



Conversion Factors for U.S./British and Metric Units



Quantity

<u>U.S./British Unit</u>		<u>S.I. Unit</u>
<u>Linear Measures</u>		
1 inch (in.)	=	25,4 mm
1 foot (ft) 1ft = 12 in.	=	0,3048 m
1 Yard (yd) = 3 ft	=	0,9144 m
1 English Mile	=	1,6093 km
0,039370 in.	=	1 millimeter (mm)
0,393701 in.	=	1 centimeter (cm)
3,280840 ft = 1,093613 yd	=	1 meter (m)
0,6214 English Mile	=	1 kilometer (km)

<u>Square Measures</u>		
1 square inch (sq.in.)	=	645,160 sq.mm
1 square inch (sq.in.)	=	6,45160 sq.cm
1 square foot (sq.ft)	=	9,2903 sq.dm
1 square yard (sq.yd)	=	0,836127 sq.m
1 sq.ft = 144 sq.in.	=	0,092903 sq.m
0,001550 sq.in.	=	1 square millimeter (sq.mm)
0,155000 sq.in.	=	1 square centimeter (sq.cm)
10,763910 sq.ft	=	1 square meter (sq.m)
1,195990 sq.yd	=	1 square meter (sq.m)

<u>Volume</u>		
1 cubic inch (cu.in.)	=	16,387064 cu.cm
1 cubic foot (cu.ft)	=	28,316847 cu.dm
1 ft = 1728 cu.in.	=	0,028317 cu.m
1 gallon (U.S.)	=	3,7854 cu.dm
1 gallon (U.K.)	=	4,546 cu.dm
1 barrel (U.S.)	=	158,987 cu.dm
0,061024 cu.in.	=	1 cubic centimeter (cu.cm)
0,035315 cu.ft	=	1 cubic decimeter (cu.dm)
35,31467 cu.ft	=	1 cubic meter (cu.m)



Quantity

U.S./British Unit

S.I. Unit

Weights

1 ounce (oz)	=	28,3495 g
1 pound (lb) = 16 ounces	=	0,45359237 kg
1 long ton (l ton) = 2240 lb	=	1016,04706 kg
1 short ton (sh ton) = 2000 lb	=	907,185 kg
0,035274 oz	=	1 gramm (g)
2,204622 lb	=	1 kilogramm (kg)
0,984206 l ton	=	1 metric ton (t) = 1000 kg
1,10231 sh ton	=	1 metric ton (t)

Weights per Length

1 lb / ft	=	1,488164 kg / m
1 lb / yd	=	0,496054 kg / m
0,671969 lb / ft = 2,015907 lb / yd	=	1 kg / m



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Force *

$$1 \text{ pound-force (lbf)} = 4,448222 \text{ Newton (N)}$$

$$0,224809 \text{ lbf} = 1 \text{ N}$$

Pressure / Stress *

$$1 \text{ pound - force per square inch (psi)} = 0,06895 \text{ bar}$$

$$1 \text{ lbf / sq.in. (psi)} \hat{=} 1 \text{ lb / sq.in.} = 0,006895 \text{ N / sq.mm (MPa)}$$

$$1 \text{ lbf / sq.ft} = 47,88 \text{ N / sq.mm}$$

$$14,5038 \text{ lbf / sq.in.} = 1 \text{ bar}$$

$$145,038 \text{ lbf / sq.in.} = 1 \text{ N / sq.mm (MPa)}$$

Density

$$1 \text{ lb / ft} = 0,016018 \text{ kg / dm}$$

$$62,427952 \text{ lb / ft} = 1 \text{ kg / dm}$$

Torque *

$$1 \text{ foot pound - force ft - lbf} \hat{=} 1 \text{ ft - lb} = 1,3558 \text{ Nm}$$

$$0,7376 \text{ ft - lbf} = 1 \text{ Nm}$$

Energy

$$1 \text{ ft - lbf} \hat{=} 1 \text{ ft - lb} = 1,355818 \text{ Joule (J)}$$

$$0,737562 \text{ ft - lbf} = 1 \text{ J}$$



Quantity

<u>U.S./British Unit</u>		<u>S.I. Unit</u>
<u>Speed</u>		
1 mile per hour (m.p.h.)	=	1,609344 km / h
1 foot per second (ft / s)	=	0,3048 m / s
0,621371 m.p.h.	=	1 km / h
3,28084 ft / s	=	1 m / s
<u>Power *</u>		
1 ft lbf / s	=	1,35582 W ; J / s ; Nm / s
1000 ft lbf / s = 1,8182 hp = 1,28182 btu / s	=	1,35582 kW
737,562 ft lbf / s	=	1 kW = 1,359621617 PS
		1 PS = 0,73549875 kW
<u>Flow Rate</u>		
1 barrel per day	=	0,158987 m / day
1 cubic foot per minute (ft / min)	=	0,02831685 m / min = 40,776192 m / day
<u>Temperature</u>		
Conversion formula °F	to	°C = 5 / 9 (°F - 32)
1 degree Fahrenheit (°F)	=	0,5556 °C
32 °F	=	0 °C
212 °F	=	100 °C

* Note: 1 pound-force (lbf) $\hat{=}$ 1 pound (lb)