

Carrying Capacity and Friction Loss for Schedule 80 Thermoplastic Pipe

(Independent variables : Gallons per minute and nominal pipe size O.D.)

Dependent variables : Velocity, Friction Head and Pressure Drop per 100 feet of pipe, interior smooth.)

Gallons per Minute	Flow Velocity (Feet Per Second)	Friction Head Loss (Ft Water/100Ft)	Friction Pressure Loss (PSI/100Ft)	Maximum Surge Pressure (PSI)	Flow Velocity (Feet Per Second)	Friction Head Loss (Ft Water/100Ft)	Friction Pressure Loss (PSI/100Ft)	Maximum Surge Pressure (PSI)	Flow Velocity (Feet Per Second)	Friction Head Loss (Ft Water/100Ft)	Friction Pressure Loss (PSI/100Ft)	Maximum Surge Pressure (PSI)	Flow Velocity (Feet Per Second)	Friction Head Loss (Ft Water/100Ft)	Friction Pressure Loss (PSI/100Ft)	Maximum Surge Pressure (PSI)	Flow Velocity (Feet Per Second)	Friction Head Loss (Ft Water/100Ft)	Friction Pressure Loss (PSI/100Ft)	Maximum Surge Pressure (PSI)						
1																										
3																										
5																					2 1/2 in.					
7																			0.546	0.064	0.028	12.173				
9		3 in.																	0.702	0.102	0.044	15.651				
10	0.498	0.042	0.018	10.500															0.780	0.124	0.054	17.390				
15	0.747	0.089	0.038	15.750															1.169	0.264	0.114	26.085				
20	0.996	0.151	0.065	21.000	0.570	0.039	0.017	11.220											1.559	0.449	0.194	34.780				
25	1.245	0.228	0.099	26.250	0.712	0.059	0.025	14.025											1.949	0.679	0.293	43.475				
30	1.494	0.320	0.138	31.500	0.855	0.082	0.036	16.830											2.339	0.951	0.411	52.170				
35	1.743	0.425	0.184	36.750	0.997	0.109	0.047	19.635											2.728	1.266	0.547	60.865				
40	1.990	0.545	0.235	42.000	1.140	0.140	0.061	22.440											3.118	1.621	0.701	69.550				
45	2.241	0.678	0.293	47.250	1.282	0.174	0.075	25.245											3.508	2.016	0.871	78.255				
50	2.490	0.823	0.356	52.500	1.425	0.202	0.092	28.050	0.627	0.029	0.012	11.500						3.898	2.450	1.059	86.950					
60	2.988	1.154	0.499	63.00	1.710	0.297	0.128	33.660	0.752	0.040	0.017	13.800						4.677	3.343	1.484	104.340					
70	3.486	1.536	0.664	73.500	1.995	0.395	0.171	39.270	0.877	0.023	0.023	16.100						5.457	4.569	1.975	121.730					
80	3.984	1.968	0.850	84.000	2.280	0.506	0.219	44.880	1.003	0.030	0.030	18.400						6.237	5.851	2.529	139.120					
90	4.482	2.446	1.057	94.500	2.565	0.629	0.272	50.490	1.128	0.037	0.037	20.700						7.016	7.277	3.146	156.510					
100	4.980	2.973	1.285	105.000	2.850	0.765	0.330	56.100	1.253	0.045	0.045	23.000						7.796	8.845	3.823	173.900					
125	6.225	4.494	1.943	131.250	3.562	1.156	0.500	70.125	1.567	0.068	0.068	28.750	0.892	0.040	0.017	15.375		9.745	13.372	5.780	217.375					
150	7.469	6.299	2.723	157.500	4.274	1.620	0.700	84.150	1.880	0.095	0.095	34.500	1.071	0.056	0.024	18.450										
175	8.714	8.381	3.622	183.750	5.699	2.155	0.932	98.175	2.193	0.126	0.126	40.250	1.249	0.074	0.032	21.525										
200	9.959	10.732	4.639	210.000	7.124	2.760	1.193	112.200	2.560	0.162	0.162	46.000	1.427	0.095	0.041	24.600	0.907	0.032	0.014	15.200						
250					8.549	4.173	1.804	140.250	3.133	0.244	0.244	57.500	1.784	0.144	0.062	30.750	1.133	0.048	0.021	19.000						
300					9.974	5.849	2.528	168.300	3.760	0.343	0.343	69.000	2.141	0.202	0.087	36.900	1.360	0.067	0.029	22.800						
350						7.781	3.363	196.350	4.386	0.456	0.456	80.500	2.498	0.268	0.116	43.050	1.587	0.089	0.038	26.600	1.121	0.038	0.016			
400									5.013	0.584	0.584	92.000	2.855	0.343	0.148	49.200	1.813	0.114	0.049	30.400	1.281	0.049	0.021	18.550		
450									5.639	0.728	0.728	103.500	3.212	0.427	0.185	55.350	2.040	0.142	0.061	34.200	1.441	0.061	0.026	21.200		
500									6.266	0.883	0.883	115.000	3.589	0.519	0.224	61.500	2.267	0.172	0.074	38.00	1.601	0.074	0.032	23.850		
750									9.399	1.870	1.870	172.500	5.353	1.100	0.475	92.250	3.400	0.35	0.158	57.00	2.402	0.157	0.068	39.750		
1000													7.137	1.874	0.810	123.000	4.533	0.621	0.269	76.00	3.202	0.267	0.115	53.00		
1250													8.921	2.833	1.224	153.750	5.667	0.939	0.406	95.00	4.003	0.403	0.174	66.250		
1500													10.706	3.970	1.716	184.500	6.800	1.316	0.569	114.000	4.803	0.585	0.244	79.500		
1750																			7.934	1.751	0.757	133.000	5.604	0.752	0.325	92.3750
2000																			9.067	2.243	0.969	152.000	6.404	0.963	0.416	106.000

CAUTION : Flow velocity should not exceed 5 feet per second. •CPVC pipe cannot be used for compressed air service.