27. We use $J = E/\rho$, where E is the magnitude of the (uniform) electric field in the wire, J is the magnitude of the current density, and ρ is the resistivity of the material. The electric field is given by $E = V/L$, where V is the potential difference along the wire and L is the length of the wire. Thus $J = V/L\rho$ and

$$\rho = \frac{V}{LJ} = \frac{115\ \text{V}}{(10\ \text{m})\left(1.4\times10^{4}\ \text{A}/\text{m}^2\right)} = 8.2\times10^{-4}\ \Omega\cdot\text{m}.$$