³	GQ
		2	pound per cubic foot	lb/ft ³	1,601 846 kg/m ³	87
		2	pound per gallon (US)	lb/gal (US)	1.198 264 x 10 ² kg/m ³	GE
		2	pound per cubic inch	lb/in ³	2,767 990 x 10 ⁻⁴ kg/m ³	LA
relative density, relative mass density		1	one	1	1	C62
specific volume,		1	cubic metre per kilogram	m ³ /kg	m ³ /kg	A39

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massic volume		1M	decilitre per gram	dl/g	$m^3/10^{-1} \text{ kg}$	22
		1M	millilitre per kilogram	ml/kg	$10^{-6} m^3/\text{kg}$	KX
linear density, linear mass		1	kilogram per metre	kg/m	kg/m	KL
		1M	gram per metre (gram per 100 centimetres)	g/m	10^{-3} kg/m	GF
		1M	kilograms per millimetre	kg/mm	10^3 kg/m	KW
		1S	milligram per metre	mg/m	10^{-6} kg/m	C12
		2	pound per foot	lb/ft	1,488 164 kg/m	P2
		2	pound per inch of length	lb/in	10,785 797 kg/m	PO
surface density, areic mass		1	milligrams per square metre	mg/m ²	10^{-6} kg/m^2	GO
		1M	gram per square centimetre	g/cm ²	10 kg/m^2	25
		1M	gram per square metre	g/m ²	10^{-3} kg/m^2	GM
		1M	kilogram per square metre	kg/m ²	kg/m^2	28
		2	ounce per square yard	oz/yd ²	$3,390\ 575 \times 10^{-2} \text{ kg/m}^2$	ON
		2	ounce per square foot	oz/ft ²	$0,305\ 151\ 7 \text{ kg/m}^2$	37
momentum		1	kilogram metre per second	kg·m/s	kg x m/s	B31
moment of momentum, angular momentum		1	kilogram metre squared per second	kg·m ² /s	kg x m ² /s	B33
moment of inertia (dynamic moment of inertia)		1	kilogram metre squared	kg·m ²	kg x m ²	B32
force, weight		1	newton	N	$(\text{kg x m})/\text{s}^2$	NEW
		1S	meganewton	MN	10^6 N	B73
		1S	kilonewton	kN	10^3 N	B47
		1S	millinewton	mN	10^{-3} N	C20
		1S	micronewton	μN	10^{-6} N	B92
	D	2	dyne	dyn	10^{-5} N	DU
		2	pound-force	lbf	4,448 222 N	C78
	D	2	kilogram-force	kgf	9,80665 N	B37
	D	2	kilopond	kp	9,80665 N	B51

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gravitational constant moment of force, moment of a couple, torque		1	newton metre squared kilogram squared	N·m ² /kg ²	N x m ² /kg ²	C54
		1	newton metre	N·m	N x m	NU
		1S	meganewton metre	MN·m	10 ⁶ N x m	B74
		1S	kilonewton metre	kN·m	10 ³ N x m	B48
		1S	millinewton metre	mN·m	10 ⁻³ N x m	D83
		1S	micronewton metre	μN·m	10 ⁻⁶ N x m	B93
		1S	decinewton metre	dN·m	10 ⁻¹ N x m	DN
		2	foot pound-force	ft·lbf	1,355 818 J	85
	D	2	kilogram-force metre	kgf·m	9,80665 N x m	B38
		2	inch pound (pound inch)	in·lb	0,112 985 J	IA
	#	2	ounce inch	oz·in	7,200 778 x 10 ⁻⁴ kg x m	4Q
		2	ounce foot	oz·ft	8,640 933 x 10 ⁻³ kg x m	4R
impulse		1	newton second	N·s	N x s	C57
angular impulse		1	newton metre second	N·m·s	N x m x s	C53
pressure, normal stress, shear stress, modulus of elasticity, shear modulus, modulus of rigidity, bulk modulus, modulus of compression		1S	millipascal	mPa	10 ⁻³ Pa	74
		1S	megapascal	MPa	10 ⁶ Pa	MPA
		1	pascal	Pa	Pa	PAL
		1S	kilopascal	kPa	10 ³ Pa	KPA
	#	1	bar [unit of pressure]	bar	10 ⁵ Pa	BAR
		1M	hectobar	hbar	10 ⁷ Pa	HBA
		1S	millibar	mbar	10 ² Pa	MBR
		1M	kilobar	kbar	10 ⁸ Pa	KBA
		1	standard atmosphere	atm	1 013 25 Pa	ATM
		1S	gigapascal	GPa	10 ⁹ Pa	A89
		1S	micropascal	μPa	10 ⁻⁶ Pa	B96
	1S	hectopascal	hPa	10 ² Pa	A97	
	1S	microbar	μbar	10 ⁻¹ Pa	B85	

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		1S	newton per square metre	N/m ²	Pa	C55
		1S	newton per square millimetre	N/mm ²	10 ⁶ Pa	C56
		2	pound per square foot	lb/ft ²	4,882 428 kg/m ²	FP
		2	pound-force per square inch	lbf/in	6,894 757 x 10 ³ Pa	PS
	D	2	kilogram-force per square metre	kgf/m ²	9,806 65 Pa	B40
	D	2	torr	Torr	133,322 4 Pa	UA
	D	2	technical atmosphere	at	98 066,5 Pa	ATT
		2	pounds per square inch absolute	lb/in ²	7,030 696 x 10 ² kg/m ²	80
	D	2	conventional millimetre of water	mm H ₂ O	9,806 65 Pa	HP
		2	kilogram per square centimetre	kg/cm ²	10 ⁴ kg/m ²	D5
	D	2	conventional millimetre of mercury	mm Hg	133,322 4 Pa	HN
linear strain, relative elongation, shear strain, volume or bulk strain		1	one	1	1	C62
poisson ratio, poisson number		1	one	1	1	C62
compressibility, bulk compressibility		1	reciprocal pascal or pascal to the power minus one	Pa ⁻¹	Pa ⁻¹	C96
second moment of area, second axial moment of area second polar moment of area		1	metre to the fourth power	m ⁴	m ⁴	B83
		2	inch to the fourth power	in ⁴	41,623 14 x 10 ⁻⁸ m ⁴	D69
section modulus		1	metre cubed	m ³	m ³	MTQ
		2	inch cubed	in ³	16,387 064 x 10 ⁻⁶ m ³	INQ
friction factor, coefficient of friction		1	one	1	1	C62
viscosity (dynamic viscosity)		1	pascal second	Pa·s	Pa x s	C65
		1S	millipascal second	mPa·s	10 ⁻³ Pa x s	C24
		2	poise	P	0,1 Pa x s	89
		2	centipoise	cP	10 ⁻³ Pa x s	C7
kinematic viscosity		1	metre squared per second (square metres/second US)	m ² /s	m ² /s	S4

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		1S	millimetre squared per second	mm ² /s	10 ⁻³ m ² /s	C17	
		2	stokes	St	10 ⁻⁴ m ² /s	91	
		2	centistokes	cSt	10 ⁻⁶ m ² /s	4C	
		2	foot squared per second	ft ² /s	0,092 903 04 m ² /s	S3	
surface tension		1	newton per metre	N/m	N/m	4P	
		1S	millinewton per metre	mN/m	10 ⁻³ N	C22	
	D	2	dyne per centimetre	dyn/cm	10 ⁻³ N/m	DX	
work, energy, potential energy, kinetic energy		1	joule	J	J	JOU	
		1S	kilojoule	kJ	10 ³ J	KJO	
		1S	exajoule	EJ	10 ¹⁸ J	A68	
		1S	petajoule	PJ	10 ¹⁵ J	C68	
		1S	terajoule	TJ	10 ¹² J	D30	
		1S	gigajoule	GJ	10 ⁹ J	GV	
		1S	megajoule	MJ	10 ⁶ J	3B	
		1S	millijoule	mJ	10 ⁻³ J	C15	
		1S	femtojoule	fJ	10 ⁻¹⁵ J	A70	
		1S	attojoule	aJ	10 ⁻¹⁸ J	A13	
		1	watt hour	W·h	3,6 x 10 ³ J	WHR	
		1S	megawatt hour (1000 kW.h)	MW·h	10 ⁶ W x h	MWH	
		1S	kilowatt hour	kW·h	10 ³ W x h	KWH	
				A unit of power defining the total amount of bulk energy transferred or consumed.			
		1S	gigawatt hour	GW·h	10 ⁹ W x h	GWH	
		1S	terawatt hour	TW·h	10 ¹² W x 60 s	D32	
		1	electronvolt	eV	1,602 177 33 x10 ⁻¹⁹ J	A53	
	1S	megaelectronvolt	MeV	10 ⁶ eV	B71		
	1S	gigaelectronvolt	GeV	10 ⁹ eV	A85		
	1S	kiloelectronvolt	keV	10 ³ eV	B29		

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	D	2	erg	erg	10^{-7} J	A57
		2	foot pound-force	ft·lbf	1,355 818 J	85
	D	2	kilogram-force metre	kgf·m	9,806 65 J	B38
power		1	watt	W	W	WTT
		1S	kilowatt	kW	10^3 W	KWT
		1S	megawatt	MW	10^6 W	MAW
			A unit of power defining the rate of energy transferred or consumed when a current of 1000 amperes flows due to a potential of 1000 volts at unity power factor.			
		1S	gigawatt	GW	10^9 W	A90
		1S	milliwatt	mW	10^{-3} W	C31
		1S	microwatt	μ W	10^{-6} W	D80
		2	hydraulic horse power		$7,460\ 43 \times 10^2$ W	5J
	D	2	erg per second	erg/s	10^{-7} W	A63
		2	foot pound-force per second	ft·lbf/s	1,355 818 W	A74
	D	2	kilogram-force metre per second	kgf·m/s	9,806 65 W	B39
	D	2	metric horse power	metric hp	735,498 75 W	HJ
D	2	cheval vapeur	CV	$7,354\ 988 \times 10^2$ W	A25	
		2	brake horse power	BHP	245,7 W	BHP
mass flow rate		1	kilogram per second	kg/s	kg/s	KGS
		1M	milligram per hour	mg/h	$2,777\ 78 \times 10^{-10}$ kg/s	4M
		2	ton (US) per hour	ton (US) /h	$0,907184\ 7 \times 10^3$ kg/360 s	4W
		2	pound per hour	lb/h	$1,259\ 979 \times 10^{-4}$ kg/s	4U
volume flow rate		1	cubic metre per second	m ³ /s	m ³ /s	MQS
		1M	cubic metre per hour	m ³ /h	$2,777\ 78 \times 10^{-4}$ m ³ /s	MQH
		1M	millilitre per second	ml/s	10^{-6} m ³ /s	40
		1M	millilitre per minute	ml/min	$1,666\ 67 \times 10^{-8}$ m ³ /s	41
		1M	litre per day	l/d	$1,157\ 41 \times 10^{-8}$ m ³ /s	LD

Annex I (Normative)
**Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)**

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
		1S	cubic centimetre per second	cm ³ /s	10 ⁻⁶ m ³ /s	2J
		1M	kilolitre per hour	kl/h	2,777 78 x 10 ⁻⁴ m ³ /s	4X
		1M	litre per minute	l/min	1,666 67 x 10 ⁻⁵ m ³ /s	L2
		2	cubic foot per hour	ft ³ /h	7,865 79 x 10 ⁻⁶ m ³ /s	2K
		2	cubic foot per minute	ft ³ /min	4,719 474 x 10 ⁻⁴ m ³ /s	2L
	#	2	barrel (US) per minute	barrel (US)/min	2,649 79 x 10 ⁻³ m ³ /s	5A
		2	US gallon per minute	gal (US) /min	3,785 412 x 10 ⁻³ m ³ /60 s	G2
		2	Imperial gallon per minute	gal (UK) /min	7,576 82 x 10 ⁻⁵ m ³ /s	G3

Heat						
thermodynamic temperature		1	kelvin	K	°C	KEL
		2	degree Rankin	°R	5/9 K	A48
celsius temperature		1	degree Celsius	°C	°C	CEL
fahrenheit temperature		2	degree Fahrenheit	°F	9/5(°C) + 32°	FAH
linear expansion coefficient, cubic expansion coefficient, relative pressure coefficient		1	reciprocal kelvin or kelvin to the power minus one	K ⁻¹	K ⁻¹	C91
pressure coefficient		1	pascal per kelvin	Pa/K	Pa/K	C64
isothermal compressibility, isentropic compressibility		1	reciprocal pascal or pascal to the power minus one	Pa ⁻¹	Pa ⁻¹	C96
heat, quantity of heat, energy, thermodynamic energy, enthalpy,		1	joule	J	J	JOU
		2	British thermal unit	Btu	1 055,056 J	BTU
Helmholtz function,	D	2	15 °C calorie	cal ₁₅	4,185 5 J	A1
Helmholtz free energy	D	2	International Table (IT) calorie	cal _{IT}	4,186 8 J	D70
Gibbs function, Gibbs free energy	D	2	thermochemical calorie	cal _{th}	4,184 J	D35
heat flow rate		1	watt	W	W	WTT

Annex I (Normative)

**Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)**

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
		1S	kilowatt	kW	10 ³ W	KWT
		2	British thermal unit per hour	Btu/h	0,293 071 1 N	2I
density of heat flow rate		1	watt per square metre	W/m ²	W/m ²	D54
thermal conductivity		1	watt per metre kelvin	W/(m·K)	W/(m x K)	D53
		2	British thermal unit per second foot degree Rankin	Btu/(s·ft·°R)	6 230,64 W/(m x K)	A22
	D	2	International Table (IT) calorie per second centimetre kelvin	calIT/(s·cm·K)	418,68 W/(m x K)	D71
	D	2	thermochemical calorie per second centimetre kelvin	calth/(s·cm·K)	418,4 W/(m x K)	D38
coefficient of heat transfer surface coefficient of heat transfer		1	watt per square metre kelvin	W/(m ² ·K)	W/(m ² x K)	D55
	D	2	International Table (IT) calorie per second square centimetre kelvin	calIT/(s·cm ² ·K)	4,186 8 x 10 ⁴ W/(m ² x K)	D72
	D	2	thermochemical calorie per second square centimetre kelvin	calth/(s·cm ² ·K)	4,184 x10 ⁴ W/(m ² x K)	D39
		2	British thermal unit per second square foot degree Rankin	Btu/ (s·ft ² ·°R)	20 441,7 W/(m ² x K)	A20
		2	British thermal unit per hour square foot degree Rankin	Btu/ (h·ft ² ·°R)	5,678 26 W/ (m ² x K)	A23
thermal insulance, coefficient of thermal insulation		1	square metre kelvin per watt	m ² ·K/W	m ² x K/W	D19
thermal resistance		1	kelvin per watt	K/W	°C/W	B21
thermal conductance		1	watt per kelvin	W/K	W/K	D52
thermal diffusivity		1	square metre per second	m ² /s	m ² /s	S4
		2	square foot per second	ft ² /s	0,092 903 04 m ² /s	S3
heat capacity, entropy		1	joule per kelvin	J/K	J/K	JE
		1S	kilojoule per kelvin	kJ/K	10 ³ J/K	B41
specific heat capacity, massic heat capacity,		1	joule per kilogram kelvin	J/(kg·K)	J/(kg x K)	B11
		1S	kilojoule per kilogram kelvin	kJ/(kg·K)	10 ³ J/(kg x K)	B43
specific heat capacity at: - constant pressure, - constant volume, - saturation		2	British thermal unit per pound degree Rankin	Btu/(lb·°R)	4 186,8 J/(kg x K)	A21
	D	2	International Table (IT) calorie per gram kelvin	calIT/(g·K)	4 186,8 J/(kg x K)	D76

Annex I (Normative)

**Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)**

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
specific entropy, massic entropy	D	2	thermochemical calorie per gram kelvin	calth/(g·K)	4 184 J/(kg x K)	D37
ratio of the specific heat capacities, ratio of the massic heat capacity, isentropic exponent		1	one	1	1	C62
massieu function, planck function		1	joule per kelvin	J/K	J/K	JE
massic energy, specific energy		1	joule per kilogram	J/kg	J/kg	J2
massic thermodynamic energy,		1S	joule per gram	J/g	J/(10 ⁻³ x kg)	D95
specific thermodynamic energy,		1S	megajoule per kilogram	MJ/kg	10 ⁶ J/kg	JK
massic enthalpy, specific enthalpy		1S	kilojoule per kilogram	kJ/kg	10 ³ J/kg	B42
massic Helmholtz free energy,		2	British thermal unit per pound	Btu/lb	2 326 J/kg	AZ
specific Helmholtz free energy	D	2	International Table (IT)calorie per gram	calIT/g	4 186,8 J/kg	D75
specific Helmholtz function, massic Gibbs free energy, specific Gibbs free energy	D	2	thermochemical calorie per gram	calth/g	4 184 J/kg	B36

Electricity and Magnetism						
electric current,		1	ampere	A	A	AMP
magnetic potential difference,		1S	kiloampere	kA	10 ³ A	B22
magnetomotive force,		1S	milliampere	mA	10 ⁻³ A	4K
current linkage		1S	microampere	µA	10 ⁻⁶ A	B84
		1S	nanoampere	nA	10 ⁻⁹ A	C39
		1S	picoampere	pA	10 ⁻¹² A	C70
electric charge,		1	coulomb	C	A x s	COU
quantity of electricity,		1	ampere second	A·s	C	A8

Annex I (Normative)

Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
electric flux (flux of displacement)		1M	ampere hour A unit of power defining the rate of energy transferred or consumed when a current of 1000 amperes flows due to a potential of 1000 volts at unity power factor.	A·h	$3,6 \times 10^3 \text{ C}$	AMH
		1M	kiloampere hour (thousand ampere hour)	kA·h	$10^3 \text{ A} \times \text{h}$	TAH
		1S	megacoulomb	MC	10^6 C	D77
		1S	millicoulomb	mC	10^{-3} C	D86
		1S	kilocoulomb	kC	10^3 C	B26
		1S	microcoulomb	μC	10^{-6} C	B86
		1S	nanocoulomb	nC	10^{-9} C	C40
		1S	picocoulomb	pC	10^{-12} C	C71
volume density of charge, charge density, volumic charge		1	coulomb per cubic metre	C/m^3	$\text{A} \times \text{s}/\text{m}^3$	A29
		1S	gigacoulomb per cubic metre	GC/m^3	$10^9 \text{ C}/\text{m}^3$	A84
		1S	coulomb per cubic millimetre	C/mm^3	$10^9 \text{ A} \times \text{s}/\text{m}^3$	A30
		1S	megacoulomb per cubic metre	MC/m^3	$10^6 \text{ C}/\text{m}^3$	B69
		1S	coulomb per cubic centimetre	C/cm^3	$10^6 \text{ A} \times \text{s}/\text{m}^3$	A28
		1S	kilocoulomb per cubic metre	kC/m^3	$10^3 \text{ C}/\text{m}^3$	B27
		1S	millicoulomb per cubic metre	mC/m^3	$10^{-3} \text{ C}/\text{m}^3$	D88
		1S	microcoulomb per cubic metre	$\mu\text{C}/\text{m}^3$	$10^{-6} \text{ C}/\text{m}^3$	B87
surface density of charge, electric flux density,		1	coulomb per square metre	C/m^2	$\text{A} \times \text{s}/\text{m}^2$	A34
		1S	megacoulomb per square metre	MC/m^2	$10^6 \text{ C}/\text{m}^2$	B70
displacement electric polarization		1S	coulomb per square millimetre	C/mm^2	$10^6 \text{ A} \times \text{s}/\text{m}^2$	A35
		1S	coulomb per square centimetre	C/cm^2	$10^4 \text{ A} \times \text{s}/\text{m}^2$	A33
		1S	kilocoulomb per square metre	kC/m^2	$10^3 \text{ C}/\text{m}^2$	B28
		1S	millicoulomb per square metre	mC/m^2	$10^{-3} \text{ C}/\text{m}^2$	D89
		1S	microcoulomb per square metre	$\mu\text{C}/\text{m}^2$	$10^{-6} \text{ C}/\text{m}^2$	B88
electric field strength		1	volt per metre	V/m	V/m	D50

Annex I (Normative)

Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
		1S	megavolt per metre	MV/m	10^6 V/m	B79
		1S	kilovolt per metre	kV/m	10^3 V/m	B55
		1S	volt per millimetre	V/mm	kV/m	D51
		1S	volt per centimetre	V/cm	V/m^{-2}	D47
		1S	millivolt per metre	mV/m	10^{-3} V/m	C30
		1S	microvolt per metre	μ V/m	10^{-6} V/m	C3
electric potential		1	volt	V	V	VLT
potential difference,		1S	megavolt	MV	10^6 V	B78
tension,		1S	kilovolt	kV	10^3 V	KVT
voltage,		1S	millivolt	mV	10^{-3} V	2Z
electromotive force		1S	microvolt	μ V	10^{-6} V	D82
capacitance		1	farad	F	$kg^{-1} \times m^{-2} \times s^4 \times A^2$	FAR
		1S	millifarad	mF	10^{-3} F	C10
		1S	microfarad	μ F	10^{-6} F	4O
		1S	nanofarad	nF	10^{-9} F	C41
		1S	picofarad	pF	10^{-12} F	4T
frequency, rotational frequency, angular frequency			Note: see periodic and related phenomena			
permittivity,		1	farad per metre	F/m	$kg^{-1} \times m^{-3} \times s^4 \times A^2$	A69
permittivity of vacuum,		1S	microfarad per metre	μ F/m	10^{-6} F/m	B89
(electric constant)		1S	nanofarad per metre	nF/m	10^{-9} F/m	C42
		1S	picofarad per metre	pF/m	10^{-12} F/m	C72
relative permittivity		1	one	1	1	C62
electric susceptibility		1	one	1	1	C62
electric dipole moment		1	coulomb metre	C·m	A x s x m	A26
current density		1	ampere per square metre	A/m ²	A/m ²	A41
		1S	megaampere per square metre	MA/m ²	10^6 A/m ²	B66

Annex I (Normative)

Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
		1S	ampere per square millimetre	A/mm ²	10 ⁶ A/m ²	A7
		1S	ampere per square centimetre	A/cm ²	10 ⁴ A/m ²	A4
		1S	kiloampere per square metre	kA/m ²	10 ³ A/m ²	B23
linear electric current density, lineic electric current, magnetic field strength		1	ampere per metre	A/m	A/m	AE
		1S	kiloampere per metre	kA/m	kA/m	B24
		1S	ampere per millimetre	A/mm	10 ³ A/m	A3
		1S	ampere per centimetre	A/cm	10 ² A/m	A2
magnetic flux density, magnetic induction, magnetic polarization		1	tesla	T	T	D33
		1S	millitesla	mT	10 ⁻³ T	C29
		1S	microtesla	μT	10 ⁻⁶ T	D81
		1S	nanotesla	nT	10 ⁻⁹ T	C48
magnetic flux		1	weber	Wb	Wb	WEB
		1S	milliweber	mWb	10 ⁻³ Wb	C33
magnetic vector potential		1	weber per metre	Wb/m	Wb/m	D59
		1S	kiloweber per metre	kWb/m	10 ³ V x s/m	B56
		1S	weber per millimetre	Wb/mm	Wb/10 ⁻³ m	D60
self inductance, mutual inductance, permeance		1	henry	H	H	81
		1S	millihenry	mH	10 ⁻³ H	C14
		1S	microhenry	μH	10 ⁻⁶ H	B90
		1S	nanohenry	nH	10 ⁻⁹ H	C43
		1S	picohenry	pH	10 ⁻¹² H	C73
coupling coefficient, leakage coefficient		1	one	1	1	C62
number of turns in a winding,		1	one	1	1	C62
permeability, number of phases, number of pairs of poles		1	henry per metre	H/m	H/m	A98
		1S	microhenry per metre	μH/m	10 ⁻⁶ H/m	B91
		1S	nanohenry per metre	nH/m	10 ⁻⁹ H/m	C44

Annex I (Normative)

**Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)**

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
relative permeability		1	one	1	1	C62
magnetic susceptibility		1	one	1	1	C62
electromagnetic moment, magnetic moment, (magnetic area moment)		1	ampere square metre	A·m ²	A x m ²	A5
magnetization		1	ampere per metre	A/m	A/m	AE
electromagnetic energy density, volumic electromagnetic energy		1	joule per cubic metre	J/m ³	J/m ³	B8
Poynting vector		1	watt per square metre	W/m ²	W/m ²	D54
phase velocity of electromagnetic waves, phasespeed of electromagnetic waves velocity of electromagnetic waves in vacuum, speed of electromagnetic waves in vacuum		1	metre per second Note: see velocity - space and time	m/s	m/s	MTS
resistance (to direct current), impedance, (complex impedances), modulus of impedance, resistance (to alternating current), reactance	 	1 1S 1S 1S 1S	ohm gigaohm megaohm kiloohm microohm	Ω GΩ MΩ kΩ μΩ	Ω 10 ⁹ Ω 10 ⁶ Ω 10 ³ Ω 10 ⁻⁶ Ω	OHM A87 B75 B49 B94
conductance (for direct current), admittance, (complex admittance), modulus of admittance,(admittance), conductance (for alternating current)	 	1 1S 1S 1S	siemens kilo siemens millisiemens microsiemens	S kS mS μS	A/V 10 ³ S 10 ⁻³ S 10 ⁻⁶ S	SIE B53 C27 B99

Annex I (Normative)

Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
susceptance	D	2	mho		S	NQ
	D	2	micromho		10^{-6} S	NR
resistivity		1	ohm metre	$\Omega \cdot m$	$\Omega \times m$	C61
		1S	gigaohm metre	$G\Omega \cdot m$	$10^9 \Omega \times m$	A88
		1S	megaohm metre	$M\Omega \cdot m$	$10^6 \Omega \times m$	B76
		1S	kiloohm metre	$k\Omega \cdot m$	$10^3 \Omega \times m$	B50
		1S	ohm centimetre	$\Omega \cdot cm$	$\Omega \times m \times 10^{-2}$	C60
		1S	milliohm metre	$m\Omega \cdot m$	$10^{-3} \Omega \times m$	C23
		1S	microohm metre	$\mu\Omega \cdot m$	$10^{-6} \Omega \times m$	B95
		1S	nanoohm metre	$n\Omega \cdot m$	$10^{-9} \Omega \cdot m$	C46
conductivity		1	siemens per metre	S/m	S/m	D10
		1S	megasiemens per metre	MS/m	10^6 S/m	B77
		1S	kilosiemens per metre	kS/m	10^3 S/m	B54
reluctance		1	reciprocal henry	H^{-1}	H^{-1}	C89
phase difference, phase displacement, loss angle		1	radian	rad	$m \times m^{-1} = 1$	C81
power (for direct current), active power		1	watt	W	W	WTT
		1S	kilowatt	kW	10^3 W	KWT
		1S	megawatt	MW	10^6 W	MAW
			A unit of power defining the rate of energy transferred or consumed when a current of 1000 amperes flows due to a potential of 1000 volts at unity power factor.			
		1S	gigawatt	GW	10^9 W	A90
		1S	terawatt	TW	10^{12} W	D31
		1S	milliwatt	mW	10^{-3} W	C31
		1S	microwatt	μ W	10^{-6} W	D80
		1S	nanowatt	nW	10^{-9} W	C49
	1S	picowatt	pW	10^{-12} W	C75	

Annex I (Normative)
**Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)**

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
apparent power		1	volt - ampere	V·A	W	D46
		1S	megavolt - ampere	MV·A	$10^6 \text{ V} \times \text{A}$	MVA
		1S	kilovolt - ampere	kV·A	$10^3 \text{ V} \times \text{A}$	KVA
		1S	kilovolt ampere (reactive)	kV·A	$10^3 \text{ V} \times \text{A}$	K5
reactive power		1	var The name of the unit is an acronym for volt-ampere-reactive.	var	V x A	D44
		1S	kilovar	kvar	10^3 var	KVR
active energy		1	joule	J	J	JOU
		1	watt hour	W·h	$3,6 \times 10^3 \text{ J}$	WHR

Light and Related Electromagnetic Radiations						
frequency		1	hertz	Hz	Hz	HTZ
circular frequency		1	reciprocal second	s^{-1}	s^{-1}	C97
		1	radian per second	rad/s	$0,159\ 155 \text{ Hz/s}$	2A
wavelength		1	metre	m	m	MTR
		1	angstrom	Å	10^{-10} m	A11
wavenumber, repetency angular wave number, angular repetency		1	reciprocal metre	m^{-1}	m^{-1}	C92
		1	radian per metre	rad/m	$0,159\ 155 / \text{m}$	C84
velocity (speed) on propagation of electromagnetic waves in vacuo		1	metre per second	m/s	m/s	MTS
radiant energy		1	joule	J	J	JOU
radiant energy density		1	joule per cubic metre	J/m^3	J/m^3	B8
		1M	megajoule per cubic metre	MJ/m^3	10^6 J/m^3	JM

Annex I (Normative)
**Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)**

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
spectral concentration of radiant energy density (in terms of wavelength), spectral radiant energy density (in terms of wave length)		1	joule per metre to the fourth power	J/m ⁴	J/m ⁴	B14
radiant power, (radiant energyflux)		1	watt	W	W	WTT
radiant energy fluence, radiance exposure		1	joule per metre squared	J/m ²	J/m ²	B13
photon flux		1	reciprocal second	s ⁻¹	s ⁻¹	C97
photon intensity		1	reciprocal second per steradian	s ⁻¹ /sr	s ⁻¹ /sr	D1
photon luminance, photon radiance		1	reciprocal second per steradian metre squared	s ⁻¹ /(sr·m ²)	s ⁻¹ /(sr·m ²)	D2
photon exitance, irradiance		1	reciprocal second per metre squared	s ⁻¹ /m ²	s ⁻¹ /m ²	C99
photon exposure		1	reciprocal metre squared	m ⁻²	m ⁻²	C93
radiant energy, fluence rate, radiant exitance, irradiance, first radiation constant		1	watt per square metre	W/m ²	W/m ²	D54
radiant intensity		1	watt per steradian	W/sr	W/sr	D57
radiance		1	watt per steradian square metre	W/(sr·m ²)	W/(sr x m ²)	D58
Stefan-Boltzmann constant		1	watt per square metre kelvin to the fourth power	W/(m ² ·K ⁴)	W/(m ² x K ⁴)	D56
second radiation constant		1	metre kelvin	m·K	m x K	D18
emissivity, spectral emissivity, emissivity at a specified wavelength, directional spectral emissivity		1	one	1	1	C62
luminous intensity		1	candela	cd	cd	CDL
luminous flux		1	lumen	lm	7,957 75 x 10 ⁻² cd	LUM
quantity of light		1	lumen second	lm·s	7,957 75 x 10 ⁻² s x cd	B62
		1S	lumen hour	lm·h	2,864 79 x 10 ⁻² s x cd	B59
luminance		1	candela per square metre	cd/m ²	cd/m ²	A24

Annex I (Normative)

**Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)**

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
luminous exitance		1	lumen per square metre	lm/m ²	7,957 75 x 10 ⁻² cd/m ²	B60
illuminance		1	lux	lx	7,957 75 x 10 ⁻² cd/m ²	LUX
light exposure		1	lux second	lx·s	7,957 75 x 10 ⁻² s x cd/m ²	B64
		1S	lux hour	lx·h	2,864 79 x 10 ⁻² s x cd/m ²	B63
luminous efficacy, spectral luminous efficacy, luminous efficacy at a specified wavelength, maximum spectral luminous efficacy		1	lumen per watt	lm/W	7,957 75 x 10 ⁻² cd/W	B61
luminous efficiency, spectral luminous efficiency, luminous efficiency at a specified wavelength		1	one	1	1	C62
CIE colorimetric functions		1	one	1	1	C62
coordinates trichromatic		1	one	1	1	C62
spectral absorption factor, spectral absorptance, spectral reflection factor, spectral reflectance, spectral transmission factor, spectral transmittance, spectral radiance factor		1	one	1	1	C62
optical density		1	one	1	1	C62
refractive index		1	one	1	1	C62
linear attenuation coefficient, linear extinction coefficient, linear absorption coefficient		1	reciprocal metre	m ⁻¹	m ⁻¹	C92
molar absorption coefficient		1	square metre per mole	m ² /mol	m ² /mol	D22
object distance, image distance, focal distance		1	metre	m	m	MTR
vergence, lens power		1	reciprocal metre	m ⁻¹	m ⁻¹	C92

Annex I (Normative)

**Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)**

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
Acoustics						
period, periodic time	#	1	second [unit of time]	s	s	SEC
frequency		1	hertz	Hz	Hz	HTZ
frequency interval		1	octave A unit used in music to describe the ratio in frequency between notes.			C59
angular frequency,		1	reciprocal second	s ⁻¹	s ⁻¹	C97
pulsatance		1	radian per second	rad/s	0,159 155 Hz/s	2A
wavelength		1	metre	m	m	MTR
repetency, wavenumber		1	reciprocal metre	m ⁻¹	m ⁻¹	C92
angular repetency, angular wavenumber		1	radian per metre	rad/m	0,159 155 / m	C84
volumic mass, density, mass density		1	kilogram per cubic metre A unit of weight expressed in kilograms of a substance that fills a volume of one cubic metre.	kg/m ³	kg/m ³	KMQ
static pressure,		1	pascal	Pa	Pa	PAL
(instantaneous) sound pressure	#	1	bar [unit of pressure]	bar	10 ⁵ Pa	BAR
	D	2	dyne per square centimetre	dyn/cm ²	10 ⁻¹ Pa	D9
(instantaneous) sound particle displacement		1	metre	m	m	MTR
(instantaneous) sound particle velocity		1	metre per second	m/s	m/s	MTS
(instantaneous) sound particle acceleration		1	metre per second squared	m/s ²	m/s ²	MSK
(instantaneous) volume flow rate		1	cubic metre per second	m ³ /s	m ³ /s	MQS
velocity of sound (phase velocity), group velocity		1	metre per second	m/s	m/s	MTS

Annex I (Normative)

**Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)**

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
sound energy density, volumic, sound energy		1	joule per cubic metre	J/m ³	J/m ³	B8
	D	2	erg per cubic centimetre	erg/cm ³	10 ⁻¹ J/m ³	A60
sound power		1	watt	W	W	WTT
	D	2	erg per second	erg/s	10 ⁻⁷ W	A63
sound intensity		1	watt per square metre	W/m ²	W/m ²	D54
		1S	milliwatt per square metre	mW/m ²	10 ⁻³ W/m ²	C32
		1S	microwatt per square metre	μW/m ²	10 ⁻⁶ W/m ²	D85
		1S	picowatt per square metre	pW/m ²	10 ⁻¹² W/m ²	C76
	D	2	erg per second square centimetre	erg/(s·cm ²)	10 ⁻³ W/m ²	A64
characteristic impedance of a medium surface density of mechanical impedance		1	pascal second per metre	Pa·s/m	Pa x s/m	C67
	D	2	dyne second per cubic centimetre	dyn·s/cm ³	10 Pa x s/m	A50
acoustic impedance		1	pascal second per cubic metre	Pa·s/m ³	Pa x s/m ³	C66
	D	2	dyne second per centimetre to the fifth power	dyn·s/cm ⁵	10 ⁵ Pa x s/m ³	A52
mechanical impedance		1	newton second per metre	N·s/m	N x s/m	C58
	D	2	dyne second per centimetre	dyn·s/cm	10 ⁻³ N x s/m	A51
sound pressure level, sound power level		1	decibel	dB	0,115 129 3 Np	2N
damping coefficient		1	reciprocal second	s ⁻¹	s ⁻¹	C97
damping coefficient		1	neper per second	Np/s	Np/s	C51
time constant, relaxation time	#	1	second [unit of time]	s	s	SEC
logarithmic decrement		1	neper	Np	Np	C50
attenuation coefficient, phase coefficient, propagation coefficient		1	reciprocal metre	m ⁻¹	m ⁻¹	C92

Annex I (Normative)

Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
dissipation factor, dissipation, reflection factor, reflectance, transmission factor, transmittance, absorption factor, absorbance		1	one	1	1	C62
sound reduction index		1	decibel	dB	0,115 129 3 Np	2N
equivalent absorption area of a surface or object		1	square metre	m ²	m ²	MTK
reverberation time	#	1	second [unit of time]	s	s	SEC
loudness level		1	phon A unit of subjective sound loudness. A sound has loudness p phons if it seems to the listener to be equal in loudness to the sound of a pure tone of frequency 1 kilohertz and strength p decibels.			C69
loudness		1	sone A unit of subjective sound loudness. One sone is the loudness of a pure tone of frequency one kilohertz and strength 40 decibels.			D15

Physical Chemistry and Molecular Physics						
relative atomic mass		1	one	1	1	C62
relative molecular mass		1	one	1	1	C62
number of molecules or other elementary entities		1	one	1	1	C62
amount of substance		1	mole	mol	mol	C34
		1S	kilomole	kmol	10 ³ mol	B45
		1S	millimole	mmol	10 ⁻³ mol	C18
		1S	micromole	µmol	10 ⁻⁶ mol	FH
Avogadro constant		1	reciprocal mole	mol ⁻¹	mol ⁻¹	C95
molar mass		1	kilogram per mole	kg/mol	kg/mol	D74

Annex I (Normative)

Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
		1S	gram per mole	g/mol	10^{-3} kg/mol	A94
molar volume		1	cubic metre per mole	m ³ /mol	m ³ /mol	A40
		1S	cubic decimetre per mole	dm ³ /mol	10^{-3} m ³ /mol	A37
		1S	cubic centimetre per mole	cm ³ /mol	10^{-6} m ³ /mole	A36
		1M	litre per mole	l/mol	10^{-3} m ³ /mol	B58
molar thermodynamic energy		1	joule per mole	J/mol	J/mol	B15
		1S	kilojoule per mole	kJ/mol	10^3 J/mol	B44
chemical potential		1	joule per mole	J/mol	J/mol	B15
absolute activity		1	one	1	1	C62
affinity (of a chemical reaction)		1	joule per mole	J/mol	J/mol	B15
standard equilibrium constant		1	one	1	1	C62
molar heat capacity, molar entropy, molar gas constant		1	joule per mole kelvin	J/(mol·K)	J/(mol x K)	B16
volumic number of molecules (or particles), number density of molecules (or particles), molecular concentration of B		1	reciprocal cubic metre	m ⁻³	m ⁻³	C86
volumic mass, mass density, density, mass concentration of B, amount of substance, concentration of B		1	kilogram per cubic metre A unit of weight expressed in kilograms of a substance that fills a volume of one cubic metre.	kg/m ³	kg/m ³	KMQ
		1	kilogram per litre	kg/l or kg/L	10^3 kg/m ³	B35
volumic mass, mass density, density, mass concentration of B, amount of substance, concentration of B		1	mole per cubic metre	mol/m ³	mol/m ³	C36
		1	mole per litre	mol/l	mol/ 10^{-3} m ³	C38
		1S	mole per cubic decimetre	mol/dm ³	mol/ 10^{-1} m ³	C35
		1S	kilomole per cubic metre	kmol/m ³	10^3 mol/m ³	B46
volume fraction of B		1	one	1	1	C62

Annex I (Normative)

Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
mole fraction of B, mole ratio of solute B		1	one	1	1	C62
molality of solute B		1	mole per kilogram	mol/kg	mol/kg	C19
ionic strength		1S	millimole per kilogram	mmol/kg	10 ⁻³ mol/kg	D87
degree of dissociation		1	one	1	1	C62
partial pressure of B (in a gaseous mixture), fugacity of B (in a gaseous mixture), osmotic pressure		1	pascal	Pa	Pa	PAL
standard absolute activity of B (in a gaseous mixture)		1	one	1	1	C62
activity coefficient of B (in a liquid as a solid mixture)		1	one	1	1	C62
standard absolute activity of B (in a liquid or a solid mixture)		1	one	1	1	C62
activity coefficient of solute B (especially in a dilute solution), standard absolute activity of solute B (especially in a dilute solution)		1	one	1	1	C62
activity of solvent A, relative activity of solvent A (especially in a dilute solution), osmotic coefficient of the solvent A (especially in a dilute solution), standard absolute activity of solvent A (especially in a dilute solution)		1	one	1	1	C62
stoichiometric number of B		1	one	1	1	C62
mass of molecule		1	Kilogram A unit of mass equal to one thousand grams.	kg	kg	KGM
mass of molecule		1	unified atomic mass unit	u	1,660 540 2 x 10 ⁻²⁷ kg	D43
electric dipole moment of molecule		1	coulomb metre	C·m	A x s x m	A26

Annex I (Normative)

Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
electric polarizability of a molecule		1	coulomb metre squared per volt	C·m ² /V	A ² x s ⁴ /kg	A27
microcanonical partition function, canonical partition function, grand-canonical partition function, grand partition function, molecular partition function, partition function of a molecule		1	one	1	1	C62
statistical weight		1	one	1	1	C62
Boltzmann constant		1	joule per kelvin	J/K	J/K	JE
mean free path		1	metre	m	m	MTR
diffusion coefficient		1	square metre per second	m ² /s	m ² /s	S4
thermal diffusion ratio, thermal diffusion factor		1	one	1	1	C62
thermal diffusion coefficient		1	square metre per second	m ² /s	m ² /s	S4
proton number		1	one	1	1	C62
elementary charge		1	coulomb	C	A x s	COU
charge number of ion		1	one	1	1	C62
Faraday constant		1	coulomb per mole	C/mol	A x s/mol	A32
electrolytic conductivity		1	siemens per metre	S/m	S/m	D10
molar conductivity		1	siemens square metre per mole	S·m ² /mol	S x m ² /mol	D12
transport number of ion B, current fraction of ion B		1	one	1	1	C62
angle of optical rotation		1	radian	rad	m x m ⁻¹ = 1	C81
molar optical rotatory power		1	radian square metre per mole	rad·m ² /mol	0,159 155 m ² /mol	C82
massic optical, rotatory power, specific optical rotatory power		1	radian square metre per kilogram	rad·m ² /kg	0,159 155 m ² /kg	C83

Annex I (Normative)

Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
Atomic and Nuclear Physics						
proton number, atomic number		1	one	1	1	C62
neutron number		1	one	1	1	C62
nucleon number, mass number		1	one	1	1	C62
mass of atom (of a nuclide x), nuclidic mass		1	Kilogram A unit of mass equal to one thousand grams.	kg	kg	KGM
mass of atom (of a nuclide x), nuclidic mass, unified atomic mass constant		1	unified atomic mass unit	u	1,660 540 2 x 10 ⁻²⁷ kg	D43
(rest) mass of electron, (rest) mass of proton, (rest) mass of neutron		1	one	1	1	C62
mass excess		1	Kilogram A unit of mass equal to one thousand grams.	kg	kg	KGM
mass defect		1	unified atomic mass unit	u	1,660 540 2 x 10 ⁻²⁷ kg	D43
relative mass excess, relative mass defect		1	one	1	1	C62
packing fraction, binding fraction		1	one	1	1	C62
elementary charge		1	coulomb	C	A x s	COU
Planck constant		1	joule second	J·s	J x s	B18
Bohr radius		1	metre	m	m	MTR
		1	angstrom	Å	10 ⁻¹⁰ m	A11
Rydberg constant		1	reciprocal metre	m ⁻¹	m ⁻¹	C92
Hartree energy		1	joule	J	J	JOU
magnetic moment of particle, Bohr magneton, nuclear magneton or nucleus		1	ampere square metre	A·m ²	A x m ²	A5

Annex I (Normative)

Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
gyromagnetic coefficient, (gyromagnetic ratio)		1	ampere square metre per joule second	$A \cdot m^2 / (J \cdot s)$	$(A \times s) / kg$	A10
g-factor of atom or electron, g-factor of nucleus		1	one	1	1	C62
Larmor angular frequency nuclear precession,		1	reciprocal second	s^{-1}	s^{-1}	C97
cyclotron angular frequency		1	radian per second	rad/s	0,159 155 Hz/s	2A
nuclear quadrupole moment		1	square metre	m^2	m^2	MTK
nuclear radius, electron radius, Compton wavelength		1	metre	m	m	MTR
orbital angular momentum quantum number		1	one	1	1	C62
spin angular momentum quantum number		1	one	1	1	C62
total angular momentum quantum number		1	one	1	1	C62
nuclear spin quantum number		1	one	1	1	C62
hyperfine structure quantum number		1	one	1	1	C62
principle quantum number		1	one	1	1	C62
magnetic quantum number		1	one	1	1	C62
fine structure constant		1	one	1	1	C62
mean life, half life	#	1	second [unit of time]	s	s	SEC
level width, alpha disintegration energy		1	joule	J	J	JOU
maximum beta particle energy, beta disintegration energy		1	electronvolt	eV	$1,602\ 177\ 33 \times 10^{-19} J$	A53
internal conversion factor		1	one	1	1	C62

Annex I (Normative)

Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
activity		2	curie	Ci	$3,7 \times 10^{10}$ Bq	CUR
		2S	millicurie	mCi	$3,7 \times 10^7$ Bq	MCU
		2S	microcurie	μ Ci	$3,7 \times 10^4$ Bq	M5
		2S	kilocurie	kCi	10^3 Ci	2R
		1	becquerel	Bq	$27,027 \times 10^{-12}$ Ci	BQL
		1M	gigabecquerel	GBq	10^9 Bq	GBQ
		1S	kilobecquerel	kBq	10^3 Bq	2Q
		1S	megabecquerel	MBq	10^6 Bq	4N
specific activity in a sample		2	curie per kilogram	Ci/kg	$3,7 \times 10^{10}$ Bq/kg	A42
		1	becquerel per kilogram	Bq/kg	$27,027 \times 10^{-12}$ Ci/kg	A18
		1S	megabecquerel per kilogram	MBq/kg	10^6 Bq/kg	B67
		1S	kilobecquerel per kilogram	kBq/kg	10^3 Bq/kg	B25
volumic activity, activity concentration		1	becquerel per metre cubed	Bq/m ³	$27,027 \times 10^{-12}$ Ci/m ³	A19
decay constant, disintegration constant		1	reciprocal second	s ⁻¹	s ⁻¹	C97

Nuclear Reactions and Ionizing Radiations						
reaction energy		1	joule	J	J	JOU
resonance energy		1	electronvolt	eV	$1,602\ 177\ 33 \times 10^{-19}$ J	A53
average energy loss per ion, pair formed, (average energy loss per elementary charge of the same sign produced)	D	2	erg	erg	10^{-7} J	A57
cross-section		1	square metre	m ²	m ²	MTK
total cross-section		1	barn	b	10^{-28} m ²	A14
angular cross-section		1	square metre per steradian	m ² /sr	m ² /sr	D24
		1	barn per steradian	b/sr	$1,256\ 64 \times 10^{-27}$ m ²	A17

Annex I (Normative)

**Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)**

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
spectral cross-section		1	square metre per joule	m ² /J	m ² /J	D20
		1	barn per electron volt	b/eV	6,241 46 x 10 ⁻¹⁰ m ² /J	A15
		2	square centimetre per erg	cm ² /erg	10 ³ m ² /J	D16
spectral angular cross-section		1	square metre per steradian joule	m ² /(sr·J)	m ² /(sr x J)	D25
		1	barn per steradian electronvolt	b/(sr·eV)	6,241 46 x 10 ⁻¹⁰ m ² /(sr x J)	A16
		2	square centimetre per steradian erg	cm ² /(sr·erg)	10 ³ m ² /(sr x J)	D17
macroscopic cross-section, volumic cross-section, volumic total cross-section, macroscopic total cross- section		1	reciprocal metre	m ⁻¹	m ⁻¹	C92
particle fluence particle fluence rate, (partial flux density), neutron fluence rate, (neutronflux density), current density of particles		1	reciprocal square metre	m ⁻²	m ⁻²	C93
		1	reciprocal metre squared reciprocal second	m ⁻² /s	m ⁻² /s	B81
energy fluence		1	joule per square metre	J/m ²	J/m ²	B13
energy fluence rate, (energy flux density))	D	1	watt per square metre	W/m ²	W/m ²	D54
		2	erg per square centimetre second	erg/(cm ² ·s)	10 ⁻³ W/m ²	A65
linear attenuation coefficient		1	reciprocal metre	m ⁻¹	m ⁻¹	C92
mass attenuation coefficient		1	square metre per kilogram	m ² /kg	m ² /kg	D21
molar attenuation coefficient		1	square metre per mole	m ² /mol	m ² /mol	D22
atomic attenuation coefficient		1	square metre	m ²	m ²	MTK
slowing down area, diffusion area, migration area		1	square metre	m ²	m ²	MTK
half-thickness, half-value thickness		1	metre	m	m	MTR
mean linear range, mean free path		1	metre	m	m	MTR

Annex I (Normative)

**Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)**

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
slowing-down length, diffusion length, migration length		1	metre	m	m	MTR
neutron yield per fission, neutron yield per absorption		1	one	1	1	C62
fast fission factor		1	one	1	1	C62
thermal utilization factor		1	one	1	1	C62
non leakage probability		1	one	1	1	C62
multiplication factor, infinite medium multiplication factor, effective multiplication factor		1	one	1	1	C62
diffusion coefficient for neutron fluence rate, (diffusion coefficient for neutron flux density)		1	metre	m	m	MTR
total linear stopping power		1	joule per metre	J/m	J/m	B12
		1	electronvolt per metre	eV/m	1,602 177 33 x10 ⁻¹⁹ J/m	A54
	D	2	erg per centimetre	erg/cm	10 ⁻⁵ J/m	A58
total atomic stopping power		1	joule square metre	J·m ²	J x m ²	D73
		1	electronvolt square metre	eV·m ²	1,602 177 33 x10 ⁻¹⁹ J x m ²	A55
	D	2	erg square centimetre	erg·cm ²	10 ⁻¹¹ J x m ²	A66
		1	joule square metre per kilogram	J·m ² /kg	J x m ² /kg	B20
		1	electronvolt square metre per kilogram	eV·m ² /kg	1,602 177 33 x10 ⁻¹⁹ J x m ² /kg	A56
	D	2	erg square centimetre per gram	erg·cm ² /g	10 ⁻⁸ J x m ² /kg	A67
mean mass range		1	kilogram per square metre	kg/m ²	kg/m ²	28
linear ionization by a particle, total ionization by a particle		1	reciprocal metre	m ⁻¹	m ⁻¹	C92
mobility		1	square metre per volt second	m ² /(V·s)	m ² /(V x s)	D26
ion number density, ion density, neutron number density		1	reciprocal cubic metre	m ⁻³	m ⁻³	C86

Annex I (Normative)
**Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)**

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
recombination coefficient		1	cubic metre per second	m ³ /s	m ³ /s	MQS
neutron speed		1	metre per second	m/s	m/s	MTS
diffusion coefficient, diffusion coefficient for neutron number density		1	square metre per second	m ² /s	m ² /s	S4
neutron source density		1	reciprocal second per cubic metre	s ⁻¹ /m ³	s ⁻¹ /m ³	C98
slowing down density		1	reciprocal cubic metre per second	m ⁻³ /s	m ⁻³ /s	C87
resonance escape probability		1	one	1	1	C62
lethargy		1	one	1	1	C62
average logarithmic energy decrement		1	one	1	1	C62
reactivity		1	one	1	1	C62
reactor time constant	#	1	second [unit of time]	s	s	SEC
activity		1	becquerel	Bq	27,027 x 10 ⁻¹² Ci	BQL
		2	curie	Ci	3,7 x 10 ¹⁰ Bq	CUR
energy imparted, mean energy imparted		1	joule	J	J	JOU
specific energy imparted, massic energy imparted		1	gray	Gy	m ² /s ²	A95
		1S	milligray	mGy	10 ⁻³ Gy	C13
absorbed dose		2	rad	rad	10 ⁻² Gy	C80
kerma	D	2	erg per gram	erg/g	10 ⁻⁴ J/kg	A61
dose equivalent		1	sievert	Sv	m ² /s ²	D13
		1S	millisievert	mSv	10 ⁻³ Sv	C28
		2	rem	rem	10 ⁻² Sv	D91
absorbed dose rate		1	gray per second	Gy/s	m ² /s ³	A96
kerma rate	D	2	erg per gram second	erg/g·s	10 ⁻⁴ W/kg	A62
linear energy transfer		1	joule per metre	J/m	J/m	B12
		1	electronvolt per metre	eV/m	1,602 177 33 x10 ⁻¹⁹ J/m	A54

Annex I (Normative)

**Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)**

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
	D	2	erg per centimetre	erg/cm	10 ⁻⁵ J/m	A58
mass energy transfer coefficient		1	square metre per kilogram	m ² /kg	m ² /kg	D21
exposure		1	coulomb per kilogram	C/kg	A x s/kg	CKG
		1S	millicoulomb per kilogram	mC/kg	10 ⁻³ C/kg	C8
	#	2	roentgen	R	2,58 x 10 ⁻⁴ C/kg	2C
		2	milliröntgen	mR	10 ⁻³ R	2Y
	#	2	kiloroentgen	kR	0,258 C/kg	KR
exposure rate		1	coulomb per kilogram second	C/(kg·s)	A/kg	A31
	#	2	roentgen per second	R/s	2,58 x 10 ⁻⁴ C/(kg x s)	D6

CHARACTERISTIC NUMBERS (dimensionless parameters)						
Momentum Transport						
Reynolds number		1	one	1	1	C62
Euler number		1	one	1	1	C62
Froude number		1	one	1	1	C62
Grashof number		1	one	1	1	C62
Weber number		1	one	1	1	C62
Mach number		1	one	1	1	C62
Knudsen number		1	one	1	1	C62
Strouhal number		1	one	1	1	C62

Transport of Heat						
Fourier number		1	one	1	1	C62
Peclet number		1	one	1	1	C62

Annex I (Normative)

Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
Rayleigh number		1	one	1	1	C62
Nusselt number		1	one	1	1	C62
Stanton number		1	one	1	1	C62

Transport of Matter in a Binary Mixture						
Fourier number for mass transfer		1	one	1	1	C62
Peclet number for mass transfer		1	one	1	1	C62
Grashof number for mass transfer		1	one	1	1	C62
Nusselt number for mass transfer		1	one	1	1	C62
Stanton number for mass transfer		1	one	1	1	C62

Constants of Matter						
Prandtl number		1	one	1	1	C62
Schmidt number		1	one	1	1	C62
Lewis number		1	one	1	1	C62

Magnetohydrodynamics						
magnetic Reynolds number		1	one	1	1	C62
Alfven number		1	one	1	1	C62
Hartmann number		1	one	1	1	C62
Cowling number		1	one	1	1	C62

Annex I (Normative)

Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
SOLID STATE PHYSICS						
lattice vector, fundamental lattice vector		1	metre	m	m	MTR
lattice plane spacing, Burgers vector		1	angstrom	Å	10 ⁻¹⁰ m	A11
Bragg angle		1	radian	rad	m x m ⁻¹ = 1	C81
		1	degree	°	0,017 453 29 rad	DD
order of reflexion		1	one	1	1	C62
short-range order parameter, long-range order parameter		1	one	1	1	C62
relaxation time, carrier life time	#	1	second [unit of time]	s	s	SEC
magnetic flux quantum		1	weber	Wb	Wb	WEB
particle position vector, equilibrium position vector of ion or atom, displacement vector of ion or atom		1	metre	m	m	MTR
Debye-Walle factor		1	one	1	1	C62
mean free path of phonons or electrons, London penetration depth, coherence length, diffusion length		1	metre	m	m	MTR
angular repetency, angular wave number		1	reciprocal metre	m ⁻¹	m ⁻¹	C92
Fermi angular repetency, Fermi angular wave number		1	reciprocal angstrom	Å ⁻¹	10 ¹⁰ m ⁻¹	C85
Debye angular repetency, Debye angular wave number		1	radian per metre	rad/m	0,159 155 / m	C84
angular reciprocal lattice vector, fundamental reciprocal lattice vector		1	reciprocal metre	m ⁻¹	m ⁻¹	C92
Debye angular frequency		1	radian per second	rad/s	0,159 155 Hz/s	2A
		1	reciprocal second	s ⁻¹	s ⁻¹	C97

Annex I (Normative)

Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
Debye temperature, Curie temperature, Néel temperature, Fermi temperature, Super conductor transition temperature		1	kelvin	K	°C	KEL
spectral concentration of vibrational modes (in terms of angular frequency)		1	second per cubic metre	s/m ³	s/m ³	D93
		1	second per radian cubic metre	s/(rad·m ³)	s/(6,283 19 x m ³)	D94
Grüneisen parameter		1	one	1	1	C62
Madelung constant		1	one	1	1	C62
Landau-Ginzburg number		1	one	1	1	C62
density of states		1	reciprocal joule per cubic metre	J ⁻¹ /m ³	J ⁻¹ /m ³	C90
		1	reciprocal electron volt per cubic metre	eV ⁻¹ /m ³	6,241 46 x 10 ¹⁸ J ⁻¹ /m ³	C88
residual resistivity		1	ohm metre	Ω·m	Ω x m	C61
Lorenz coefficient		1	volt squared per kelvin squared	V ² /K ²	V ² /K ²	D45
Hall coefficient		1	cubic metre per coulomb	m ³ /C	m ³ /A x s	A38
thermoelectromotive force between substances a and b, Peltier coefficient for substances a and b		1	volt	V	V	VLT
thermodynamic critical magnetic flux density, lower critical magnetic flux density, upper critical magnetic flux density		1	tesla	T	T	D33
Seebeck coefficient for substances a and b		1	volt per kelvin	V/K	V/m	D48
Thompson coefficient		1S	millivolt per kelvin	mV/K	10 ⁻³ V/K	D49
work function		1	joule	J	J	JOU

Annex I (Normative)

**Units of Measure: Code elements listed by Quantity
(SI and SI equivalent units)**

Quantity	ST	Level/ Category	Name Description	Representation symbol	Conversion factor to SI	Common Code
Fermi energy		1	electronvolt	eV	1,602 177 33 x10 ⁻¹⁹ J	A53
gap energy		1S	femtojoule	fJ	10 ⁻¹⁵ J	A70
donor ionization energy, acceptor ionization energy, exchange integral, superconductor energy gap, electron affinity		1S	attojoule	aJ	10 ⁻¹⁸ J	A13
Richardson constant		1	ampere per square metre kelvin squared	A/(m ² ·K ²)	A/(m ² x K ²)	A6
electron number density, volumic electron number, hole number density, volumic hole number, donor number density, volumic donor number, intrinsic number density, volumic intrinsic number, acceptor number density, volumic acceptor number		1	reciprocal cubic metre	m ⁻³	m ⁻³	C86
effective mass		1	Kilogram A unit of mass equal to one thousand grams.	kg	kg	KGM
mobility ratio		1	one	1	1	C62

Miscellaneous						
Bust index		1M	kilopascal square metres per gram	kPa·m ² /g	10 ⁶ m/s ²	33
Hardness index		1M	kilopascals per millimetre	kPa/mm	10 ⁶ Kg/(m ² x s ²)	34
Porosity		1M	millilitres per square centimetre second	ml/(cm ² ·s)	10 ⁻² m/s	35
Porosity		1M	cubic feet per minute per square foot	ft ³ /(min/ft ²)	5,079 999 535 x 10 ⁻³ m ³ /s/m ²	36
Sheet density		1M	ounces per square foot per 0,01inch	oz/(ft ² /cin)		38