## ALPHABETICAL LIST OF UNITS

Factors with an asterisk (*) are exact

(Symbols of SI units given in parentheses)

| To convert from | to | Multiply by |
|---|---|---|
| abampere | ampere (A) | 1.000 000*E+01 |
| abcoulomb | coulomb (C) | 1.000 000*E+01 |
| abfarad | farad (F) | 1.000 000*E+09 |
| abhenry | henry (H) | 1.000 000*E−09 |
| abmho | siemens (S) | 1.000 000*E+09 |
| abohm | ohm (Ω) | 1.000 000*E−09 |
| abvolt | volt (V) | 1.000 000*E−08 |
| acre foot[14] | cubic metre ($m^3$) | 1.233 489 E+03 |
| acre[14] | square metre ($m^2$) | 4.046 873 E+03 |
| ampere hour | coulomb (C) | 3.600 000*E+03 |
| angstrom | metre (m) | 1.000 000*E−10 |
| are | square metre ($m^2$) | 1.000 000*E+02 |
| astronomical unit | metre (m) | 1.495 979 E+11 |
| atmosphere (standard) | pascal (Pa) | 1.013 250*E+05 |
| atmosphere (technical = 1 kgf/$cm^2$) | pascal (Pa) | 9.806 650*E+04 |
| bar | pascal (Pa) | 1.000 000*E+05 |
| barn | square metre ($m^2$) | 1.000 000*E−28 |
| barrel (for petroleum, 42 gal) | cubic metre ($m^3$) | 1.589 873 E−01 |
| board foot | cubic metre ($m^3$) | 2.359 737 E−03 |
| British thermal unit (International Table)[15] | joule (J) | 1.055 056 E+03 |
| British thermal unit (mean) | joule (J) | 1.055 87 E+03 |
| British thermal unit (thermochemical) | joule (J) | 1.054 350 E+03 |
| British thermal unit (39°F) | joule (J) | 1.059 67 E+03 |
| British thermal unit (59°F) | joule (J) | 1.054 80 E+03 |
| British thermal unit (60°F) | joule (J) | 1.054 68 E+03 |
| Btu (International Table)·ft/(h·$ft^2$·°F) (*k*, thermal conductivity) | watt per metre kelvin [W/(m·K)] | 1.730 735 E+00 |
| Btu (thermochemical)·ft/(h·$ft^2$·°F) (*k*, thermal conductivity | watt per metre kelvin [W/(m·K)] | 1.729 577 E+00 |
| Btu (International Table)·in/(h·$ft^2$·°F) (*k*, thermal conductivity) | watt per metre kelvin [W/(m·K)] | 1.442 279 E−01 |
| Btu (thermochemical)·in/(h·$ft^2$·°F) (*k*, thermal conductivity) | watt per metre kelvin [W/(m·K)] | 1.441 314 E−01 |
| Btu (International Table)·in/s·$ft^2$·°F) (*k*, thermal conductivity) | watt per metre kelvin [W/(m·K)] | 5.192 204 E+02 |
| Btu (thermochemical)·in/(s·$ft^2$·°F) (*k*, thermal conductivity) | watt per metre kelvin [W/(m·K)] | 5.188 732 E+02 |
| Btu (International Table)/h | watt (W) | 2.930 711 E−01 |
| Btu (International Table)/s | watt (W) | 1.055 056 E+03 |
| Btu (thermochemical)/h | watt (W) | 2.928 751 E−01 |

[14] The U.S. Metric Law of 1866 gave the relationship, 1 metre equals 39.37 inches. Since 1893 the U.S. yard has been derived from the metre. In 1959 a refinement was made in the definition of the yard to bring the U.S. yard and the yard used in other countries into agreement. The U.S. yard was changed from 3600/3937 m to 0.9144 m exactly. The new length is shorter by exactly two parts in a million.

At the same time it was decided that any data in feet derived from and published as a result of geodetic surveys within the U.S. would remain with the old standard (1 ft = 1200/3937 m) until further decision. This foot is named the U.S. survey foot.

All conversion factors for units of land measure in these tables referenced to this footnote are based on the U.S. survey foot and the following relationships: 1 fathom = 6 feet; 1 rod (pole or perch) = 16½ feet; 1 chain = 66 feet; 1 mile (U.S. statute) = 5280 feet.

[15] This value was adopted in 1956. Some of the older International Tables use the value 1.055 04 E+03. The exact conversion factor is 1.055 055 852 62* E+03.

| To convert from | to | Multiply by |
|---|---|---|
| Btu (thermochemical)/min | watt (W) | 1.757 250 E+01 |
| Btu (thermochemical)/s | watt (W) | 1.054 350 E+03 |
| Btu (International Table)/$ft^2$ | joule per square metre ($J/m^2$) | 1.135 653 E+04 |
| Btu (thermochemical)/$ft^2$ | joule per square metre ($J/m^2$) | 1.134 893 E+04 |
| Btu (thermochemical)/($ft^2 \cdot h$) | watt per square metre ($W/m^2$) | 3.152 481 E+00 |
| Btu (thermochemical)/($ft^2 \cdot min$) | watt per square metre ($W/m^2$) | 1.891 489 E+02 |
| Btu (thermochemical)/($ft^2 \cdot s$) | watt per square metre ($W/m^2$) | 1.134 893 E+04 |
| Btu (thermochemical)/($in^2 \cdot s$) | watt per square metre ($W/m^2$) | 1.634 246 E+06 |
| Btu (International Table)/($h \cdot ft^2 \cdot °F$) (*C*, thermal conductance)[16] | watt per square metre kelvin [$W/(m^2 \cdot K)$] | 5.678 263 E+00 |
| Btu (thermochemical)/($h \cdot ft^2 \cdot °F$) (*C*, thermal conductance)[16] | watt per square metre kelvin [$W/(m^2 \cdot K)$] | 5.674 466 E+00 |
| Btu (International Table)/($s \cdot ft^2 \cdot °F$) | watt per square metre kelvin [$W/(m^2 \cdot K)$] | 2.044 175 E+04 |
| Btu (thermochemical)/($s \cdot ft^2 \cdot °F$) | watt per square metre kelvin [$W/(m^2 \cdot K)$] | 2.042 808 E+04 |
| Btu (International Table)/lb | joule per kilogram (J/kg) | 2.326 000*E+03 |
| Btu (thermochemical)/lb | joule per kilogram (J/kg) | 2.324 444 E+03 |
| Btu (International Table)/($lb \cdot °F$) (*c*, heat capacity) | joule per kilogram kelvin [$J/(kg \cdot K)$] | 4.186 800*E+03 |
| Btu (thermochemical)/($lb \cdot °F$) (*c*, heat capacity) | joule per kilogram kelvin [$J/(kg \cdot K)$] | 4.184 000*E+03 |
| Btu (International Table)/$ft^3$ | joule per cubic metre ($J/m^3$) | 3.725 895 E+04 |
| Btu (thermochemical)/$ft^3$ | joule per cubic metre ($J/m^3$) | 3.723 402 E+04 |
| bushel (U.S.) | cubic metre ($m^3$) | 3.523 907 E−02 |
| calorie (International Table) | joule (J) | 4.186 800*E+00 |
| calorie (mean) | joule (J) | 4.190 02 E+00 |
| calorie (thermochemical) | joule (J) | 4.184 000*E+00 |
| calorie (15°C) | joule (J) | 4.185 80 E+00 |
| calorie (20°C) | joule (J) | 4.181 90 E+00 |
| calorie (kilogram, International Table) | joule (J) | 4.186 800*E+03 |
| calorie (kilogram, mean) | joule (J) | 4.190 02 E+03 |
| calorie (kilogram, thermochemical) | joule (J) | 4.184 000*E+03 |
| cal (thermochemical)/$cm^2$ | joule per square metre ($J/m^2$) | 4.184 000*E+04 |
| cal (International Table)/g | joule per kilogram (J/kg) | 4.186 800*E+03 |
| cal (thermochemical)/g | joule per kilogram (J/kg) | 4.184 000*E+03 |
| cal (International Table)/($g \cdot °C$) | joule per kilogram kelvin [$J/(kg \cdot K)$] | 4.186 800*E+03 |
| cal (thermochemical)/($g \cdot °C$) | joule per kilogram kelvin [$J/(kg \cdot K)$] | 4.184 000*E+03 |
| cal (thermochemical)/min | watt (W) | 6.973 333 E−02 |
| cal (thermochemical)/s | watt (W) | 4.184 000*E+00 |
| cal (thermochemical)/($cm^2 \cdot min$) | watt per square metre ($W/m^2$) | 6.973 333 E+02 |
| cal (thermochemical)/($cm^2 \cdot s$) | watt per square metre ($W/m^2$) | 4.184 000*E+04 |
| cal (thermochemical)/($cm \cdot s \cdot °C$) | watt per metre kelvin [$W/(m \cdot K)$] | 4.184 000*E+02 |
| $cd/in^2$ | candela per square metre ($cd/m^2$) | 1.550 003 E+03 |
| carat (metric) | kilogram (kg) | 2.000 000*E−04 |
| centimetre of mercury (0°C) | pascal (Pa) | 1.333 22 E+03 |
| centimetre of water (4°C) | pascal (Pa) | 9.806 38 E+01 |
| centipoise | pascal second ($Pa \cdot s$) | 1.000 000*E−03 |
| centistokes | square metre per second ($m^2/s$) | 1.000 000*E−06 |
| chain[14] | metre (m) | 2.011 684 E+01 |
| circular mil | square metre ($m^2$) | 5.067 075 E−10 |
| clo | kelvin square metre per watt ($K \cdot m^2/W$) | 2.003 712 E−01 |
| cup | cubic metre ($m^3$) | 2.365 882 E−04 |
| curie | becquerel (Bq) | 3.700 000*E+10 |
| darcy[17] | square metre ($m^2$) | 9.869 233 E−13 |
| day | second (s) | 8.640 000*E+04 |

[16] In ISO 31 this quantity is called *coefficient of heat transfer*.
[17] The darcy is a unit for measuring permeability of porous solids.

| To convert from | to | Multiply by |
|---|---|---|
| day (sidereal) | second (s) | 8.616 409 E+04 |
| degree (angle) | radian (rad) | 1.745 329 E−02 |
| degree Celsius | kelvin (K) | $T_K = t_{°C} + 273.15$ |
| degree centigrade | [see 3.4.2] | |
| degree Fahrenheit | degree Celsius | $t_{°C} = (t_{°F} - 32)/1.8$ |
| degree Fahrenheit | kelvin (K) | $T_K = (t_{°F} + 459.67)/1.8$ |
| degree Rankine | kelvin (K) | $T_K = T_{°R}/1.8$ |
| $°F \cdot h \cdot ft^2$/Btu (International Table) ($R$, thermal resistance)[18] | kelvin square metre per watt ($K \cdot m^2/W$) | 1.761 102 E−01 |
| $°F \cdot h \cdot ft^2$/Btu (thermochemical) ($R$, thermal resistance)[18] | kelvin square metre per watt ($K \cdot m^2/W$) | 1.762 280 E−01 |
| $°F \cdot h \cdot ft^2$/(Btu (International Table)·in) (thermal resistivity) | kelvin metre per watt ($K \cdot m/W$) | 6.933 471 E+00 |
| $°F \cdot h \cdot ft^2$/(Btu (thermochemical)·in) (thermal resistivity) | kelvin metre per watt ($K \cdot m/W$) | 6.938 113 E+00 |
| denier | kilogram per metre (kg/m) | 1.111 111 E−07 |
| dyne | newton (N) | 1.000 000*E−05 |
| dyne·cm | newton metre (N·m) | 1.000 000*E−07 |
| dyne/$cm^2$ | pascal (Pa) | 1.000 000*E−01 |
| electronvolt | joule (J) | 1.602 19 E−19 |
| EMU of capacitance | farad (F) | 1.000 000*E+09 |
| EMU of current | ampere (A) | 1.000 000*E+01 |
| EMU of electric potential | volt (V) | 1.000 000*E−08 |
| EMU of inductance | henry (H) | 1.000 000*E−09 |
| EMU of resistance | ohm (Ω) | 1.000 000*E−09 |
| ESU of capacitance | farad (F) | 1.112 650 E−12 |
| ESU of current | ampere (A) | 3.335 6 E−10 |
| ESU of electric potential | volt (V) | 2.997 9 E+02 |
| ESU of inductance | henry (H) | 8.987 554 E+11 |
| ESU of resistance | ohm (Ω) | 8.987 554 E+11 |
| erg | joule (J) | 1.000 000*E−07 |
| erg/($cm^2$·s) | watt per square metre ($W/m^2$) | 1.000 000*E−03 |
| erg/s | watt (W) | 1.000 000*E−07 |
| faraday (based on carbon-12) | coulomb (C) | 9.648 70 E+04 |
| faraday (chemical) | coulomb (C) | 9.649 57 E+04 |
| faraday (physical) | coulomb (C) | 9.652 19 E+04 |
| fathom[14] | metre (m) | 1.828 804 E+00 |
| fermi (femtometre) | metre (m) | 1.000 000*E−15 |
| fluid ounce (U.S.) | cubic metre ($m^3$) | 2.957 353 E−05 |
| foot | metre (m) | 3.048 000*E−01 |
| foot (U.S. survey)[14] | metre (m) | 3.048 006 E−01 |
| foot of water (39.2°F) | pascal (Pa) | 2.988 98 E+03 |
| $ft^2$ | square metre ($m^2$) | 9.290 304*E−02 |
| $ft^2$/h (thermal diffusivity) | square metre per second ($m^2/s$) | 2.580 640*E−05 |
| $ft^2$/s | square metre per second ($m^2/s$) | 9.290 304*E−02 |
| $ft^3$ (volume; section modulus) | cubic metre ($m^3$) | 2.831 685 E−02 |
| $ft^3$/min | cubic metre per second ($m^3/s$) | 4.719 474 E−04 |
| $ft^3$/s | cubic metre per second ($m^3/s$) | 2.831 685 E−02 |
| $ft^4$ (second moment of area)[19] | metre to the fourth power ($m^4$) | 8.630 975 E−03 |
| ft/h | metre per second (m/s) | 8.466 667 E−05 |
| ft/min | metre per second (m/s) | 5.080 000*E−03 |
| ft/s | metre per second (m/s) | 3.048 000*E−01 |
| ft/$s^2$ | metre per second squared ($m/s^2$) | 3.048 000*E−01 |
| footcandle | lux (lx) | 1.076 391 E+01 |
| footlambert | candela per square metre ($cd/m^2$) | 3.426 259 E+00 |
| ft·lbf | joule (J) | 1.355 818 E+00 |
| ft·lbf/h | watt (W) | 3.766 161 E−04 |
| ft·lbf/min | watt (W) | 2.259 697 E−02 |
| ft·lbf/s | watt (W) | 1.355 818 E+00 |
| ft-poundal | joule (J) | 4.214 011 E−02 |
| free fall, standard ($g$) | metre per second squared ($m/s^2$) | 9.806 650*E+00 |

[18] In ISO 31 this quantity is called *thermal insulance* and the quantity *thermal resistance* has the unit K/W.
[19] This is sometimes called the moment of section or area moment of inertia of a plane section about a specified axis.

| To convert from | to | Multiply by |
|---|---|---|
| gal | metre per second squared ($m/s^2$) | 1.000 000*E−02 |
| gallon (Canadian liquid) | cubic metre ($m^3$) | 4.546 090 E−03 |
| gallon (U.K. liquid) | cubic metre ($m^3$) | 4.546 092 E−03 |
| gallon (U.S. dry) | cubic metre ($m^3$) | 4.404 884 E−03 |
| gallon (U.S. liquid) | cubic metre ($m^3$) | 3.785 412 E−03 |
| gallon (U.S. liquid) per day | cubic metre per second ($m^3/s$) | 4.381 264 E−08 |
| gallon (U.S. liquid) per minute | cubic metre per second ($m^3/s$) | 6.309 020 E−05 |
| gallon (U.S. liquid) per hp·h (SFC, specific fuel consumption) | cubic metre per joule ($m^3/J$) | 1.410 089 E−09 |
| gamma | tesla (T) | 1.000 000*E−09 |
| gauss | tesla (T) | 1.000 000*E−04 |
| gilbert | ampere (A) | 7.957 747 E−01 |
| gill (U.K.) | cubic metre ($m^3$) | 1.420 654 E−04 |
| gill (U.S.) | cubic metre ($m^3$) | 1.182 941 E−04 |
| grad | degree (angular) | 9.000 000*E−01 |
| grad | radian (rad) | 1.570 796 E−02 |
| grain | kilogram (kg) | 6.479 891*E−05 |
| grain/gal (U.S. liquid) | kilogram per cubic metre ($kg/m^3$) | 1.711 806 E−02 |
| gram | kilogram (kg) | 1.000 000*E−03 |
| $g/cm^3$ | kilogram per cubic metre ($kg/m^3$) | 1.000 000*E+03 |
| $gf/cm^2$ | pascal (Pa) | 9.806 650*E+01 |
| hectare | square metre ($m^2$) | 1.000 000*E+04 |
| horsepower (550 ft·lbf/s) | watt (W) | 7.456 999 E+02 |
| horsepower (boiler) | watt (W) | 9.809 50 E+03 |
| horsepower (electric) | watt (W) | 7.460 000*E+02 |
| horsepower (metric) | watt (W) | 7.354 99 E+02 |
| horsepower (water) | watt (W) | 7.460 43 E+02 |
| horsepower (U.K.) | watt (W) | 7.457 0 E+02 |
| hour | second(s) | 3.600 000*E+03 |
| hour (sidereal) | second (s) | 3.590 170 E+03 |
| hundredweight (long) | kilogram (kg) | 5.080 235 E+01 |
| hundredweight (short) | kilogram (kg) | 4.535 924 E+01 |
| inch | metre (m) | 2.540 000*E−02 |
| inch of mercury (32°F) | pascal (Pa) | 3.386 38 E+03 |
| inch of mercury (60°F) | pascal (Pa) | 3.376 85 E+03 |
| inch of water (39.2°F) | pascal (Pa) | 2.490 82 E+02 |
| inch of water (60°F) | pascal (Pa) | 2.488 4 E+02 |
| $in^2$ | square metre ($m^2$) | 6.451 600*E−04 |
| $in^3$ (volume; section modulus)[20] | cubic metre ($m^3$) | 1.638 706 E−05 |
| $in^3/min$ | cubic metre per second ($m^3/s$) | 2.731 177 E−07 |
| $in^4$ (second moment of area)[19] | metre to the fourth power ($m^4$) | 4.162 314 E−07 |
| in/s | metre per second (m/s) | 2.540 000*E−02 |
| $in/s^2$ | metre per second squared ($m/s^2$) | 2.540 000*R−02 |
| kayser | 1 per metre (1/m) | 1.000 000*E+02 |
| kelvin | degree Celsius | $t_{°C} = T_K - 273.15$ |
| kilocalorie (International Table) | joule (J) | 4.186 800*E+03 |
| kilocalorie (mean) | joule (J) | 4.190 02 E+03 |
| kilocalorie (thermochemical) | joule (J) | 4.184 000*E+03 |
| kilocalorie (thermochemical)/min | watt (W) | 6.973 333 E+01 |
| kilocalorie (thermochemical)/s | watt (W) | 4.184 000*E+03 |
| kilogram-force (kgf) | newton (N) | 9.806 650*E+00 |
| kgf·m | newton metre (N·m) | 9.806 650*E+00 |
| $kgf·s^2/m$ (mass) | kilogram (kg) | 9.806 650*E+00 |
| $kgf/cm^2$ | pascal (Pa) | 9.806 650*E+04 |
| $kgf/m^2$ | pascal (Pa) | 9.806 650*E+00 |
| $kgf/mm^2$ | pascal (Pa) | 9.806 650*E+06 |
| km/h | metre per second (m/s) | 2.777 778 E−01 |
| kilopond (1 kp = 1 kgf) | newton (N) | 9.806 650*E+00 |
| kW·h | joule (J) | 3.600 000*E+06 |
| kip (1000 lbf) | newton (N) | 4.448 222 E+03 |
| $kip/in^2$ (ksi) | pascal (Pa) | 6.894 757 E+06 |

[20] The exact conversion factor is 1.638 706 4*E-05.

| To convert from | to | Multiply by |
|---|---|---|
| knot (international) | metre per second (m/s) | 5.144 444 E−01 |
| lambert | candela per square metre (cd/m²) | $1/\pi$ *E+04 |
| lambert | candela per square metre (cd/m²) | 3.183 099 E+03 |
| langley | joule per square metre (J/m²) | 4.184 000*E+04 |
| light year | metre (m) | 9.460 55 E+15 |
| litre[21] | cubic metre (m³) | 1.000 000*E−03 |
| maxwell | weber (Wb) | 1.000 000*E−08 |
| mho | siemens (S) | 1.000 000*E+00 |
| microinch | metre (m) | 2.540 000*E−08 |
| micron | metre (m) | 1.000 000*E−06 |
| mil | metre (m) | 2.540 000*E−05 |
| mile (international) | metre (m) | 1.609 344*E+03 |
| mile (U.S. statute)[14] | metre (m) | 1.609 347 E+03 |
| mile (international nautical) | metre (m) | 1.852 000*E+03 |
| mile (U.S. nautical) | metre (m) | 1.852 000*E+03 |
| mi² (international) | square metre (m²) | 2.589 988 E+06 |
| mi² (U. S. statute)[14] | square metre (m²) | 2.589 998 E+06 |
| mi/h (international) | metre per second (m/s) | 4.470 400*E−01 |
| mi/h (international) | kilometre per hour (km/h) | 1.609 344*E+00 |
| mi/min (international) | metre per second (m/s) | 2.682 240*E+01 |
| mi/s (international) | metre per second (m/s) | 1.609 344*E+03 |
| millibar | pascal (Pa) | 1.000 000*E+02 |
| millimetre of mercury (0°C) | pascal (Pa) | 1.333 22 E+02 |
| minute (angle) | radian (rad) | 2.908 882 E−04 |
| minute | second (s) | 6.000 000*E+01 |
| minute (sidereal) | second (s) | 5.983 617 E+01 |
| oersted | ampere per metre (A/m) | 7.957 747 E+01 |
| ohm centimetre | ohm meter (Ω·m) | 1.000 000*E−02 |
| ohm circular-mil per foot | ohm metre (Ω·m) | 1.662 426 E−09 |
| ounce (avoirdupois) | kilogram (kg) | 2.834 952 E−02 |
| ounce (troy or apothecary) | kilogram (kg) | 3.110 348 E−02 |
| ounce (U.K. fluid) | cubic metre (m³) | 2.841 307 E−05 |
| ounce (U.S. fluid) | cubic metre (m³) | 2.957 353 E−05 |
| ounce-force | newton (N) | 2.780 139 E−01 |
| ozf·in | newton metre (N·m) | 7.061 552 E−03 |
| oz (avoirdupois)/gal (U.K. liquid) | kilogram per cubic metre (kg/m³) | 6.236 021 E+00 |
| oz (avoirdupois)/gal (U.S. liquid) | kilogram per cubic metre (kg/m³) | 7.489 152 E+00 |
| oz (avoirdupois)/in³ | kilogram per cubic metre (kg/m³) | 1.729 994 E+03 |
| oz (avoirdupois)/ft² | kilogram per square metre (kg/m²) | 3.051 517 E−01 |
| oz (avoirdupois)/yd² | kilogram per square metre (kg/m²) | 3.390 575 E−02 |
| parsec | metre (m) | 3.085 678 E+16 |
| peck (U.S.) | cubic metre (m³) | 8.809 768 E−03 |
| pennyweight | kilogram (kg) | 1.555 174 E−03 |
| perm (0°C) | kilogram per pascal second square metre [kg/(Pa·s·m²)] | 5.721 35 E−11 |
| perm (23°C) | kilogram per pascal second square metre [kg/(Pa·s·m²)] | 5.745 25 E−11 |
| perm·in (0°C) | kilogram per pascal second metre [kg/(Pa·s·m)] | 1.453 22 E−12 |
| perm·in (23°C) | kilogram per pascal second metre [kg/(Pa·s·m)] | 1.459 29 E−12 |
| phot | lumen per square metre (lm/m²) | 1.000 000*E+04 |
| pica (printer's) | metre (m) | 4.217 518 E−03 |
| pint (U.S. dry) | cubic metre (m³) | 5.506 105 E−04 |
| pint (U.S. liquid) | cubic metre (m³) | 4.731 765 E−04 |
| point (printer's) | metre (m) | 3.514 598*E−04 |
| poise (absolute viscosity) | pascal second (Pa·s) | 1.000 000*E−01 |
| pound (lb avoirdupois)[22] | kilogram (kg) | 4.535 924 E−01 |

[21] In 1964 the General Conference on Weights and Measures reestablished the name litre as a special name for the cubic decimetre. Between 1901 and 1964 the litre was slightly larger (1.000 028 dm³); in the use of high-accuracy volume data of that time interval, this fact must be kept in mind.

[22] The exact conversion factor is 4.535 923 7*E-01.

| To convert from | to | Multiply by |
|---|---|---|
| pound (troy or apothecary) | kilogram (kg) | 3.732 417 E−01 |
| lb·ft$^2$ (moment of inertia) | kilogram square metre (kg·m$^2$) | 4.214 011 E−02 |
| lb·in$^2$ (moment of inertia) | kilogram square metre (kg·m$^2$) | 2.926 397 E−04 |
| lb/ft·h | pascal second (Pa·s) | 4.133 789 E−04 |
| lb/ft·s | pascal second (Pa·s) | 1.488 164 E+00 |
| lb/ft$^2$ | kilogram per square metre (kg/m$^2$) | 4.882 428 E+00 |
| lb/ft$^3$ | kilogram per cubic metre (kg/m$^3$) | 1.601 846 E+01 |
| lb/gal (U.K. liquid) | kilogram per cubic metre (kg/m$^3$) | 9.977 633 E+01 |
| lb/gal (U.S. liquid) | kilogram per cubic metre (kg/m$^3$) | 1.198 264 E+02 |
| lb/h | kilogram per second (kg/s) | 1.259 979 E−04 |
| lb/hp·h (SFC, specific fuel consumption) | kilogram per joule (kg/J) | 1.689 659 E−07 |
| lb/in$^3$ | kilogram per cubic metre (kg/m$^3$) | 2.767 990 E+04 |
| lb/min | kilogram per second (kg/s) | 7.559 873 E−03 |
| lb/s | kilogram per second (kg/s) | 4.535 924 E−01 |
| lb/yd$^3$ | kilogram per cubic metre (kg/m$^3$) | 5.932 764 E−01 |
| poundal | newton (N) | 1.382 550 E−01 |
| poundal/ft$^2$ | pascal (Pa) | 1.488 164 E+00 |
| poundal·s/ft$^2$ | pascal second (Pa·s) | 1.488 164 E+00 |
| pound-force (lbf)[23] | newton (N) | 4.448 222 E+00 |
| lbf·ft | newton metre (N·m) | 1.355 818 E+00 |
| lbf·ft/in | newton metre per metre (N·m/m) | 5.337 866 E+01 |
| lbf·in | newton metre (N·m) | 1.129 848 E−01 |
| lbf·in/in | newton metre per metre (N·m/m) | 4.448 222 E+00 |
| lbf·s/ft$^2$ | pascal second (Pa·s) | 4.788 026 E+01 |
| lbf·s/in$^2$ | pascal second (Pa·s) | 6.894 757 E+03 |
| lbf/ft | newton per metre (N/m) | 1.459 390 E+01 |
| lbf/ft$^2$ | pascal (Pa) | 4.788 026 E+01 |
| lbf/in | newton per metre (N/m) | 1.751 268 E+02 |
| lbf/in$^2$ (psi) | pascal (Pa) | 6.894 757 E+03 |
| lbf/lb (thrust/weight [mass] ratio) | newton per kilogram (N/kg) | 9.806 650 E+00 |
| quart (U.S. dry) | cubic metre (m$^3$) | 1.101 221 E−03 |
| quart (U.S. liquid) | cubic metre (m$^3$) | 9.463 529 E−04 |
| rad (absorbed dose) | gray (Gy) | 1.000 000*E−02 |
| rem (dose equivalent) | sievert (Sv) | 1.000 000*E−02 |
| rhe | 1 per pascal second [1/(Pa·s)] | 1.000 000*E+01 |
| rod[14] | metre (m) | 5.029 210 E+00 |
| roentgen | coulomb per kilogram (C/kg) | 2.58 E−04 |
| second (angle) | radian (rad) | 4.848 137 E−06 |
| second (sidereal) | second (s) | 9.972 696 E−01 |
| shake | second (s) | 1.000 000*E−08 |
| slug | kilogram (kg) | 1.459 390 E+01 |
| slug/ft·s | pascal second (Pa·s) | 4.788 026 E+01 |
| slug/ft$^3$ | kilogram per cubic metre (kg/m$^3$) | 5.153 788 E+02 |
| statampere | ampere (A) | 3.335 640 E−10 |
| statcoulomb | coulomb (C) | 3.335 640 E−10 |
| statfarad | farad (F) | 1.112 650 E−12 |
| stathenry | henry (H) | 8.987 554 E+11 |
| statmho | siemens (S) | 1.112 650 E−12 |
| statohm | ohm (Ω) | 8.987 554 E+11 |
| statvolt | volt (V) | 2.997 925 E+02 |
| stere | cubic metre (m$^3$) | 1.000 000*E+00 |
| stilb | candela per square metre (cd/m$^2$) | 1.000 000*E+04 |
| stokes (kinematic viscosity) | square metre per second (m$^2$/s) | 1.000 000*E−04 |
| tablespoon | cubic metre (m$^3$) | 1.478 676 E−05 |
| teaspoon | cubic metre (m$^3$) | 4.928 922 E−06 |
| tex | kilogram per metre (kg/m) | 1.000 000*E−06 |
| therm | joule (J) | 1.055 056 E+08 |
| ton (assay) | kilogram (kg) | 2.916 667 E−02 |
| ton (long, 2240 lb) | kilogram (kg) | 1.016 047 E+03 |
| ton (metric) | kilogram (kg) | 1.000 000*E+03 |

[23] The exact conversion factor is 4.448 221 615 260 5*E+00.

| To convert from | to | Multiply by |
|---|---|---|
| ton (nuclear equivalent of TNT) | joule (J) | 4.184 E+09[24] |
| ton (refrigeration) | watt (W) | 3.516 800 E+03 |
| ton (register) | cubic metre ($m^3$) | 2.831 685 E+00 |
| ton (short, 2000 lb) | kilogram (kg) | 9.071 847 E+02 |
| ton (long)/$yd^3$ | kilogram per cubic metre ($kg/m^3$) | 1.328 939 E+03 |
| ton (short)/$yd^3$ | kilogram per cubic metre ($kg/m^3$) | 1.186 553 E+03 |
| ton (short)/h | kilogram per second (kg/s) | 2.519 958 E−01 |
| ton-force (2000 lbf) | newton (N) | 8.896 444 E+03 |
| tonne | kilogram (kg) | 1.000 000*E+03 |
| torr (mmHg, 0°C) | pascal (Pa) | 1.333 22 E+02 |
| unit pole | weber (Wb) | 1.256 637 E−07 |
| W·h | joule (J) | 3.600 000*E+03 |
| W·s | joule (J) | 1.000 000*E+00 |
| $W/cm^2$ | watt per square metre ($W/m^2$) | 1.000 000*E+04 |
| $W/in^2$ | watt per square metre ($W/m^2$) | 1.550 003 E+03 |
| yard | metre (m) | 9.144 000*E−01 |
| $yd^2$ | square metre ($m^2$) | 8.361 274 E−01 |
| $yd^3$ | cubic metre ($m^3$) | 7.645 549 E−01 |
| $yd^3/min$ | cubic metre per second ($m^3/s$) | 1.274 258 E−02 |
| year (365 days) | second (s) | 3.153 600*E+07 |
| year (sidereal) | second (s) | 3.155 815 E+07 |
| year (tropical) | second (s) | 3.155 693 E+07 |

[24] Defined (not measured) value.