

# CONVERSION FACTORS

## Length

<b>1 km</b>	0.621371 mile
<b>1 m</b>	1.09361 yd. 3.2808 ft.
<b>1 cm</b>	0.393701 in.
<b>1 mm</b>	0.03937 in.
<b>1 μm</b>	39.3701 μin.
1 mile	<b>1.60934 km</b>
1 yd.	<b>0.9144 m</b>
1 ft	<b>0.3048 m</b>
1 in.	<b>25.4 mm</b>
1 milli-in. (thou.)	<b>25.4 μm</b>
1 μin.	<b>0.0254 μm</b>

## Area

<b>1 km<sup>2</sup></b>	<b>100 ha</b> 247.105 acres
<b>1 ha</b>	<b>10,000 m<sup>2</sup></b> 2.47105 acres
<b>1 m<sup>2</sup></b>	1.19599 yd. <sup>2</sup>
<b>1 cm<sup>2</sup></b>	0.155 in. <sup>2</sup>
<b>1 mm<sup>2</sup></b>	0.00155 in. <sup>2</sup>
1 mile <sup>2</sup>	<b>2.58999 km<sup>2</sup></b>
1 acre	<b>4046.86 m<sup>2</sup></b> <b>0.404686 ha</b>
1 yd. <sup>2</sup>	<b>0.836127 m<sup>2</sup></b>
1 ft. <sup>2</sup>	<b>0.092903 m<sup>2</sup></b>
1 in. <sup>2</sup>	<b>645.16 mm<sup>2</sup></b>

## Volume, Capacity

<b>1 m<sup>3</sup></b>	1.30795 yd. <sup>3</sup>
<b>1 dm<sup>3</sup> (liter)</b>	0.03531 ft. <sup>3</sup> 0.26417 U.S. gal. 1.05669 U.S. qt. 2.11338 U.S. pt. 0.21997 imp. gal. (U.K.)
<b>1 cm<sup>3</sup></b>	0.06102 in. <sup>3</sup> 0.0338 U.S. fl. oz. 0.0352 U.K. fl. oz.
1 yd. <sup>3</sup>	<b>0.76455 m<sup>3</sup></b>
1 ft. <sup>3</sup>	<b>28.3168 dm<sup>3</sup></b>
1 in. <sup>3</sup>	<b>16.3871 cm<sup>3</sup></b>
1 U.S. gal.	<b>3.78541 dm<sup>3</sup></b>
1 U.S. pt.	<b>0.47318 dm<sup>3</sup></b>
1 U.S. fl. oz.	<b>29.5735 cm<sup>3</sup></b>

## Power

1 h.p. (electric)	<b>746.000 W (J/s)</b>
1 h.p. (metric)	<b>735.499 W (J/s)</b>
1 h.p. (U.K.)	<b>745.700 W (J/s)</b>
1 ft. lbf/s	<b>1.35582 W</b>

## Mass

1 tonne (metric)	<b>1000 kg</b> 2204.62 lbs. 0.98420 ton (long) 1.1023 ton (short)
<b>1 kg</b>	0.02205 cwt (short) 2.20462 lbs. 0.01968 cwt (long)
<b>1 g</b>	0.03527 oz. (avdp.)
1 ton (long)	<b>1016.05 kg</b> 2240 lbs. 1.01605 tonne (metric) 1.120 ton (short)
1 ton (short)	<b>907.185 kg</b> 2000 lbs. 0.90719 tonne (metric) 0.8929 ton (long)
1 cwt (short)	<b>45.3592 kg</b> 100 lbs.
1 cwt (long)	<b>50.8023 kg</b> 112 lbs.
1 lb.	<b>0.45359 kg</b>
1 oz. (avdp.)	<b>28.349 g</b>

## Density

<b>1 kg/m<sup>3</sup></b>	1.686 lb./yd. <sup>3</sup> 0.06243 lb./ft. <sup>3</sup>
<b>1 g/cm<sup>3</sup></b>	62.4280 lb./ft. <sup>3</sup>
1 ton (long)/yd. <sup>3</sup>	<b>1328.94 kg/m<sup>3</sup></b>
1 lb./yd. <sup>3</sup>	<b>0.593 kg/m<sup>3</sup></b>
1 lb./ft. <sup>3</sup>	<b>16.0185 kg/m<sup>3</sup></b>
1 lb./in. <sup>3</sup>	<b>27.6799 g/cm<sup>3</sup></b>

## Force

<b>1 N</b>	0.10197 kgf 0.22481 lbf
<b>1 kN</b>	101.971 kgf 224.809 lbf
1 kgf (kilopond)	<b>9.80665 N</b> 2.20462 lbf
1 dyn	<b>10<sup>-5</sup> N</b> 0.224809 x 10 <sup>-5</sup> lbf
1 lbf	<b>4.44822 N</b> 0.45359 kgf
1 tonf (long)	<b>9.96402 kN</b> 1016.05 kgf

## Temperature

<b>Kelvin (K)</b>	= (t <sub>F</sub> + 459.67) 1.8
	= (t <sub>C</sub> + 273.15)
<b>Celsius (C)</b>	= (t <sub>F</sub> - 32) 1.8
<b>Fahrenheit (F)</b>	= (t <sub>C</sub> x 1.8) + 32

## Pressure, Stress

<b>1 Pa (N/m<sup>2</sup>)</b>	0.01 mbar 0.000145 lbf/in. <sup>2</sup> (psi)
<b>1 kPa (kN/m<sup>2</sup>)</b>	0.01 kgf/cm <sup>2</sup> 10 mbar 20.885 lbf/ft. <sup>2</sup> 0.2953 in. Hg 0.145 lbf/in. <sup>2</sup> (psi)
1 kgf/cm <sup>2</sup>	<b>98.0665 kPa</b> 14.223 lbf/in. <sup>2</sup> (psi)
1 bar	<b>100 kPa</b> 14.5038 lbf/in. <sup>2</sup> (psi)
1 mbar	<b>100 Pa</b> 2.0885 lbf/ft. <sup>2</sup> (psi)
1 atm	<b>101.325 kPa</b> 14.6959 lbf/in. <sup>2</sup> (psi)
1 mm Hg (torr)	<b>133.322 Pa</b> 0.01934 lbf/in. <sup>2</sup> (psi)
1 mm H <sub>2</sub> O	<b>9.80665 Pa</b> 0.001422 lbf/in. <sup>2</sup> (psi)
1 lbf/in. <sup>2</sup> (psi)	<b>6.89476 kPa</b> 0.07031 kgf/cm <sup>2</sup> 68.9476 mbar
1 lbf/ft. <sup>2</sup>	<b>47.8803 Pa</b> 0.4788 mbar
1 ton/ft. <sup>2</sup> (short)	0.9765 kgf/cm <sup>2</sup>
1 ton/ft. <sup>2</sup> (long)	<b>107.252 kPa</b> 1.094 kgf/cm <sup>2</sup>
1 in. Hg	<b>3.38639 kPa</b> 0.491 lbf/in. <sup>2</sup> (psi)
1 ft. H <sub>2</sub> O	<b>2.98907 kPa</b> 0.030 kgf/cm <sup>2</sup> 22.3997 mm Hg

## Viscosity, Dynamic

<b>1 Pa s (N s/m<sup>2</sup>)</b>	0.0208854 lbf s/ft. <sup>2</sup>
1 cP (centipoise)	2.08854 x 10 <sup>-5</sup> lbf s/ft. <sup>2</sup> <b>0.001 Pa s</b>
1 lbf s/ft. <sup>2</sup>	<b>47.8803 Pa s</b>
1 lb./ft. s	1488.16 cP 1.48816 kg/m s

## Viscosity, Kinematic

<b>1 m<sup>2</sup>/s</b>	10.7639 ft. <sup>2</sup> /s
1 cSt (centistoke)	5.58001 in. <sup>2</sup> /h <b>1 mm<sup>2</sup>/s</b> <b>10<sup>-6</sup> m<sup>2</sup>/s</b>
1 ft. <sup>2</sup> /h	<b>0.092903 m<sup>2</sup>/h</b> 25.8064 cSt
1 in. <sup>2</sup> /s	<b>645.16 mm<sup>2</sup>/s</b> 645.16 cSt

## Energy

<b>1 MJ</b>	0.277778 kWh
<b>1 J</b>	0.737562 ft. lbf
1 kgf m	<b>9.80665 J</b> 7.23301 ft. lbf
1 therm	<b>105.506 MJ</b>
1 kWh	<b>3.6 MJ</b>
1 Btu	<b>1.05506 kJ</b>