

Metric Conversion Factors

To convert from	To	Multiply by	To convert from	To	Multiply by
angstrom	m	$1.0000 \cdot 10^{-10}(a)$	hp(e)	W	$7.4570 \cdot 10^2$
atm	Pa	1.0133×10^5	hp(f)	W	7.4600×10^2
Btu(b)	J	1.054×10^3	in.	m	2.5400×10^{-2}
Btu(b)/ft ² · h	W/m ²	3.1525	in. ²	m ²	6.4516×10^{-4}
Btu(b)/ft ² · h · °F	W/m ² · K	5.6745	in. ³	m ³	1.6387×10^{-5}
Btu(b) · ft/h · ft ² · °F	W/m · K	1.7296	in. of Hg(g)	Pa	3.3864×10^3
Btu(b)/ft ² · s	W/m ²	1.135×10^4	in. of water(c)	Pa	2.4908×10^2
Btu(b) · in/ft ² · h · °F	W/m · K	1.4413×10^{-1}	K	°C	$t_c = t_k - 273.15$
Btu(b) · in/s · ft ² · °F	W/m · K	5.1887×10^2	kgf	N	9.80665(a)
Btu(b)/lbm · °F	J/kg · K	4.1840×10^3	kgf/mm ²	Pa	$9.80665 \times 10^6(a)$
cal(b)	J	4.1840(a)	ksi	MPa	6.8948
cal(b)/cm · s · °C	W/m · K	$4.1840 \times 10^2(a)$	ksi	Pa	6.8948×10^6
cal(b)/g	J/kg	$4.1840 \times 10^3(a)$	ksi√in.	MPa√m	1.089
cal(b)/g · °C	J/kg · K	$4.1840 \times 10^3(a)$	lb(h)	kg	4.5359×10^{-1}
circ mil	m ²	5.0671×10^{-10}	lb/in. ³	kg/m ³	2.7680×10^4
°C	K	$t_k = t_c + 273.15$	lbf	N	4.4482
degree	rad	1.7453×10^{-2}	lbf · in.	N·m	1.1298×10^{-1}
dyne/cm ²	Pa	$1.0000 \times 10^{-1}(a)$	lbf · ft	N·m	1.3558
°F	°C	$t_c = (t_f + 32)/1.8$	MPa√m	MNm ^{-3/2}	1.0000(a)
°F	K	$t_k = t_f + 459.67/1.8$	μin.	m	$2.5400 \times 10^{-8}(a)$
ft	m	3.0480×10^{-1}	mil	m	$2.5400 \times 10^{-5}(a)$
ft ²	m ²	9.2903×10^{-2}	N/m ²	Pa	1.0000(a)
ft ³	m ³	2.8317×10^{-2}	oersted	A/m	79.578
ft of water(c)	Pa	2.9890×10^3	oz/ft ²	kg/m ²	3.0515×10^{-1}
ft ² /h (thermal diffusivity)	m ² /s	$2.58064 \times 10^{-5}(a)$	psi	Pa	6.8948×10^3
ft · lbf	J	1.3558	°R	K	$t_k = t_r/1.8$
ft · lbf/s	W	1.3558	ton(j)	kg	9.0718×10^2
ft/s	m/s	3.0480×10^{-1}	ton(k)	kg	1.0160×10^3
gauss	T	$1.0000 \times 10^{-4}(a)$	ton/in. ²	Pa	1.3786×10^4
gallon(d)	m ³	3.7854×10^{-3}	tonne	kg	$1.0000 \times 10^3(a)$
g/cm ³	kg/m ³	$1.0000 \times 10^3(a)$	torr	Pa	1.3332×10^2
g/cm ³	Mg/m ³	1.0000(a)	Ω/circ mil · ft	Ω·m	1.6624×10^{-9}

(a) Exactly. (b) Thermochemical. (c) At 4 °C (39.2 °F). (d) U.S. liquid. (e) Mechanical (1 hp = 550 ft·lbf/s). (f) Electrical. (g) At 0 °C (32 °F). (h) Avoirdupois. (j) Short; equal to 2000 lbm. (k) Long; 2240 lbm.