

APPENDICES

ENGLISH/METRIC CONVERSION FACTORS

Approximate Conversions to SI Units

<i>Symbol</i>	<i>When You Know</i>	<i>Multiply By</i>	<i>To Find</i>	<i>Symbol</i>
LENGTH				
	mils	0.025 4	millimeters	mm
in	inches	25.4	millimeters	mm
ft	feet	0.034 8	meters	m
yd	yards	0.914 4	meters	m
mi	miles	1.609 347	kilometers	km
AREA				
in ²	square inches	645.16	square millimeters	mm ²
ft ²	square feet	0.092 903	square meters	m ²
yd ²	square yards	0.836 127 4	square meters	m ²
ac	acres	0.404 687	hectares	ha
mi ²	square miles	2.59	square kilometers	km ²
VOLUME				
fl oz	fluid ounces	29.573 53	milliliters	mL
gal	gallons (US liquid)	3.785 412	liters	L
ft ³	cubic feet	0.028 316 85	cubic meters	m ³
yd ³	cubic yards	0.764 549	cubic meters	m ³
Note: Volumes greater than 1 000 L shall be shown in m ³ .				
MASS				
oz	ounces	28.349 52	grams	g
lb	pounds	0.453 592	kilograms	kg
T	tons (short) (2000 lb)	0.907184	metric tons	t
OTHER				
°F	Fahrenheit temperature	5(°F – 32)/9	Celsius temperature	°C
Δ°F	Change in Fahrenheit temperature	5/9(Δ°F)	Change in Celsius temperature	Δ°C
psi	pounds per square inch	6 894.757	pascals	Pa

Approximate Conversions from SI Units

<i>Symbol</i>	<i>When You Know</i>	<i>Multiply By</i>	<i>To Find</i>	<i>Symbol</i>
LENGTH				
mm	millimeters	39.370 08	mils	
mm	millimeters	0.039 37	inches	in
m	meters	3.280 8	feet	ft
m	meters	1.093 6	yards	yd
km	kilometers	0.621 371 2	miles (statute)	mi
AREA				
mm ²	square millimeters	0.001 55	square inches	in ²
m ²	square meters	10.763 91	square feet	ft ²
m ²	square meters	1.195 99	square yards	yd ²
ha	hectares	2.471 04	acres	ac
km ²	square kilometers	0.386 102	square miles	mi ²
VOLUME				
mL	milliliters	0.033 814	fluid ounces	fl oz
L	liters	0.264 172	gallons (US liquid)	gal
m ³	cubic meters	35.314 662 5	cubic feet	ft ³
m ³	cubic meters	1.307 750	cubic yards	yd ³
MASS				
g	grams	0.035 273 9	ounces	oz
kg	kilograms	2.204 623	pounds	lb
t	metric tons	1.102 312 2	tons (short) (2000 lb)	T
OTHER				
°C	Celsius temperature	1.8C + 32	Fahrenheit temperature	°F
Δ°C	Change in Celsius temperature	1.8Δ°C	Change in Fahrenheit temperature	Δ°F
Pa	pascals	1.450 4 x 10 ⁻⁴	pounds per square inch	psi

SI Prefixes

Multiplication Factor	Prefix	Symbol
1 000 000 000 000 000 000 = 10 ¹⁸	exa	E
1 000 000 000 000 000 = 10 ¹⁵	peta	P
1 000 000 000 000 = 10 ¹²	tera	T
1 000 000 000 = 10 ⁹	giga	G
1 000 000 = 10 ⁶	mega	M
1 000 = 10 ³	kilo	k
100 = 10 ²	hecto ^a	h
10 = 10 ¹	deka ^a	da
0.1 = 10 ⁻¹	deci ^a	d
0.01 = 10 ⁻²	centi ^a	c
0.001 = 10 ⁻³	milli	m
0.000 001 = 10 ⁻⁶	micro	μ
0.000 000 001 = 10 ⁻⁹	nano	n
0.000 000 000 001 = 10 ⁻¹²	pico	p
0.000 000 000 000 001 = 10 ⁻¹⁵	femto	f
0.000 000 000 000 000 001 = 10 ⁻¹⁸	atto	a

^aSee 3.2.2 on page 6 of IEEE/ASTM SI 10-1997