APPENDIX
METRIC INFORMATION

Definitions: Soft Conversion is an exact conversion of the English Unit. Hard conversion is a close approximation of the English unit but is rounded logically in the metric system.

Basic Units

millimeter	(mm)	
meter	(m)	
square meter	(sq m)	
cubic meter	(cu m)	
liter	(L)	
Pascal	(Pa)	
kilopascal	(kPa)	
Newton	(N)	
kiloNewton	(kN)	
Joule	(J)	
degree celsius	(°C)	
gram	(g)	
kilogram	(kg)	
Megagram	(Mg)	(metric ton)

kilogram per square meter (kg/sq m)

Hectare (ha)

Prefixes

nano (n)	10^{-9}	one billionth
micro (μ)	10^{-6}	one millionth
milli (m)	10^{-3}	one thousandth
centi (c)	10^{-2}	one hundreth
deci (d)	10^{-1}	one tenth
deca (da)	10^{1}	ten
hecto (h)	10^{2}	one hundred
kilo (k)	10^{3}	one thousand
Mega (M)	10^{6}	one million
Giga (G)	10^{9}	one billion

Metric Measurements

Length	=	millimeters, meters, kilometers
Area	=	square meters or hectare (10,000 sq m)
Volume	=	Liters or cubic meters
Mass	=	kilogram, metric ton (1000 kg)
Force	=	Newton (N = kg m/s^2)
Pressure, Stress	=	Pascal (Pa = N/sq m)
Energy, Work	=	Joule (J = N m)
Torque	=	Newton meter (N m)
Speed, Velocity	=	meters/second, kilometers/hour
Acceleration	=	meters/second squared
Density	=	kilogram/cubic meter
Temperature	=	degrees Celsius
Power	=	Watt

Soft Conversions	From English	To Metric	Multiply Quantity By
LENGTH	in.	mm	25.4
	ft	mm	304.8
	ft	m	0.3048
	yd	m	0.9144
	mile	km	1.609344
	mile	m	1609.344
AREA	sq in.	sq mm	645.16
	sq ft	sq m	0.092903
	sq yd	sq m	0.836127
	acre	sq m	4046.856
	acre	ha	0.404685
	sq mile	sq km	2.59
VOLUME	cubic inch	cu mm	16387.06
	cubic foot	cu m	0.028316
	cubic yard	cu m	0.764555
	gallon	L	3.78541
MASS	ounces	g	28.349523
	pound	kg	0.453592
	kip(1000 lb)	metric ton	0.453592
	ton	metric ton	0.9072
FORCE	pound	N	4.44822
	kip	kN	4.44822
FORCE/UNIT LENGTH	lb/ft	N/m	14.5939
	lb/in.	N/mm	0.1751
PRESSURE, STRESS	lb/sq ft	Pa	47.8803
	kip/sq ft	kPa	47.8803
	lb/sq in.	Pa	6894.76
	kip/sq in.	kPa	6894.76
ENERGY	foot pound	J	1.35582
MASS/AREA	ounces/sq yd	kg/sq m	0.0339057
	lb/sq ft	kg/ sq m	4.8824
	lb/sq yd	kg/ sq m	0.5425
	lb/cubic ft	kg/cu m	16.01894
	lb/cubic yd	kg/ cu m	0.5933
	lb/acre	kg/ha	1.1208
	ton/acre	metric ton/ha	2.2417
TEMPERATURE	(°F - 32)/1.8 = °C		