

PIPE RESTRAINT LENGTH (FT)

PIPE SIZE	REDUCER – LARGE SIZE							TEES – BRANCH LINE SIZE							
	6"	8"	12"	16"	20"	24"	30"	4"	6"	8"	12"	16"	20"	24"	30"
4"	15	28	48	67	84	101	125	11	6	2	1	1	1	1	1
6"	–	17	40	61	80	97	122	23	19	16	9	3	1	1	1
8"	–	–	30	53	73	92	117	–	32	29	23	17	11	6	1
12"	–	–	–	31	56	77	106	–	–	–	45	40	36	31	24
16"	–	–	–	–	31	57	90	–	–	–	–	62	57	53	46
20"	–	–	–	–	–	32	70	–	–	–	–	–	78	74	68
24"	–	–	–	–	–	–	45	–	–	–	–	–	–	94	88
30"	–	–	–	–	–	–	–	–	–	–	–	–	–	–	117

HORIZONTAL PIPE RESTRAINT LENGTH (FT)

PIPE SIZE	11–1/4° BEND	22–1/2° BEND	45° BEND	90° BEND	DEAD END
4"	2	3	7	15	21
6"	3	5	9	22	29
8"	3	6	12	28	39
12"	4	8	17	40	55
16"	6	11	22	52	72
20"	7	13	26	63	89
24"	8	15	31	74	105
30"	9	18	37	89	128

VERTICAL PIPE RESTRAINT LENGTH (FT)

PIPE SIZE	11–1/4° BEND		22–1/2° BEND		45° BEND		90° BEND	
	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER
4"	3	2	6	3	13	6	N/A	N/A
6"	5	2	9	4	18	8	N/A	N/A
8"	6	3	11	5	23	10	N/A	N/A
12"	8	4	16	7	33	14	N/A	N/A
16"	10	5	20	9	42	18	N/A	N/A
20"	13	6	25	11	51	22	N/A	N/A
24"	15	6	29	13	60	26	N/A	N/A
30"	18	8	35	15	73	31	N/A	N/A

ALL CALCULATIONS BASED ON EBAA IRON RESTRAINT LENGTH CALCULATOR v5.01.
 ALL CALCULATIONS ASSUME SOIL TYPE CL, SAFETY FACTOR OF 1.5 TO 1, TRENCH TYPE 3,
 DEPTH OF BURY OF 3.5', TEST PRESSURE OF 200.
 TEES ASSUME "LENGTH ON RUN" OF 5'.
 VERTICAL OFFSETS ASSUME LOW SIDE DEPTH OF 5'.
 LISTED LENGTHS ARE MINIMUMS. RESTRAINTS SHALL BE INSTALLED TO NEXT JOINT BEYOND ALL LISTED DISTANCES.
 RESTRAINTS ARE TO BE INSTALLED THE SPECIFIED LENGTH IN EACH DIRECTION AWAY FROM THE JOINT.



DI RESTRAINT LENGTH TABLE

DRAWING NO.

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