Darcy Weisbach equation

$$\overbar{U}=\sqrt{\frac{8gRS}{f}}$$

$$\left[L T^{-1}\right]=\left(\frac{\left[1\right]\left[L T^{-2}\right]\frac{\left[L^{2}\right]}{\left[L\right]}\left[1\right]}{\left[1\right]}\right)^{\frac{1}{2}}$$

$$\left[L T^{-1}\right]=\left(\left[L T^{-2}\right]\frac{\left[L^{2}\right]}{\left[L\right]}\right)^{\frac{1}{2}}$$

$$\left[L T^{-1}\right]=\left(\left[L^{2} T^{-2}\right]\right)^{\frac{1}{2}}$$

$$\left[L T^{-1}\right]=\left[L T^{-1}\right]$$

Manning’s equation

$$\overbar{U}=\frac{k}{n}R^{\frac{2}{3}}S^{\frac{1}{2}}$$

$$\left[L T^{-1}\right]=\frac{\left[1\right]}{\left[1\right]}\left(\frac{\left[L^{2}\right]}{\left[L\right]}\right)^{\frac{2}{3}}\left(\left[1\right]\right)^{\frac{1}{2}}$$

$$\left[L T^{-1}\right]=\left(\frac{\left[L^{2}\right]}{\left[L\right]}\right)^{\frac{2}{3}}$$

$$\left[L T^{-1}\right]=\left[L^{\frac{2}{3}}\right]=\frac{\left[L^{2}\right]}{\left[L^{3}\right]}$$