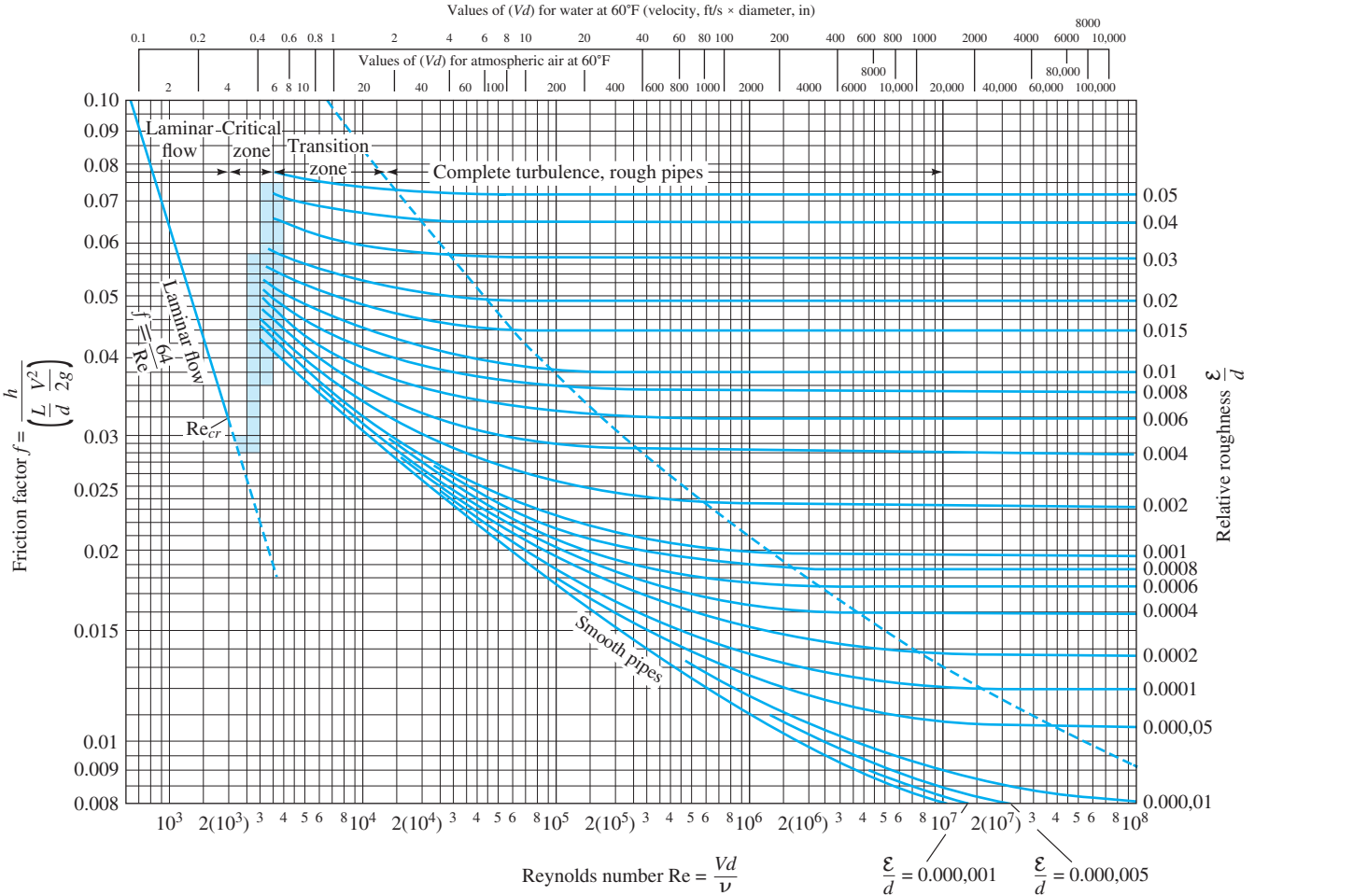

Values of (Vd) for water at 60°F (velocity, ft/s × diameter, in)
0.1 0.2 0.4 0.6 0.8 1 2 4 6 8 10 20 40 60 80 100 200 400 600 800 1000 2000 4000 6000 8000 10,000
Values of (Vd) for atmospheric air at 60°F
2 4 6 8 10 20 40 60 100 200 400 600 800 1000 2000 4000 6000 8000 10,000 20,000 40,000 60,000 80,000 100,000
Laminar flow
Critical zone
Transition zone
Complete turbulence, rough pipes
Laminar flow
$f = \frac{64}{Re}$
Re_{cr}
Smooth pipes
Friction factor $f = \frac{h}{\left(\frac{L}{d}\frac{V^2}{2g}\right)}$
Relative roughness $\frac{\varepsilon}{d}$
0.10 0.09 0.08 0.07 0.06 0.05 0.04 0.03 0.025 0.02 0.015 0.01 0.009 0.008
0.05 0.04 0.03 0.02 0.015 0.01 0.008 0.006 0.004 0.002 0.001 0.0008 0.0006 0.0004 0.0002 0.0001 0.000,05 0.000,01
10^3 $2(10^3)$ 3 4 5 6 8 10^4 $2(10^4)$ 3 4 5 6 8 10^5 $2(10^5)$ 3 4 5 6 8 10^6 $2(10^6)$ 3 4 5 6 8 10^7 $2(10^7)$ 3 4 5 6 8 10^8
Reynolds number $Re = \frac{Vd}{\nu}$
$\frac{\varepsilon}{d} = 0.000,001$
$\frac{\varepsilon}{d} = 0.000,005$