

Appendix G: Properties of structural materials^a

Material	Composition	Density (g/cm ³)
Aluminum	pure	2.70
Copper	pure	8.93
Iron	pure	7.85
Stainless steel	type 304	8.02
Carbon steel	type 1020	7.86
Brass	70 Cu, 30 Zn	8.5
Lucite	(C ₅ H ₈ O ₂) _n	1.18
G-10	glass-filled epoxy	1.82
Glass	Pyrex	2.23

^a Approximate values at room temperature.

^b In tension.

Thermal conductivity (mW/cm ² · K · cm)	Thermal expansion (× 10 ⁻⁶ K ⁻¹)	Resistivity (μΩ-cm)	Elastic modulus (Mpsi)
2370	25	2.74	10
3980	16.6	1.70	17
803	12	9.8	30
300	17	72	28
1000	12	10	30
2200	19	7	15
2	70	> 10 ²⁰	0.4 ^b
3	25	> 10 ²⁰	3 ^b
16	3.2	> 10 ¹⁸	9.3

Source: *Handbook of Chemistry and Physics*, 64th ed., Boca Raton: CRC Press, 1983; *Physics Vade Mecum*, New York: American Institute of Physics, 1981; *Modern Plastics Encyclopedia*, New York: McGraw-Hill, 1976; Catalog, Oriel Corp., Stratford, CT.

