CLOSE

National Fire Equipment Ltd.
Interior Fire Protection - January 2003

Theoretical Friction Loss in Fire Hose

Pressure Loss per 100 feet (psi)												
	Hose Diameter											
gpm flow	3/4"	1"	1 ½"	1 ¾"	2"	2 ½"	3"	3 ½"	4"	4 ½"	5"	6"
12	16	2	0									
20	44	6	1	1	0							
23	58	8	1	1	0							
30	99	14	2	1	1	0						
45	223	30	5	3	2	0						
60	396	54	9	6	3	1	0					
95		135	22	14	7	2	1	0				
125		234	38	24	13	3	1	1	0			
150		338	54	35	18	5	2	1	0			
200			96	62	32	8	3	1	1	0	0	
250			150	97	50	13	5	2	1	1	1	0
300			216	140	72	18	7	3	2	1	1	0
350			294	190	98	25	10	4	2	1	1	1
375				218	113	28	11	5	3	1	1	1
400				248	128	32	13	5	3	2	1	1
450				314	162	41	16	7	4	2	2	1
500					200	50	20	9	5	3	2	1
550					242	61	24	10	6	3	2	2
600					288	72	29	12	7	4	3	2
650					338	85	34	14	8	4	3	2
700						98	39	17	10	5	4	2
750						113	45	19	11	6	5	3
800						128	51	22	13	6	5	3
850						145	58	25	14	7	6	4
900						162	65	28	16	8	6	4
950						181	72	31	18	9	7	5
1000						200	80	34	20	10	8	5
1250						313	125	53	31	16	13	8

References: National Fire Protection Association (NFPA) Fire Protection Handbook - 17th Edition
International Fire Service Training Association (IFSTA) Fire Protection Publications - Fire Stream Practices - 7th Edition
These figures may vary depending on manufacturer and age of hose.

Formula for Friction Loss: $FL = CQ^2 L$

FL = Friction Loss in psi — **Q = Flow rate in hundreds of GPM**
C = Friction Loss coefficient — **L = Hose length in hundreds of feet**

Hose Diameter and Type (Inches)	Coefficient	Hose Diameter and Type (Inches)	Coefficient
¾" booster	1,100	3" with 2 ½ couplings	0.8
1" booster	150	3 ½"	0.34
1½" rubber lined	24	4"	0.2
1 ¾" with 1 ½" couplings	15.5	4 ½"	0.1
2" rubber lined with 1 ½" couplings	8	5"	0.08
2 ½ "rubber lined	2	6"	0.05