

Appendix D

Unit Conversions

Quantity	SI to English	English to SI
Length	1 m = 39.4 in.	1 in. = 0.0254 m
	1 cm = 0.394 in.	1 in. = 2.54 cm
	1 mm = 0.0394 in.	1 in. = 25.4 mm
Force	1 N = 0.225 lb	1 lb = 4.445 N
Stress	1 MPa = 145 psi	1 psi = 6.895 kPa
Work	1 J = 1 N·m = 8.86 in.-lb	1 in.-lb = 0.113 J
Surface energy	1 J/m ² = 5.71 × 10 ⁻³ in. lb/in. ²	1 in.-lb/in. ² = 175 J/m ²
Temperature	°F = 1.8°C + 32	°C = 0.56°F - 17.8
Coefficient of thermal expansion	$\alpha[1/^\circ\text{F}] = 0.55\alpha[1/^\circ\text{C}]$	$\alpha[1/^\circ\text{C}] = 1.8\alpha[1/^\circ\text{F}]$