

Metric Conversions

	English to Metric			Metric to English		
	To Convert From	To	Multiply By	To Convert From	To	Multiply By
Area	sq. in. (in ²)	sq. mm (mm ²)	645.16	square millimeters (mm ²)	square inches (in ²)	0.00155
	sq. in. (in ²)	sq. cm (cm ²)	6.4516			
	sq. ft. (ft ²)	sq. meters (m ²)	0.0929			
Density	pounds/cubic ft (lb/ft ³)	Kilograms/cubic meter (kg/m ³)	16.02	kilograms/cubic meter (kg/m ³)	pounds/cubic ft (lb/ft ³)	0.0624
	British thermal units (Btu) (1 J = Ws = 0.2388 cal)	joules (J)	1055	joules (J)	British thermal units (Btu)	0.000947
Force	pounds - force (lbf) (1N = 0.102 kgf)	newtons (N)	4.448	newtons (N)	pounds - force (lbf)	0.2248
	inches (in)	millimeters (mm)	25.4	millimeters (mm)	inches (in)	0.03937
Length	feet (ft)	meters (m)	0.3048	meters (m)	feet (ft)	3.281
	miles (mi)	kilometers (km)	1.609	kilometers (km)	miles (mi)	0.621
	ounces (oz)	grams (g)	28.35	grams (g)	ounces (oz)	0.035
Mass (Weight)	pounds-mass (lb)	kilograms (kg)	0.4536	kilograms (kg)	pounds-mass (lb)	2.205
	short tons (2000 lb) (tn)	metric tons (1000 kg) (t)	0.9072	metric tons (1000 kg) (t)	short tons (2000 lb) (tn)	1.102
	horsepower (550 ft. lb/s) (hp)	kilowatts (kW)	0.7457	kilowatts (kW)	horsepower (550 ft. lb/s) (hp)	1.341
Pressure	pounds/square inch (psi)	kilograms (f)/square cm (kg (f)/cm ²)	0.0703	kilograms (f)/square cm (kg (f)/cm ²)	pounds/square inch (psi)	14.22
	pounds/square inch (psi)	kilopascals (kPa)	6.8948	kilopascals (kPa)	pounds/square inch (psi)	0.145
	pounds/square inch (psi)	bars (100 kPa)	0.06895	bars (100 kPa)	pounds/square inch (psi)	14.503
Stress	pounds/square inch (psi) (1 N/mm ² = 1 MPa)	megapascals (MPa)	0.006895	megapascals (MPa) (1 N/mm ² = 1 MPa)	pounds/square inch (psi)	145.039
	degrees fahrenheit (°F)	degrees celsius (°C)	5/9 (after subtracting 32)	degrees celsius (°C)	degrees fahrenheit (°F)	9/5 (then add 32)
Torque or Bending Moment	pounds-force-foot (lb-ft)	Newtons-meter (Nm)	1.3567	Newtons-meter (Nm)	pounds-force-foot (lb-ft)	0.737
	pounds-force-inch (lb-in)	Newtons-meter (Nm)	0.113	Newtons-meter (Nm)	pounds-force-inch (lb-in)	8.85
Velocity	feet/second (ft/s)	meters/second (m/s)	0.3048	meters/second (m/s)	feet/second (ft/s)	3.2808
	dynamic (centipoise)	pascal-second (Pas)	0.001	pascal-second (Pas)	dynamic (centipoise)	1000
Viscosity	kenematic-foot ² /sec (ft ² /s)	meter ² /sec (m ² /s)	0.0929	meter ² /sec (m ² /s)	foot ² /sec (ft ² /s)	10.7643
	cubic inch (in ³)	cubic centimeter (cm ³) (milliliter)	16.3871	cubic centimeter (cm ³) (milliliter)	cubic inch (in ³)	0.061
Volume	quarts (qt)	liters (1000 cm ³)	0.9464	liters (1000 cm ³)	quarts (qt)	1.057
	gallons (gal)	liters	3.7854	liters	gallons (gal)	0.2642

Table V5 — English to Metric and Metric to English Conversions

Dimensions and pressures for reference only, subject to change.