PHYSICAL QUANTITIES WITH SI AND OTHER PREFERRED UNITS

Physical Quantities	Symbols	Preferred Units	
Length	I	metre	m
Wavelength Of Light	λ Greek lambda	nanometre	nm
Area	A	square metre	m^2
Volume	V	cubic metre	m^3
Capacity	V	millilitre	ml
Time	t	second	s
Frequency	f	hertz (formerly cycle per second)	Hz
Velocity	v	metre per second	ms^{-1}
Gravitational acceleration	g	metre per $second^2$	ms^{-2}
(Gravitational field strength at earths surface)	g	newton per kg	$N\ kg^{-1}$
Mass	m	kilogram	kg
		tonne (1000kg)	t
Density	ρ Greek rho	kilogramme per m^3	$kg\ m^{-3}$
Moment of Inertia	I,J	kilogramme $metre^2$	$kg\ m^2$
Force	F	newton	N
Torque	T	newton metre	N m
Pressure	P	pascal	Pa
		(formerly Newton per m^2)	$N\ m^{-2}$
Youngs modulus of elasticity	E	newton per $metre^2$	$N\ m^{-2}$
Dynamic viscosity	ή Greek eta	newton second per m^2	$Ns\ m^{-2}$
Surface Tension	y Greek gamma	newton per metre	$N\ m^{-1}$
Work or energy	W	joule or newton metre or watt second	J
Molar volume	Vo	cubic metre per kilomole	$m^3\ kmol^{-1}$
Thermodynamic temperature T		kelvin	K
Temperature value	θ Greek theta	degree Celsius watt per	°C
Thermal Conductivity	κ Greek kappa	watt per metre Kelvin	$W\ m\ k^{-1}$
Electrical current	I	ampere	A
Quantity of electricity	Q	ampere hour	A h
		coulomb (ampere sec)	C
Electromotive force	E	volt	V
Potential difference	V		
Resistance	R	ohm	Ω
Reactance	X		
Impedance	Z		
Conductance	G	siemen	S
Resistivity	ρ Greek rho	ohm metre	$Vm\ A^{-1}$
Conductivity	ς Greek sigma	siemen per metre	$S\ m^{-1}$
Magnetic Field Quantity	B	tesla (formerly weber per m^2)	T
Magnetomotive force	F	ampere-turn	A t
Magnetic field quantity	H	ampere per metre	$A\ m^{-1}$
Self inductance	L	henry	H
Mutual inductance	M		
Capacitance	C	microfarad	μF
Luminous intensity	I	candela	cd
Illumination	E	lux (formerly lumen per m^2)	lx
Luminance	L	candela per m^2	$Cd\ m^{-2}$

PHYSICAL QUANTITIES WITH SI AND OTHER PREFERRED UNITS (cont'd)

Some notes on the use of indices

It is normal practice to write $1/10 = 10^{-1}$

Similarly

$1/100 = 1/10^2 = 10^{-2}$

$m/s = m \times 1/s = m\ s^{-1}$

$kg/m^3 = kg \times 1/m^3 = kg\ m^{-3}$

$Ns/m^2 = Ns \times 1/m^2 = Ns\ m^{-2}$

Some notes on the presentation of units

The combination of a prefix and a symbol for a unit is regarded as a single symbol and should be written with no space between the prefix and the unit: for example cm and not c m.

When writing the symbol for a derived unit formed from several basic units, the universal symbols should be separated by a space; for example the unit for velocity, metre per second, is written $m\ s^{-1}$ and not ms^{-1} (ms would be a millisecond).

When a unit is raised to a power, the power refers only to the unit and not to any number preceding it; for example $2.3\ cm^3$ is $2.3 \times 1\ cm^3$.

In any number where the decimal point is placed before the first digit of the number, a zero should always be placed before the decimal point for example 0.251 and not .251.