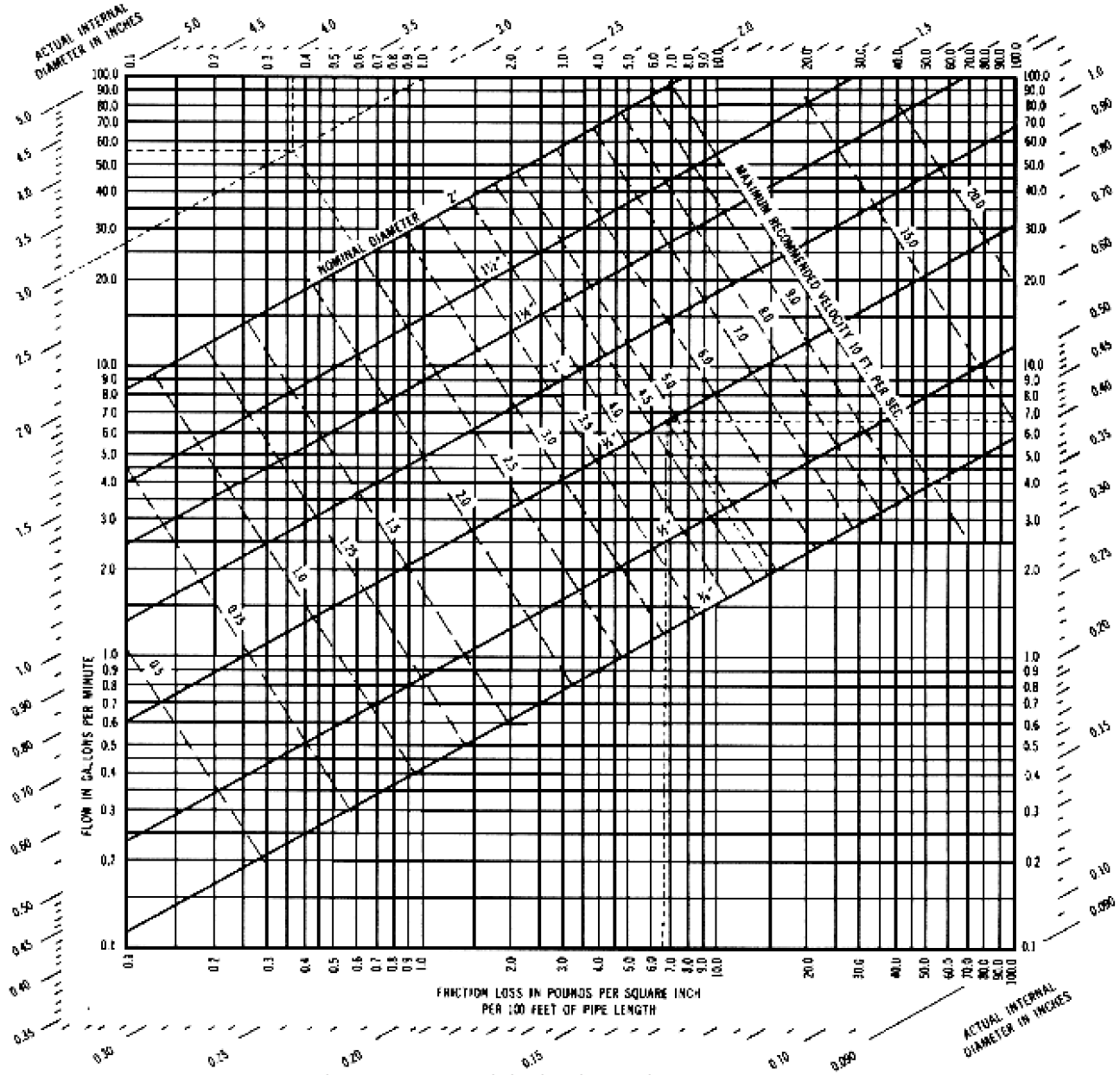
ENGINEERING INFORMATION - COPPER TUBING FLOW CHART

Flow chart for Type “K” copper tubing

Auxillary scale by inside diameters for use with other pipes of extremely smooth interiors.



Curves plotted from formula

$$P = \frac{Q^{1.75}}{16.4\ d^{4.75}}$$

Where P = Friction loss in pounds per square inch 100 ft. of pipe length.

Q = Flow in gallons per minute.

d = Pipe I.D. in inches.

Note: Flow formula and chart are accurate for Reynolds numbers of 200,000 or less; less accurate for higher Reynolds numbers.

Example 1. Type “K” copper nominal size. The dotted lines above show that for 3/4" Type “K” copper pipe, a flow of 6.5" gallons per minute produces a friction loss of 6.7 p.s.i. per 100 feet of pipe length at an average velocity of 4.8 feet per second.

Example 2. Smooth pipe not Type “K” copper sizes. The dotted lines in the upper left hand corner show that for a 3" I.D. smooth pipe, a flow of 55 G.P.M. produces a friction loss of 0.36 p.s.i. per 100 feet of pipe length at an average velocity of 2.5 feet per second.