Table 1.3. Resistivity Values (Ωm) for Selected Materials at 300 K

Conductors	
Aluminum	2.73×10^{-8}
Carbon (amorphous)	3.5×10^{-5}
Copper	1.72×10^{-8}
Gold	2.27×10^{-8}
Nichrome	1.12×10^{-6}
Silver	1.63×10^{-8}
Tungsten	5.44×10^{-8}
Semiconductors	
Silicon (device grade) depends on impurity concentration	10^{-5} to 1
Insulators	
Fused quartz	$> 10^{21}$
Glass (typical)	1×10^{12}
Teflon	1×10^{19}

Materials can be classified as conductors, semiconductors, or insulators, depending on their resistivity. **Conductors** have the lowest resistivity and easily conduct electrical current. **Insulators** have very high resistivity and conduct very little current (at least for moderate voltages). **Semiconductors** fall between conductors and insulators. We will see in Chapters 10, 12, and 13 that certain semiconductors are very useful in constructing electronic devices. Table 1.3 gives approximate values of resistivity for several materials.