Conversion Factors U.S. to Metric

A U.S. Customary	B Metric	Multiply by factor to convert from: A to B		B to A	
Length or thickness					
mil (0.001 in.)	micrometer (μm)	25.4	(25)*	0.03937	(0.04)
microinch (μin.)	micrometer (μm)	0.0254	(0.025)	39.37	(40)
inch (in.)	centimeter (cm)†	2.54	(2.5)	0.3937	(0.4)
foot (ft)	meter (m)	0.3048	(0.3)	3.281	(3.3)
angstrom unit	nanometer (nm)	0.1		10	
millimicron (mμ)	nanometer (nm)	1		1	
Area					
square inch (in.^{2})	square centimeter (cm^2)	6.452	(6.5)	0.1550	(0.15)
square foot (ft^2)	square meter (m^2)	0.09290	(0.1)	10.76	(10)
Volume					
cubic inch (in.^{3})	cubic centimeter (cm^3)	16.39	(16)	0.06102	(0.06)
cubic foot (ft^3)	cubic meter (m^3)	0.02832	(0.03)	35.31	(35)
gallon, U.S. liquid (gal)	milliliter (mL)	3.785	(4)	0.2642	(0.25)
1000 gallons	cubic meter (m^3)	3.785	(4)	0.2642	(0.25)
fluid ounce (fl oz)	milliliter (mL)	29.57	(30)	0.03381	(0.034)
Mass (weight)					
grain (gr)	milligram (mg)	64.80	(65)	0.01543	(0.015)
ounce, avoirdupois (oz)	gram (g)	28.35	(28)	0.03527	(0.035)
ounce, troy (troy oz)	gram (g)	31.10	(30)	0.03215	(0.03)
pound, avoirdupois (lb)	kilogram (kg)	0.4536	(0.45)	2.205	(2.2)
Weight (mass) per unit area					
mg/in.^{2}	g/m^2	1.550	(1.5)	0.6451	(0.65)
mg/in.^{2}	mg/cm^2 †	0.1550	(0.15)	6.451	(6.5)
oz/in.^{2}	kg/m^2	43.95	(44)	0.02275	(0.023)
oz/in.^{2}	g/cm^2 †	4.395	(4.4)	0.2275	(0.23)
oz/ft^2	kg/m^2	0.3052	(0.3)	3.277	(3.3)
oz/ft^2	mg/cm^2 †	305.2	(300)	0.003277	(0.003)

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Weight (mass) per unit volume					
oz/gal	g/L	7.490	(7.5)	0.1335	(0.13)
oz/gal	kg/m^3	7.490	(7.5)	0.1335	(0.13)
lb/100 gal	kg/m^3	1.198	(1.2)	0.8347	(0.8)
fl oz/gal	cm^3/m^3 †	7812	(8000)	0.0001280	(0.00013)
fl oz/gal	mL/L	7.812	(8)	0.1280	(0.13)
Current density					
A/ft^2	A/m^2	10.76	(10)	0.09290	(0.1)
A/ft^2	mA/cm^2 †	1.076	(1)	0.9290	(1)
A/ft^2	A/dm^2 †	0.1076	(0.1)	9.290	(10)
A/in.^{2}	kA/m^2	1.550	(1.5)	0.6451	(0.65)
A/in.^{2}	mA/cm^2 †	155.00	(150)	0.006451	(0.0065)
Energy					
calorie (cal)	joule (J)	4.19	(4)	0.239	(0.25)
kilowatt-hour (kWh)	megajoule (MJ)	3.600	(exact)	0.2778	(0.3)
Pressure					
lb/in.^{2} (psi)	pascal (Pa)	6895	(7000)	0.0001450	(0.00015)
1000 psi	megapascal (MPa)	6.895	(7)	0.145	(0.15)
kilogram-force/mm^2 (kgf/mm^2)	megapascal (MPa)	9.806	(10)	0.1020	(0.1)
Quantity of electricity to plate unit thickness					
A-h/ft^2 for 1 mil	C/m^2 for μm	1530	(1500)	0.0006535	(0.00065)
A-h/ft^2 for 1 mil	A-h/m^2 for 1 μm	0.4236	(0.4)	2.361	(2.4)
A-h/ft^2 for 1 mil	mA-h/cm^2 or 1 μm	0.04236	(0.04)	23.61	(24)

Temperature

°F = 9/5°C + 32	°F = Fahrenheit temperature
°C = 5/9 (°F −32)	°C = Celsius (centigrade) temperature
t °C = t_K − 273.15	t_K = kelvins

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*Numbers in parentheses may be used for rough or mental calculation; they are accurate to ± 10 percent.
† Use of these units, though permitted in SI, is discouraged because they violate the rule that units should differ by multiples of 1000.