

# Friction Loss Characteristics

## Schedule 40 IPS PVC Plastic Pipe

(1120,1220) C=150  
 PRESSURE LOSS PER 100 FEET OF PIPE (PSI) SIZES 1/2" THRU 3"

Nominal Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	Nominal Size				
Pipe ID	0.622	0.824	1.049	1.380	1.610	2.067	2.469	3.068	Pipe ID				
Pipe OD	0.840	1.050	1.315	1.660	1.900	2.375	2.875	3.500	Pipe OD				
Wall Thick	0.109	0.113	0.133	0.140	0.145	0.154	0.203	0.216	Wall Thick				
Flow GPM	Velocity FPS	PSI LOSS	Velocity FPS	PSI LOSS	Velocity FPS	PSI LOSS	Velocity FPS	PSI LOSS	Velocity FPS	PSI LOSS	Flow GPM		
1	1.05	0.43	0.60	0.11	0.37	0.03	0.21	0.01	0.16	0.00	1		
2	2.11	1.55	1.20	0.39	0.74	0.12	0.43	0.03	0.31	0.02	2		
3	3.16	3.28	1.80	0.84	1.11	0.26	0.64	0.07	0.47	0.03	3		
4	4.22	5.59	2.40	1.42	1.48	0.44	0.86	0.12	0.63	0.05	4		
5	5.27	8.45	3.00	2.15	1.85	0.66	1.07	0.17	0.79	0.08	5		
6	6.33	11.85	3.61	3.02	2.22	0.93	1.29	0.25	0.94	0.12	6		
7	7.38	15.76	4.21	4.01	2.60	1.24	1.50	0.33	1.10	0.15	7		
8	8.44	20.18	4.81	5.14	2.97	1.59	1.71	0.42	1.26	0.20	8		
9	9.49	25.10	5.41	6.39	3.34	1.97	1.93	0.52	1.42	0.25	9		
10	10.55	30.51	6.01	7.77	3.71	2.40	2.14	0.63	1.57	0.30	10		
11	11.60	36.40	6.61	9.26	4.08	2.86	2.36	0.75	1.73	0.36	11		
12	12.65	42.77	7.21	10.88	4.45	3.36	2.57	0.89	1.89	0.42	12		
13	13.71	49.60	7.81	12.62	4.82	3.90	2.79	1.03	2.05	0.48	13		
14	14.76	56.90	8.41	14.48	5.19	4.47	3.00	1.18	2.20	0.56	14		
15	15.82	64.65	9.01	16.45	5.56	5.08	3.21	1.34	2.36	0.63	15		
16	16.87	72.86	9.61	18.54	5.93	5.73	3.43	1.51	2.52	0.71	16		
17	17.93	81.52	10.22	20.75	6.30	6.41	3.64	1.69	2.68	0.80	17		
18	18.98	90.62	10.82	23.06	6.67	7.12	3.86	1.88	2.83	0.89	18		
19			11.42	25.49	7.04	7.87	4.07	2.07	2.99	0.98	19		
20			12.02	28.03	7.42	8.66	4.28	2.28	3.15	1.08	20		
22			13.22	33.44	8.16	10.33	4.71	2.72	3.46	1.28	22		
24			14.42	39.29	8.90	12.14	5.14	3.20	3.78	1.51	24		
25			15.02	42.38	9.27	13.09	5.36	3.45	3.94	1.63	25		
26			15.62	45.57	9.64	14.08	5.57	3.71	4.09	1.75	26		
28			16.83	52.27	10.38	16.15	6.00	4.25	4.41	2.01	28		
30			18.03	59.40	11.12	18.35	6.43	4.83	4.72	2.28	30		
32			19.23	66.94	11.86	20.68	6.86	5.44	5.04	2.57	32		
34					12.61	23.13	7.28	6.09	5.35	2.88	34		
35					12.98	24.41	7.50	6.43	5.51	3.04	35		
36					13.35	25.72	7.71	6.77	5.67	3.20	36		
38					14.09	28.43	8.14	7.48	5.98	3.54	38		
40					14.83	31.26	8.57	8.23	6.30	3.89	40		
42					15.57	34.22	9.00	9.01	6.61	4.25	42		
44					16.31	37.29	9.43	9.82	6.93	4.64	44		
45					16.68	38.88	9.64	10.24	7.08	4.83	45		
46					17.06	40.49	9.86	10.66	7.24	5.04	46		
48					17.80	43.81	10.28	11.54	7.56	5.45	48		
50					18.54	47.26	10.71	12.44	7.87	5.88	50		
55							11.78	14.84	8.66	7.01	55		
60							12.85	17.44	9.44	8.24	60		
65							13.93	20.23	10.23	9.55	65		
70							15.00	23.20	11.02	10.96	70		
75							16.07	26.36	11.81	12.45	75		
80							17.14	29.71	12.59	14.03	80		
85							18.21	33.24	13.38	15.70	85		
90							19.28	36.95	14.17	17.45	90		
95									14.95	19.29	95		
100									15.74	21.21	100		
110									17.31	25.31	110		
120									18.89	29.74	120		
130									12.41	10.22	130		
140									13.37	11.73	140		
150									14.32	13.33	150		
160									15.28	15.02	160		
170									16.23	16.80	170		
180									17.19	18.68	180		
190									18.14	20.65	190		
200									19.10	22.70	200		
225										15.06	11.89	225	
250										16.73	14.46	250	
275										18.41	17.25	275	
300											13.00	7.04	300
325											14.09	8.17	325
350											15.17	9.37	350
375											16.25	10.64	375
400											17.34	12.00	400

Shaded area represents velocities over 5 fps.  
 Use with caution where water hammer is a concern.