

Table 1.11 Metric Conversion Factors

| Quantity | To Convert From... | To... | Multiply By... |
|--------------------------|-------------------------|-------------------|----------------|
| Length | mile | km | 1.609 344* |
| | yard | m | 0.9144* |
| | foot | m | 0.3048* |
| | foot | mm | 304.8* |
| | inch | mm | 25.4* |
| Area | square mile | km ² | 2.589 998 |
| | acre | m ² | 4046.873 |
| | acre | ha | 0.404 687 3 |
| | square yard | m ² | 0.836 127 4* |
| | square foot | m ² | 0.092 903 04* |
| square inch | mm ² | 645.16* | |
| Volume | acre foot | m ³ | 1233.489 |
| | cubic yard | m ³ | 0.764 554 9 |
| | cubic foot | m ³ | 0.028 316 85 |
| | cubic foot | cm ³ | 28 316.85 |
| | cubic foot | L | 28.316 85 |
| | 100 board feet | m ³ | 0.235 973 7 |
| | gallon | L | 3.785 412 |
| | cubic inch | cm ³ | 16.387 06 |
| | cubic inch | mm ³ | 16 387.06 |
| Mass | pound | kg | 0.453 592 4 |
| | ton (2,000 pounds) | kg | 907.184 7 |
| | kip | t | 0.453 592 4 |
| Mass/ Unit Length | pound/foot | kg/m | 1.488 164 |
| Mass/Unit Area | pound/foot ² | kg/m ² | 4.882 428 |
| Mass Density | pound/foot ³ | kg/m ³ | 16.018 46 |
| Force | pound | N | 4.448 222 |
| | kip | kN | 4.448 222 |
| Force/ Unit Length | pound/foot | N/m | 14.593 90 |
| | kip/foot | kN/m | 14.593 90 |
| Pressure, Stress | pound/foot ² | Pa | 47.880 26 |
| | kip/foot ² | kPa | 47.880 26 |
| | pound/inch ² | kPa | 6.894 757 |
| | kip/inch ² | MPa | 6.894 757 |
| | pound/inch ² | N/mm ² | 0.006 895 |
| | kip/inch ² | N/mm ² | 6.894 757 |
| Moment, Torque | foot-pound | N•m | 1.355 818 |
| | foot-kip | kN•m | 1.355 818 |
| Moment of Mass | pound-foot | kg•m | 0.138 255 0 |
| Moment of Inertia | pound-foot ² | kg•m ² | 0.042 140 11 |
| Second Moment of Inertia | inch ⁴ | mm ⁴ | 416 231.4 |
| Section Modulus | inch ³ | mm ³ | 16 387.06 |
| Temperature | °F | °C | (°F-32)5/9 |
| Plane Angle | degree | rad | 0.017 453 29 |

Note: Asterisk denotes exact number.