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Friction Loss Characteristics

PVC Schedule 80 IPS Plastic Pipe

(1120, 1220) C=150

psi Loss Per 100 Feet of Pipe (psi/100 ft.)

Sizes 1/2" through 6" Flow 1 through 600 GPM

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"
O.D.	0.840	1.050	1.315	1.660	1.900	2.375	2.875	3.500	4.500	6.625
I.D.	0.546	0.742	1.957	1.278	1.500	1.939	2.323	2.900	3.826	5.761
Wall Thk	0.147	0.154	0.179	0.191	0.200	0.218	0.276	0.300	0.337	0.432
Flow GPM	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss
1	1.36	0.81	0.74	0.18	0.44	0.05	0.24	0.01	0.18	0.01
2	2.73	2.92	1.48	0.66	0.89	0.19	0.49	0.05	0.36	0.02
3	4.10	6.19	2.22	1.39	1.33	0.40	0.74	0.10	0.54	0.05
4	5.47	10.54	2.96	2.37	1.78	0.69	0.99	0.17	0.72	0.08
5	6.84	15.93	3.70	3.58	2.22	1.04	1.24	0.25	0.90	0.12
6	8.21	22.33	4.44	5.02	2.67	1.46	1.49	0.36	1.08	0.16
7	9.58	29.71	5.18	6.68	3.11	1.94	1.74	0.47	1.26	0.22
8	10.94	38.05	5.92	8.56	3.56	2.48	1.99	0.61	1.45	0.28
9	12.31	47.33	6.66	10.64	4.00	3.09	2.24	0.76	1.63	0.35
10	13.68	57.52	7.41	12.93	4.45	3.75	2.49	0.92	1.81	0.42
11	15.05	68.63	8.15	15.43	4.90	4.47	2.74	1.10	1.99	0.50
12	16.42	80.63	8.89	18.13	5.34	5.26	2.99	1.29	2.17	0.59
14			10.37	24.12	6.23	6.99	3.49	1.71	2.53	0.79
16			11.85	30.88	7.12	8.95	3.99	2.19	2.90	1.01
18			13.33	38.41	8.01	11.14	4.49	2.73	3.26	1.26
20			14.82	46.69	8.90	13.54	4.99	3.31	3.62	1.52
22			16.30	55.70	9.80	16.15	5.49	3.95	3.98	1.81
24			17.78	65.44	10.69	18.97	5.99	4.64	4.35	2.13
26			19.26	75.90	11.58	22.01	6.49	5.39	4.71	2.47
28					12.47	25.24	6.99	6.18	5.07	2.83
30					13.36	28.69	7.49	7.02	5.43	3.22
35					15.59	38.16	8.74	9.34	6.34	4.29
40					17.81	48.87	9.99	11.96	7.25	5.49
45							11.24	14.88	8.16	6.83
50							12.49	18.09	9.06	8.30
55							13.73	21.58	9.97	9.90
60							14.98	25.35	10.87	11.63
65							16.23	29.40	11.78	13.49
70							17.48	33.72	12.69	15.47
75							18.73	38.32	13.59	17.58
80							19.98	43.19	14.50	19.81
85									15.41	22.16
90									16.32	24.64
95									17.22	27.23
100									18.13	29.95
110									19.94	35.73
120									13.02	12.04
130									14.10	13.96
140									15.19	16.02
150									16.27	18.20
160									17.36	20.51
170									18.44	22.95
180									19.53	25.51
190										
200									15.12	12.87
225									17.01	16.01
250									18.90	19.46
275									13.34	7.89
300									14.55	9.27
325									15.76	10.75
350									16.97	12.33
375									18.19	14.01
400									19.40	15.79
425										
450									11.84	4.59
475									12.54	5.10
500									13.23	5.64
550									13.93	6.20
600									15.32	7.40

Note: Dark shaded area of chart indicates velocities over 5' per second. Use with caution.

Velocity of flow values are computed from the general equation $V = .408 \sqrt{2}$

Friction pressure loss values are computed from the equation: $hf = 0.2083 \left(\frac{100}{C} \right)^{1.852} \frac{0.1852}{24.866} \times 4.33$ for psi loss per 100' of pipe