



Construction unit conversions (US, imperial and metric)

Exact and standard conversion factors for length, area, volume, weight, liquid volume, density and load.

Length

FROM	EQUALS	REVERSE (COMPUTED)
1 in	2.54 cm	1 cm = 0.393701 in
1 ft	0.3048 m	1 m = 3.28084 ft
1 yd	0.9144 m	1 m = 1.09361 yd
1 mi	1.609344 km	1 km = 0.621371 mi

Area

FROM	EQUALS	REVERSE (COMPUTED)
1 sq in	6.4516 cm ²	1 cm ² = 0.155 sq in
1 sq ft	0.09290304 m ²	1 m ² = 10.7639 sq ft
1 sq yd	0.83612736 m ²	1 m ² = 1.19599 sq yd

Volume

FROM	EQUALS	REVERSE (COMPUTED)
1 cu ft	1,728 cu in	1 cu in = 0.000578704 cu ft
1 cu yd	27 cu ft	1 cu ft = 0.037037 cu yd
1 cu ft	0.028316846592 m ³	1 m ³ = 35.3147 cu ft
1 cu yd	0.764554857984 m ³	1 m ³ = 1.30795 cu yd

Weight

FROM	EQUALS	REVERSE (COMPUTED)
1 lb	0.45359237 kg	1 kg = 2.20462 lb
1 short ton	907.18474 kg	1 kg = 0.00110231 short ton
1 long ton	1,016.0469088 kg	1 kg = 0.000984207 long ton
1 tonne	1,000 kg	1 kg = 0.001 tonne

Liquid

FROM	EQUALS	REVERSE (COMPUTED)
1 US gal	3.785411784 L	1 L = 0.264172 US gal
1 UK gal	4.54609 L	1 L = 0.219969 UK gal

Density and load

FROM	EQUALS	REVERSE (COMPUTED)
1 lb/ft ³	16.01846 kg/m ³	1 kg/m ³ = 0.062428 lb/ft ³
1 short ton/yd ³	1,186.553 kg/m ³	1 kg/m ³ = 0.000842777 short ton/yd ³
1 psf	0.04788026 kPa	1 kPa = 20.8854 psf

Quick ones on site

- One cubic yard equals 27 cubic feet.
- One cubic yard equals about 0.765 cubic metres.
- One cubic metre equals about 1.31 cubic yards.
- One roofing square is 100 sq ft (9.29 m2) of roof surface.
- One board foot is 12 in x 12 in x 1 in, or 144 cubic inches.
- Multiply an imperial R-value by 0.1761 to get RSI (m2-K/W); multiply RSI by 5.678 for imperial R.

Sources (checked 2026-10-23): **Asphalt Roofing Manufacturers Association (ARMA)**: Residential Asphalt Roofing Manual - Design and Application Methods, 2014 edition (Ch. 5 Estimating; Ch. 6 Safety); **Fine Homebuilding (Taunton Press)**, **Mike Guertin**: Don't Fall Short on Shingles: How to Estimate Materials for Roofing Projects (excerpt from Roofing with Asphalt Shingles); **NIST**: Handbook 44 (2026), Appendix C: General Tables of Units of Measurement / NIST Guide to the SI (SP 811), Appendix B.9 Factors for units listed by kind of quantity / Special Publication 811 (2008), Guide for the Use of the International System of Units (SI), Appendix B.8; **NIST / American Lumber Standard Committee**: Voluntary Product Standard PS 20-20, American Softwood Lumber Standard; **National Institute of Standards and Technology**: NIST Guide to the SI (SP 811), Appendix B.9 conversion factors; **National Ready Mixed Concrete Association**: CIP 8 - Discrepancies in Yield (rev. 2016); **UK Parliament (legislation.gov.uk)**: Weights and Measures Act 1985, Schedule 1; **University of Wisconsin-Extension, Dept. of Forestry**: What Is A Board Foot? (Forestry Facts No. 42, A. Jeff Martin, 1989).

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