

APPENDIX R

METRIC CONVERSION TABLE

Unit A Measure	To convert Unit A to B Measure multiply by:	To convert Unit B to A multiply by:	Unit B Measure
ACCELERATION			
Foot/second ²	0.3048	3.2808	Metre/second ²
ANGLES			
Mils (circular)	0.0562	17.78	Degree, angular
AREA			
Acre	4,047	2.471x10 ⁻⁴	Metre ²
Acre	1.563x10 ⁻³	640	Square miles
Foot ²	0.09290	10.764	Metre ²
Inch ²	6.452	0.155	Centimeters ²
Mile ² (US Statute)	2,589.988	3.861x10 ⁻⁷	Metre ²
Yard ²	0.8361	1.1960	Metre ²
BENDING MOMENT (Torque)			
Kilogram-force-metre	9.8067	0.102	Newton-metre
Pound-force-foot	1.356	0.7375	Newton-metre
CAPACITY (See Volume)			
DENSITY (See Mass/Volume)			
ENERGY (Includes Work)			
Foot-pound	0.001285	778.1	BTU
Foot-Pound	3.766x10 ⁻⁷	2655	Kilowatt-hours

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Unit A Measure	To convert Unit A to B Measure multiply by:	To convert Unit B to A multiply by:	Unit B Measure
Foot-pound-force	1.356	0.7376	Joule
Kilowatt-hour	3,600,000	2.778×10^{-7}	Joule
Watt-second	1.000	1.000	Joule
FLOW (See Mass/Time or Volume/Time)			
FORCE			
Kilogram-force	9.8067	0.1020	Newton
Kip	4448	0.0002248	Newton
Pound-force (avoirdupois)	4.488	0.2248	Newton
FORCE/AREA (See Pressure)			
FORCE/LENGTH			
Pound-force/foot	14.59	0.06852	Newton/metre
LENGTH			
Angstrom	1.0×10^{-10}	1.0×10^{10}	Metre
Fathom	1.829	0.5468	Metre
Foot (US Survey)	0.3048	3.281	Metre
Foot (US Survey)	0.167	6	Fathoms
Inch	2.54	0.3937	Metre
Mil	2.540×10^{-5}	3937	Metre
Mile (US Nautical)	1852.000	0.00054	Metre
Mile (US)	1609	0.0006214	Metre

Unit A Measure	To convert Unit A to B Measure multiply by:	To convert Unit B to A multiply by:	Unit B Measure
Statute)			
Mile (US Statute)	0.869	1.115	Nautical Mile
Mile (US Statute)	5,280	1.894×10^{-4}	Feet
LIGHT			
Foot candle	10.76	0.09290	Lumen/metre ² (Lux)
MASS			
Grain	0.0648	15.432	Grams
Ounce-mass (avoirdupois)	0.02835	35.26	Kilogram
Ounce	437.5	0.002286	Grains
Pound	0.0004464	2240	Long or Gross Ton
Slug	14.59	0.06854	Kilogram
Ton (Long, 2240 lbs)	1016	0.0009842	Kilogram
Ton (Metre)	1000.00	0.001	Kilogram
Ton (Short, 2000 lbs)	907.2	0.001102	Kilogram
Ton (Net or short-tons)	0.8929	1.12	Ton (long or gross)
MASS/AREA			
Pound-mass/foot ²	4.882	0.2048	Kilogram/metre ²
MASS/CAPACITY (See Mass/Volume)			
MASS/TIME (Includes Flow)			

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Unit A Measure	To convert Unit A to B Measure multiply by:	To convert Unit B to A multiply by:	Unit B Measure
Cubic feet per second	448.8	0.002228	US Gallons/min
Pound-mass per second	0.4536	2.205	Kilogram/second
Ton (short, mass) per hour	0.2520	3.968	Kilogram/second
MASS/VOLUME			
Pound-mass/foot ³	16.02	0.06243	Kilogram/metre ³
Pound-mass/inch ³	27680	3.613x10 ⁻⁵	Kilogram/metre ³
Ton (long, mass)/yard ³	1329	0.0007525	Kilogram/metre ³
POWER			
Foot-pound-force/hour	3.766x10 ⁻⁴	2655	Watt
Horsepower	550	0.001818	Foot-pounds per sec
Horsepower (550 ft-lb/s)	745.7	0.001341	Watt
Horsepower (water)	746.0	.001340	Watt
Horsepower (US)	1.014	0.9863	Horsepower (metric)
PRESSURE OR STRESS (Force/Area)			
Atmospheres (mean)	33.90	0.02950	Feet of water

Unit A Measure	To convert Unit A to B Measure multiply by:	To convert Unit B to A multiply by:	Unit B Measure
Atmospheres (mean)	14.70	0.0680	Pounds per sq inch
Atmospheres (mean)	29.92	0.03342	Inches of mercury
Feet of Water	62.43	0.01602	Pounds per sq foot
PSI	2.036	0.4912	Inches of mercury
SHIPPING			
Cubic feet	0.010	100.0	Register tons
Cubic feet	0.0250	40.0	US shipping tons
Cubic feet	0.0238	42.0	British shipping tons
SPEED (See Velocity)			
STRESS (See pressure)			
TEMPERATURE			
Degree Fahrenheit	$t^{\circ}\text{C} = (t^{\circ}\text{F} - 32)/1.8$	$t^{\circ}\text{F} = 1.8 t^{\circ}\text{C} + 32$	Degree Celsius
TORQUE (See Bending Moment)			
VELOCITY (Includes Speed)			
Foot/second	0.3048	3.281	Metre/second
Kilometre/hour	0.2778	3.600	Metre/second
Knot (International)	0.5144	1.944	Metre/second
Miles/hour	1.467	0.6818	Feet/second
VOLUME			
Board foot	0.002306	423.8	Metre ³
Foot ³	0.02832	35.31	Metre ³
Foot ³	1728	0.000579	Inches ³

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Unit A Measure	To convert Unit A to B Measure multiply by:	To convert Unit B to A multiply by:	Unit B Measure
Foot ³	7.481	0.1337	Gallons (US)
Gallon (Canadian liquid)	0.0045461	219.97	Metre ³
Gallon (US liquid)	0.003785	264.2	Metre ³
Gallon (US liquid)	0.8325	1.201	Gallons (Imperial)
Gallon (US liquid)	3.785	0.2672	Liter
Inch ³	1.6387×10^{-5}	61,024	Metre ³
Litre	0.0010	1000	Metre ³
Ton (register)	2.832	0.3532	Metre ³
Yard ³	.76456	1.308	Metre ³
VOLUME/TIME (Includes Flow)			
Foot ³ /minute	4.719×10^{-4}	2,118.9	Metre ³ /second
Yard ³ /minute	0.01274	78.48	Metre ³ /second
Gallon (U.S. liquid)/minute	6.309×10^{-5}	15,850	Metre ³ /second
WEIGHT, LINEAR			
Pounds/foot	1.488	0.672	Kilogram per meter
Pounds/yard	0.496	2.016	Kilogram per meter
WORK (See Energy)			