
Appendix 4

Units, Conversions and Constants

Table A4.1 *Factors for conversion from Imperial to SI units*

<i>Parameter</i>	<i>Symbol</i>	<i>Imperial unit</i>	<i>Equivalent SI unit</i>
Mass	m	1 slug	14.594 kg
Length	l	1 ft	0.3048 m
Velocity	V	1 ft/s	0.3048 m/s
Acceleration	a	1 ft/s ²	0.3048 m/s ²
Force	F	1 lb	4.448 N
Moment	M	1 lb ft	1.356 N m
Density	ρ	1 slug/ft ³	515.383 kg/m ³
Inertia	I	1 slug ft ²	1.3558 kg m ²

Table A4.2 *Useful constants*

<i>Constant</i>	<i>Symbol</i>	<i>Imperial units</i>	<i>SI units</i>
1knot	kt	1.689 ft/s	0.515 m/s
Sea level air density	ρ_0	0.00238 slug/ft ³	1.225 kg/m ³
Speed of sound at sea level	a_0	1116.44 ft/s	340.29 m/s
Radian	rad	57.3°	57.3°
Gravitational acceleration	g	32.17 ft/s ²	9.81 m/s ²