$$Re_x = \frac{U\,x}{\nu};$$

$$NuLaminar = 0.332\,Re_x^{1/2}\,Pr^{1/3};$$

$$NuTurbulent = 0.0135\,Re_x^{6/7}\,Pr^{1/3};$$

$$x_c = \frac{3.5 \times 10^5\,\nu}{U};$$

$$NuAverage = \int_0^{x_c} \frac{NuLaminar}{x}\,dx + \int_{x_c}^{L} \frac{NuTurbulent}{x}\,dx$$

Out[ ]=

$$469.519\,Pr^{1/3} + 0.01575\,Pr^{1/3}\left(-76\,706.4 + 1.\left(\frac{L\,U}{\nu}\right)^{6/7}\right) \text{ if } condition$$