

CONVERSION FACTORS AND FORMULAE

CONVERSION FACTORS TABLE

These units	Multiplied by Equal		These units	Multiplied by Equal	
Amperes per sq. cm	6.452	Amperes per sq. in	Foot-pounds	1.285 x 10 ³	British thermal units
Ampere-turns	1.257	Gilbert		1.356 x 10 ⁷	Ergs
Ampere-turns per cm	2.540	Ampere-turns per in		5.050 x 10 ⁻⁷	horsepower hours
British thermal units	778.3	Foot pounds		1.356	joules
	3.930 x 10 ⁻⁴	Horsepower hours	Foot-pounds per sec	3.766 x 10 ⁻⁷	kilowatt hours
	1.055	Joules		7.709 x 10 ⁻²	B.t. units per minute
	2.931 x 10 ⁻⁴	Kilowatt hours		1.818 x 10 ⁻³	Horse power
B.t.u. per min	12.97	Foot-pounds per sec		1.356 x 10 ⁻³	Kilowatts
	0.02357	Horsepower	Gallons U S	0.1337	Cubic feet
	0.01758	Kilowatts		231	Cubic inches
	17.58	Watts	Gallons per minute	2.228 x 10 ⁻³	Cubic feet per sec
Centimeters	3.281 x 10 ⁻²	Feet	Gausses	6.452	Lines per sq. inch
	0.3937	Inches	Gilbert	0.7958	Ampere-turns
	6.214 x 10 ⁻⁶	Miles	Gilbert per centimeter	2.021.	Ampere-turns per inch
	393.7	Miles	Grams	980.7	Dynes
	1.094 x 10 ⁻²	Yards		15.43	Grains
Centimeter-dynes	7.376 x 10 ⁻⁸	Pound-feet		0.03527	Ounces
Centimeter-grams	7.233 x 10 ⁻⁵	Pound-feet	Grams	0.03215	Ounces (troy)
Centimeter per sec	1.969	Feet per minute		2.205 x 10 ⁻³	Pounds
	0.03281	Feet per sec	Horsepower	42.42	B.t. units per minute
	0.02237	Miles per hour		33,000	Foot-pounds per minute
	3.728 x 10 ⁻⁴	Miles per minute		550	Foot-pounds per second
Circular mils	7.854 x 10 ⁻⁷	Sq. inches		1.014	Horsepower (metric).
	0.7854.	Sq. mils		0.7457	Kilowatts.
Cms Per sec Per sec	0.03281	Feet per sec Per sec		745.7	Watts.
Cubic Centimeters	3.531x10 ⁻⁵	Cubic feet	Horsepower (boiler)	33.250	B.t.u. per hour.
	3.102 x 10 ⁻²	Cubic inches		9.804	Kilowatts.
Cubic feet	7.481	Gallons U.S./6.228 imp. gal	Horsepower hours	2,545	B.t. units
	59.83	Pints (liquid) US		1.98 x 10 ⁶	Foot-Pounds
	29.92	Quarts (liquid) US		2.684 x 10 ⁶	Joules.
	49.83	Pints (imperial)	Inches of water	0.5781	Ounce per sq. in.
	24.915	Quarts (imperial)		5.202	Pounds per sq. ft.
Cubic meters	35.31	Cubic feet		0.03613	Pounds per sq. in.
	61.024 x 10 ³	Cubic inches	Inches of water	0.5781	Ounces per sq. in.
	1.308	Cubic yards		5.202	Pounds per sq. ft.
	264.2	Gallons US		0.03613	Pounds per sq. in.
	2113	(1,759 imperial) pints (liquid)	Joules (Int.)	9.480 x 10 ⁻⁴	B.t. Units
	1057	(879 imperial) quarts (liquid)		10 ⁷	Ergs
Degrees (angle)	0.01745	Radians		0.7378	Foot-pounds.
Degrees per sec	0.1667	Revolutions per minute		2.778 x 10 ⁻⁴	Watt-hours.
Dynes	2.248 x 10 ⁻⁶	Pounds	Kilograms	980.665 x 10 ⁻³	Dynes.
Ergs (dyne- Centimeters)	9.480 x 10 ⁻¹¹	British thermal units		2.205	Pounds
	7.378 10 ⁻⁸	Foot pounds		1.102 x 10 ⁻³	Tons (short)
	10 ⁷	Joules	Kilogram per sq. mm.	14.223	Pounds per sq. inch.
Ergs per sec	5.688 x 10 ⁻⁹	B.t. units per minute		0.0063497	Tons per sq. inch.
	4.427 x 10 ⁻⁶	Foot-pounds per minute	Kilogram per sq. mm.	1,422.3	Pounds per sq. inch.
	7.378 x 10 ⁻⁹	Foot-pounds per sec	Kilometer	0.62137	Miles.
	1.341 x 10 ⁻¹⁰	Horsepower		1,093.61	Yds
	10 ⁻¹⁰	Kilowatts		3,280.84	Ft.
Feet of Water	62.43	Pounds per sq. foot	Kilolines	10 ³	Maxwells
	0.4335	Pounds per sq. inch	Kilowatts	56.88	B.t. units per min
Feet per minute	0.01667	Feet per seconds		4.427 x 10 ⁴	Foot-pounds per min.
	0.01136	Miles per hour		737.8	Foot pounds per sec.
Feet per sec	0.5921	Knots		1,341	Horsepower
	0.6813	Miles per hour		10 ³	Watts.



These units	Multiplied by Equal		These units	Multiplied by Equal	
Kilowatt-hours	3,413	B.t. units per min.	Quarts (dry)	67.20	Cubic inches.
	2.656×10^6	Foot-pounds	Quarts (liq.) U.S.	3.342×10^{-2}	Cubic feet.
	1,341	Horsepower hours.		57.75	Cubic inches.
	3.6×10^6	Joules.			
Lumens per sq. ft.	1	Footcandles.	Radians	57.30	Degrees
Megalines	106	Maxwells		3,438	Minutes
Megohms	10^6	Ohms.		0.6366	Quadrants.
Metre	3.281	Feet.	Radians per sec.	57.30	Degrees per second.
	39.37	Inches.		9.549	Revolutions per min.
	6.214×10^{-4}	Miles.		0.1592	Revolutions per sec.
Metres per minute	0.05468	Feet per second.	Revolutions	360	Degrees
	0.03728	Miles per hour.		6.283	Radians
Metres per sec.	196.8	Feet per min.		4	Quadrants.
	3.281	Feet per second.	Revolutions per minute	6	Degrees per second.
	2.237	Miles per hour.		0.1047	Radians per second.
	0.03728	Miles per min.		0.01667	Revolutions per sec.
Microhms	10^{12}	Megohms.	Revs. Per sec. Per sec.	6.283	Radians per sec. Per sec.
	10^4	Ohms.		3,600	Revs. Per min. per min.
Mils	8.333×10^{-5}	Feet.		60	Revs. Per min. per sec.
	10^3	Inches.	Seconds (angle)	4.8×10^{-6}	Radians
Mil-foot	9.425×10^{-6}	Cubic inches.	Square centimetres	1.973×10^{-5}	Circular mils.
				1.076×10^{-3}	Square feet.
Millihenries	10^3	Henries.		0.1550	Square inches.
Millimetres	3.281×10^{-3}	Feet.	Square foot	2.296×10^{-5}	Acres.
	0.03937	Inches.		1.833×10^{-4}	Circular mils.
	6.214×10^{-7}	Miles.		144	Square inches.
	39.37	Mils.	Square inches	1.273×10^6	Circular mils.
Miles	1.6093	Kilometres.		6.944×10^3	Square feet.
	1,760	Yds.		10^9	Square mils.
	5,280	Ft.	Square metres	2.471×10^{-4}	Acres
	63,360	Inches.		10.76	Square feet
				1,550	Square inches.
Miles per hour	88	Feet per min.		3.861×10^{-7}	Square mils.
	1.467	Feet per second.	Square miles	640	Acres
Miles per hr. per sec.	1.467	Feet per sec. Per sec.		27.88×10^6	Square feet.
				3.098×10^6	Square yards.
Miles per min.	88	Feet per second.	Square millimetres	1.973×10^3	Circular mils.
	52.10	Knots.			
	60	Miles per hour.	Square mils	1.273	Circular mils.
Minutes (angle)	2.909×10^{-4}	Radians.		10^6	Square inches.
Ohms	10^6	Megohms.	Temp. (degs. C.) + 273	1	Abs. Temp. (degs.).
	10^6	Microhms.	Temp. (degs. C.) + 17.8	1.8	Temp. (degs.) Fahr.
Ounces	0.0625	Pounds.	Temp. (degs. Fahr.) -32	0.5556	Temp. (degs.) C.
Ounces per sq. in.	0.0625	Pounds per sq. in.	Temp. (degs. Fahr.) + 460	1	Abs. Two (degs. Fahr.).
Pounds	44.823	Dynes.	Tons (long)	2,240	Pounds
	16	Ounces.		1.01605	Tons (metric)
Pounds (troy)	0.8229	Pounds (av.).	Tons (metric)	2,204.6	Pounds.
Pounds of water	0.01602	Cubic feet		0.09842	Tons (longs).
	27.68	Cubic inches.	Tons (short)	2,000	Pounds.
	0.1198	Gallons U.S.		0.90719	Tons (metric).
Pounds per cubic foot	5.787×10^{-4}	Pounds per cubic inch.	Tons (short) per sq. ft.	13.89	Pounds per square inch.
	5.456×10^{-9}	Pounds per mil-foot.	Tons (short) per sq. in.	2,000	Pounds per square inch.
Pounds per cubic inch	9.425×10^{-4}	Pounds per mil-foot.	Tons (long) per sq. in.	157.488	Kilogram per sq. cm.
Pounds per square foot	0.01602	Feet of water.		1,574.88	Kilogram per sq. cm.
	6.944×10^{-3}	Pounds per sq. inch.		0.157488	Tonnes per sq. mm.
Pounds per square inch	2.307	Feet of water.	Webers	10^8	Maxwells.
	144	Pounds per square foot.	Yards	0.9144	Metres.
Pounds of water per min.	2.669×10^{-4}	Cubic feet per sec.		0.000568	Miles.
Quadrants (angle)	90	Degrees.			
	5,400	Minutes.			
	1.571	Radians.			

