

## Unit Conversions

<b>Mass &amp; Weight</b>			
	<b>to convert</b> →	<b>to</b> →	<b>multiply by</b>
0.035274	ounce (oz)	gram (g)	28.349
2.20462	pound (lb)	kilogram (kg)	0.453592
0.001	tonne (metric ton or MT)	kilogram (kg)	1000
0.984207	ton UK (long ton)	tonne (t)	1.01605
0.001	kip	pound (lb)	1000
$446.43 \times 10^{-6}$	ton UK (long ton)	pound (lb)	2240
0.0005	ton USA (short ton)	pound (lb)	2000
<b>multiply by</b> ←	<b>to</b> ←	<b>to convert</b>	

<b>Length</b>			
	<b>to convert</b> →	<b>to</b> →	<b>multiply by</b>
0.0393701	inch (in)	millimetre (mm)	25.400
3.28084	foot (ft)	metre (m)	0.3048
1.09361	yard	metre (m)	0.91440
0.621371	mile	kilometre (km)	1.60934
39.370	thou or mil	millimetre (mm)	0.02540
0.001	millimetre (mm)	micrometre (micron or $\mu\text{m}$ )	1000
0.02540	micrometre (micron or $\mu\text{m}$ )	micro-inch ( $\mu\text{''}$ )	39.370
<b>multiply by</b> ←	<b>to</b> ←	<b>to convert</b>	

<b>Area</b>			
	<b>to convert</b> →	<b>to</b> →	<b>multiply by</b>
2.47105	acre	hectare (ha)	0.40469
0.1550	square inch (in <sup>2</sup> )	square centimetre (cm <sup>2</sup> )	6.4516
10.7639	square foot (ft <sup>2</sup> )	square metre (m <sup>2</sup> )	0.092903
10000	square metre (m <sup>2</sup> )	hectare (ha)	0.0001
<b>multiply by</b> ←	<b>to</b> ←	<b>to convert</b>	

<b>Volume</b>			
	<b>to convert</b> →	<b>to</b> →	<b>multiply by</b>
0.21997	gal (UK)	litre (l or L)	4.5461
0.26417	gal (US)	litre (l or L)	3.7854
0.001	litre (l or L)	millilitre (ml)	1000
0.035195	fluid ounce (fl oz)	millilitre (ml)	28.413
1.7598	pint (UK)	litre (l or L)	0.56826
0.001	cubic metre (m <sup>3</sup> )	litre (l or L)	1000
0.061024	cubic inch (in <sup>3</sup> )	millilitre (ml)	16.3871
<b>multiply by</b> ←	<b>to</b> ←	<b>to convert</b>	

## Unit Conversions

<b>Tensile Strength, Stress &amp; Pressure</b>			
	<b>to convert</b> →	<b>to</b> →	<b>multiply by</b>
1.000	newton/sq.metre (N/m <sup>2</sup> )	pascal (Pa)	1.000
1.000	newton/sq.mm (N/mm <sup>2</sup> )	megapascal (MPa)	1.000
0.001	megapascal (MPa)	kilopascal (kPa)	1000
0.001	gigapascal (GPa)	megapascal (MPa)	1000
0.006895	megapascal (MPa)	pound-force/sq.inch (lbf/in <sup>2</sup> or psi)	145.04
0.001	ksi	pound-force/sq.inch (lbf/in <sup>2</sup> or psi)	1000
0.145	ksi	megapascal (MPa)	6.895
15.444	megapascal (MPa)	ton-force (UK)/sq.inch (tonf/in <sup>2</sup> )	0.06475
9.80665	megapascal (MPa)	kilogram-force/sq.mm (kgf/mm <sup>2</sup> )	0.10197
10.00	bar	megapascal (MPa)	0.100
0.010	bar	kilopascal (kPa)	100
0.03386	bar	inches mercury (in Hg)	29.53
0.06895	bar	pound-force/sq.in (lbf/in <sup>2</sup> or psi)	14.504
0.14504	pound-force/sq.in (lbf/in <sup>2</sup> or psi)	kilopascal (kPa)	6.89476
0.009869	atmosphere (atm)	kilopascal (kPa)	101.32
0.06804	atmosphere (atm)	pound-force/sq.in (lbf/in <sup>2</sup> or psi)	14.696
<b>multiply by ←</b>	<b>to ←</b>	<b>to convert</b>	

<b>Force</b>			
	<b>to convert</b> →	<b>to</b> →	<b>multiply by</b>
10 <sup>5</sup>	dyne	newton (N)	10 <sup>-5</sup>
0.10197	kilogram-force (kgf)	newton (N)	9.80665
0.22481	pound-force (lbf)	newton (N)	4.44822
2.2046	pound-force (lbf)	kilogram-force (kgf)	0.45359
0.10036	ton-force (UK)	kilonewton (kN)	9.9640
<b>multiply by ←</b>	<b>to ←</b>	<b>to convert</b>	

<b>Torque</b>			
	<b>to convert</b> →	<b>to</b> →	<b>multiply by</b>
0.7376	pound-force foot (lbf ft)	newton metre (Nm)	1.356
0.10197	kilogram-force metre (kgf m)	newton metre (Nm)	9.80665
8.851	pound-force inch (lbf in)	newton metre (Nm)	0.1130
<b>multiply by ←</b>	<b>to ←</b>	<b>to convert</b>	

<b>Density</b>			
	<b>to convert</b> →	<b>to</b> →	<b>multiply by</b>
0.001	gram/cu.centimetre (g/cm <sup>3</sup> )	kilogram/cu.metre (kg/m <sup>3</sup> )	1000
36.127 x 10 <sup>-6</sup>	pound/cu.inch (lb/in <sup>3</sup> )	kilogram/cu.metre (kg/m <sup>3</sup> )	27680
16.0185	pound/cu.foot (lb/ft <sup>3</sup> )	kilogram/cu.metre (kg/m <sup>3</sup> )	0.06243
<b>multiply by ←</b>	<b>to ←</b>	<b>to convert</b>	

## Unit Conversions

Energy, Work & Heat			
	to convert $\longrightarrow$	to $\longrightarrow$	multiply by
0.73756	foot pound-force (ft lbf)	joule (J)	1.35582
0.2388	calorie (cal)	joule (J)	4.1868
0.10197	kilogram-force metre (kgf m)	joule (J)	9.80665
$9.478 \times 10^{-4}$	British thermal unit (Btu)	joule (J)	1055.1
0.27778	kilowatt hour (kWh)	megajoule (MJ)	3.600
0.009478	therm	megajoule (MJ)	105.51
<b>multiply by <math>\longleftarrow</math></b>	<b>to <math>\longleftarrow</math></b>	<b>to convert</b>	

Power			
	to convert $\longrightarrow$	to $\longrightarrow$	multiply by
1.000	watt (W)	joule/sec (J/s)	1.000
1.3410	horsepower	kilowatt (kW)	0.74570
3.4121	British thermal unit/hr (Btu/h)	watt (W)	0.2931
0.8598	kilocalorie/hour (kcal/h)	watt (W)	1.163
0.73757	foot pound-force/sec (ft lbf/s)	watt (W)	1.3558
0.10197	kilogram-force metre/sec (kgf m/s)	watt (W)	9.80665
<b>multiply by <math>\longleftarrow</math></b>	<b>to <math>\longleftarrow</math></b>	<b>to convert</b>	

Temperature		
$^{\circ}\text{F} = (^{\circ}\text{C} \times 1.8) + 32$	$^{\circ}\text{C} = (^{\circ}\text{F} - 32) / 1.8$	$^{\circ}\text{K} = ^{\circ}\text{C} + 273.15$

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