

**PRESSURE CONVERSION TABLE**

MPa	KPa	Pa	At	Bar	kg/sq.cm	mWh	lbi/in <sup>2</sup>	ftWh
1	10 <sup>3</sup>	10 <sup>0</sup>	10.197	10	10.197	101.97	145	334.6
10 <sup>3</sup>	1	10 <sup>0</sup>	10.2 x 10 <sup>3</sup>	0.01	10.2 x 10 <sup>3</sup>	0.102	0.145	0.3346
10 <sup>6</sup>	10 <sup>6</sup>	1	10.2 x 10 <sup>3</sup>	10	10.2 x 10 <sup>6</sup>	10.2 x 10 <sup>3</sup>	14.5 x 10 <sup>3</sup>	33.46 x 10 <sup>3</sup>
0.098	98.066	98.066 x 10 <sup>3</sup>	1	0.981	1	10	14.22	32.81
0.1	100	10 <sup>3</sup>	1.020	1	1.020	10.197	14.5	33.46
0.098	98.066	98.066 x 10 <sup>3</sup>	1	0.981	1	10	14.22	32.81
9.807 x 10 <sup>3</sup>	9.807	9.807 x 10 <sup>3</sup>	0.1	0.098	0.1	1	1.422	3.281
6.895 x 10 <sup>3</sup>	6.895	6.895 x 10 <sup>3</sup>	0.070	0.069	0.070	0.703	1	2.307
2.988 x 10 <sup>3</sup>	2.988	2.988 x 10 <sup>3</sup>	0.030	0.030	0.030	0.305	0.434	1

**SI UNITS AND CONVERSION FACTORS**

Thermodynamics

Absolute temperature Kelvin (K)				K			Multiples & submultiples not used
Celsius temperature				°C			0°C = 1273, 15K Temperature interval 1°C = 1K
Quantity of heat, joule (J)			kJ	J	mJ		
Heat flow rate, watt (W)			kW	W			
Thermal radiation density, heat flow density (W m <sup>-2</sup> )		MW m <sup>-2</sup>	KW m <sup>-2</sup>	W m <sup>-2</sup>			
Specific heat (J (kg K) <sup>-1</sup> )			$\frac{kJ}{kgK}$	$\frac{kJ}{kgK}$			J (kg °C) <sup>-1</sup>
Latent heat (J (kg) <sup>-1</sup> )		MJ kg <sup>-1</sup>	J kg <sup>-1</sup>				
Coefficient of expansion (1 K <sup>-1</sup> )				1 K <sup>-1</sup>			Generally used with power - of - ten multiplier 1/°C = 1K <sup>-1</sup>
Thermal conductivity W (m IQ <sup>-1</sup> )			kWmK <sup>-1</sup>	WmK <sup>-1</sup>			W (m°C) <sup>-1</sup>
Heat transfer coefficient ((W m <sup>3</sup> K) <sup>-1</sup> )			$\frac{kW}{m^2K}$	$\frac{W}{m^2K}$			W (m°C) <sup>-1</sup>
Gas constant (J (kg K) <sup>-1</sup> )				$\frac{J}{KgK}$			J (kg°C) <sup>-1</sup>
Calorimetric value (J kg <sup>-1</sup> )		$\frac{Mj}{kg}$	$\frac{kj}{kg}$				
Specific Impulse (Ns kg <sup>-1</sup> )				$\frac{Ns}{kg}$			1 Ns kg <sup>-1</sup> = 1 m s <sup>-1</sup>

## MULTIPLES AND SUBMULTIPLES

The prefixes are used to form names and symbols of decimal multiples and submultiples of SI units.

Factor	Prefix	Symbol	Factor	Prefix	Symbol
10 <sup>18</sup>	exe	E	10 <sup>-1</sup>	deci	d
10 <sup>15</sup>	peta	P	10 <sup>-2</sup>	centi	c
10 <sup>12</sup>	tera	T	10 <sup>-3</sup>	milli	m
10 <sup>9</sup>	giga	G	10 <sup>-6</sup>	micro	μ
10 <sup>6</sup>	mega	M	10 <sup>-9</sup>	nano	n
10 <sup>3</sup>	kilo	k	10 <sup>-12</sup>	pico	p
10 <sup>2</sup>	hecto	h	10 <sup>-15</sup>	femto	f
10	deca	da	10 <sup>-18</sup>	atto	a

## BASE SI UNITS

Quality	Name of base SI Unit	Symbol
Length	metre	m
Mass	kilogram	kg
Electric current	ampere	A
Time	second	s
Thermodynamic temperature	kelvin*	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

\*Note: Temperature intervals kelvin and degree celsius are identical. A temperature expressed in degree celcius (°C) is equal to the temperature expressed in kelvin (K) less 273.15.

## SUPPLEMENTARY SI UNITS

Quality	Name of Supplementary	Symbol
Plain angle	radian	rad
Solid angle	steradian	sr

\*Note: \*Note: Plane angle is commonly expressed in degrees 1° =  $\frac{\text{rad}}{180}$  subdivided into minutes (') and seconds (") where required.

## ALUMINIUM ALLOY CONDUCTORS (AAAC)

As per DIN Specification - DIN 48201 - Part 6 - 1981

Designation (nominal area) mm <sup>2</sup>	Area mm <sup>2</sup>	Number of Wires	Diam of wire mm	Overall diam mm	Breaking load kN	*DC Resistance at 20°C Ohm/km	Weight kg/km
16	15.89	7	1.70	5.1	4.44	2.090	43
25	24.25	7	2.10	6.3	6.77	1.370	66
35	34.36	7	2.50	7.5	9.60	0.9666	94
50	49.48	7	3.00	9.0	13.82	0.6712	135
50	48.35	19	1.80	9.0	13.50	0.6903	133
70	65.81	19	2.10	10.5	18.38	0.5071	181
95	93.27	19	2.50	12.50	26.05	0.3578	256
120	116.99	19	2.80	14.0	32.66	0.2853	322
150	147.11	37	2.25	15.8	41.09	0.2274	406
185	181.62	37	2.50	17.5	50.73	0.1842	500
240	242.54	61	2.25	20.3	67.74	0.1382	670
300	299.43	61	2.50	22.5	83.63	0.1120	827
400	400.14	61	2.89	26.0	111.76	0.08378	1104
500	499.83	61	3.23	29.1	139.60	0.06707	1379
325	656.20	91	2.93	32.6	174.90	0.05365	1732
800	802.09	91	3.35	36.9	224.02	0.04189	2218
1000	999.71	91	3.74	41.1	279.22	0.03361	2767

\*Aluminium Alloy Resistivity 325.79 Ohm mm<sup>2</sup>/km conductivity 52.58% I.A.C.S