

MAXIMUM RESTRAINT SPACING – PVC & CPVC PIPE

Table A6.4-1; Max Allowable Restraint Spacing for Sched 40 PVC Pipe - Empty

Seismic Coefficient C_s				0.25	0.50	0.75	1.00	1.50	2.00
Seismic Hazard Level SHL				D	C	B	A	----	----
Pipe Size (in)	Pipe O. D. (in)	Pipe I. D. (in)	Pipe Weight w_p (lb/ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)
3/4	1.050	0.804	0.2	15	15	15	15	15	10
1	1.315	1.029	0.3	20	15	15	15	15	15
1 1/4	1.660	1.360	0.4	20	20	15	15	15	15
1 1/2	1.900	1.590	0.5	30	20	20	15	15	15
2	2.375	2.047	0.7	30	20	20	20	15	15
2 1/2	2.875	2.445	1.1	30	30	20	20	20	15
3	3.500	3.042	1.4	40	30	30	20	20	20
3 1/2	4.000	3.521	1.7	40	30	30	30	20	20
4	4.500	3.998	2.1	40	40	30	30	20	20
5	5.563	5.016	2.8	40	40	40	30	30	30
6	6.625	6.031	3.6	40	40	40	40	30	30
8	8.625	7.945	5.4	40	40	40	40	40	40
10	10.75	9.98	7.7	40	40	40	40	40	40
12	12.75	11.89	10.2	40	40	40	40	40	40
14	14.00	13.07	12.1	40	40	40	40	40	40
16	16.00	14.94	15.8	40	40	40	40	40	40
18	18.00	16.81	19.9	40	40	40	40	40	40
20	20.00	18.74	23.4	40	40	40	40	40	40
24	24.00	22.54	32.6	40	40	40	40	40	40

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PAGE 1 of 20



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SECTION – A6.4

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KINETICS™ Pipe & Duct Seismic Application Manual

Table A6.4-2; Max Allowable Restraint Spacing for Sched 40 PVC Pipe – Half Full of Water

Seismic Coefficient C_s				0.25	0.50	0.75	1.00	1.50	2.00
Seismic Hazard Level SHL				D	C	B	A	----	----
Pipe Size (in)	Pipe O. D. (in)	Pipe I. D. (in)	Pipe Weight w_p (lb/ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)
3/4	1.050	0.804	0.3	15	10	10	10	10	9
1	1.315	1.029	0.5	15	15	10	10	10	10
1 1/4	1.660	1.360	0.8	20	15	15	10	10	10
1 1/2	1.900	1.590	1.0	20	15	15	15	10	10
2	2.375	2.047	1.4	20	20	15	15	15	10
2 1/2	2.875	2.445	2.1	30	20	20	20	15	15
3	3.500	3.042	3.0	30	20	20	20	15	15
3 1/2	4.000	3.521	3.8	30	30	20	20	20	15
4	4.500	3.998	4.8	40	30	20	20	20	20
5	5.563	5.016	7.1	40	30	30	20	20	20
6	6.625	6.031	9.8	40	40	30	30	20	20
8	8.625	7.945	16.2	40	40	40	30	30	20
10	10.75	9.98	24.6	40	40	40	40	30	30
12	12.75	11.89	34.3	40	40	40	40	40	30
14	14.00	13.07	41.1	40	40	40	40	40	30
16	16.00	14.94	53.7	40	40	40	40	40	40
18	18.00	16.81	68.0	40	40	40	40	40	40
20	20.00	18.74	83.2	40	40	40	40	40	40
24	24.00	22.54	119.1	40	40	40	40	40	40

MAXIMUM RESTRAINT SPACING – PVC & CPVC PIPE

PAGE 2 of 20

SECTION – A6.4

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Table A6.4-3; Max Allowable Restraint Spacing for Sched 40 PVC Pipe – Full of Water

Seismic Coefficient C_s				0.25	0.50	0.75	1.00	1.50	2.00
Seismic Hazard Level SHL				D	C	B	A	----	----
Pipe Size (in)	Pipe O. D. (in)	Pipe I. D. (in)	Pipe Weight w_p (lb/ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)
3/4	1.050	0.804	0.4	15	10	10	10	9	8
1	1.315	1.029	0.7	15	10	10	10	10	9
1 1/4	1.660	1.360	1.1	20	15	10	10	10	10
1 1/2	1.900	1.590	1.4	20	15	15	10	10	10
2	2.375	2.047	2.1	20	15	15	15	10	10
2 1/2	2.875	2.445	3.1	20	20	15	15	15	10
3	3.500	3.042	4.6	30	20	20	15	15	15
3 1/2	4.000	3.521	6.0	30	20	20	20	15	15
4	4.500	3.998	7.5	30	20	20	20	15	15
5	5.563	5.016	11.3	30	30	20	20	20	15
6	6.625	6.031	16.0	40	30	20	20	20	20
8	8.625	7.945	26.9	40	30	30	30	20	20
10	10.75	9.98	41.6	40	40	30	30	30	20
12	12.75	11.89	58.3	40	40	40	30	30	30
14	14.00	13.07	70.2	40	40	40	40	30	30
16	16.00	14.94	91.7	40	40	40	40	30	30
18	18.00	16.81	116.1	40	40	40	40	40	30
20	20.00	18.74	143.0	40	40	40	40	40	40
24	24.00	22.54	205.5	40	40	40	40	40	40

MAXIMUM RESTRAINT SPACING – PVC & CPVC PIPE

PAGE 3 of 20



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Table A6.4-4; Max Allowable Restraint Spacing for Insulated Sched 40 PVC Pipe – Full of Water

Seismic Coefficient C_s				0.25	0.50	0.75	1.00	1.50	2.00
Seismic Hazard Level SHL				D	C	B	A	----	----
Pipe Size (in)	Pipe O. D. (in)	Pipe I. D. (in)	Pipe Weight w_p (lb/ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)
3/4	1.050	0.804	1.2	10	9	8	7	6	6
1	1.315	1.029	1.5	10	10	10	9	8	7
1 1/4	1.660	1.360	2.1	15	10	10	10	9	8
1 1/2	1.900	1.590	2.5	15	10	10	10	10	9
2	2.375	2.047	3.4	20	15	10	10	10	10
2 1/2	2.875	2.445	4.6	20	15	15	15	10	10
3	3.500	3.042	6.3	20	20	15	15	15	10
3 1/2	4.000	3.521	7.8	30	20	20	15	15	15
4	4.500	3.998	9.5	30	20	20	20	15	15
5	5.563	5.016	15.3	30	20	20	20	15	15
6	6.625	6.031	20.5	30	30	20	20	20	15
8	8.625	7.945	32.5	40	30	30	20	20	20
10	10.75	9.98	48.4	40	40	30	30	20	20
12	12.75	11.89	66.2	40	40	40	30	30	20
14	14.00	13.07	78.9	40	40	40	30	30	30
16	16.00	14.94	101.5	40	40	40	40	30	30
18	18.00	16.81	126.9	40	40	40	40	40	30
20	20.00	18.74	154.9	40	40	40	40	40	30
24	24.00	22.54	219.7	40	40	40	40	40	40

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PAGE 4 of 20



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Table A6.4-5; Max Allowable Restraint Spacing for Sched 80 PVC Pipe - Empty

Seismic Coefficient C_s				0.25	0.50	0.75	1.00	1.50	2.00
Seismic Hazard Level SHL				D	C	B	A	----	----
Pipe Size (in)	Pipe O. D. (in)	Pipe I. D. (in)	Pipe Weight w_p (lb/ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)
3/4	1.050	0.722	0.3	15	15	10	10	10	10
1	1.315	0.936	0.4	20	15	15	10	10	10
1 1/4	1.660	1.255	0.6	20	20	15	15	10	10
1 1/2	1.900	1.476	0.7	20	20	20	15	15	10
2	2.375	1.913	1.0	30	20	20	20	15	15
2 1/2	2.875	2.290	1.5	30	30	20	20	20	15
3	3.500	2.864	1.9	40	30	30	20	20	20
3 1/2	4.000	3.326	2.4	40	30	30	30	20	20
4	4.500	3.786	2.8	40	40	30	30	20	20
5	5.563	4.768	3.9	40	40	40	30	30	30
6	6.625	5.709	5.4	40	40	40	40	30	30
8	8.625	7.565	8.2	40	40	40	40	40	40
10	10.75	9.49	12.2	40	40	40	40	40	40
12	12.75	11.29	16.8	40	40	40	40	40	40
14	14.00	12.41	20.2	40	40	40	40	40	40
16	16.00	14.21	26.0	40	40	40	40	40	40
18	18.00	16.01	32.5	40	40	40	40	40	40
20	20.00	17.81	39.7	40	40	40	40	40	40
24	24.00	21.42	56.4	40	40	40	40	40	40

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PAGE 5 of 20



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Table A6.4-6; Max Allowable Restraint Spacing for Sched 80 PVC Pipe – Half Full of Water

Seismic Coefficient C_s				0.25	0.50	0.75	1.00	1.50	2.00
Seismic Hazard Level SHL				D	C	B	A	----	----
Pipe Size (in)	Pipe O. D. (in)	Pipe I. D. (in)	Pipe Weight w_p (lb/ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)
3/4	1.050	0.722	0.4	15	10	10	10	10	9
1	1.315	0.936	0.6	20	15	10	10	10	10
1 1/4	1.660	1.255	0.8	20	15	15	10	10	10
1 1/2	1.900	1.476	1.1	20	20	15	15	10	10
2	2.375	1.913	1.6	20	20	20	15	15	10
2 1/2	2.875	2.290	2.3	30	20	20	20	15	15
3	3.500	2.864	3.3	30	20	20	20	20	15
3 1/2	4.000	3.326	4.3	40	30	20	20	20	20
4	4.500	3.786	5.3	40	30	30	20	20	20
5	5.563	4.768	7.8	40	30	30	30	20	20
6	6.625	5.709	11.0	40	40	30	30	30	20
8	8.625	7.565	18.0	40	40	40	40	30	30
10	10.75	9.49	27.6	40	40	40	40	40	30
12	12.75	11.29	38.5	40	40	40	40	40	40
14	14.00	12.41	46.4	40	40	40	40	40	40
16	16.00	14.21	60.3	40	40	40	40	40	40
18	18.00	16.01	76.1	40	40	40	40	40	40
20	20.00	17.81	93.7	40	40	40	40	40	40
24	24.00	21.42	134.4	40	40	40	40	40	40

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PAGE 6 of 20



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Table A6.4-7; Max Allowable Restraint Spacing for Sched 80 PVC Pipe – Full of Water

Seismic Coefficient C_s				0.25	0.50	0.75	1.00	1.50	2.00
Seismic Hazard Level SHL				D	C	B	A	----	----
Pipe Size (in)	Pipe O. D. (in)	Pipe I. D. (in)	Pipe Weight w_p (lb/ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)
3/4	1.050	0.722	0.5	15	10	10	10	9	8
1	1.315	0.936	0.7	15	10	10	10	10	9
1 1/4	1.660	1.255	1.1	20	15	10	10	10	10
1 1/2	1.900	1.476	1.4	20	15	15	10	10	10
2	2.375	1.913	2.2	20	20	15	15	10	10
2 1/2	2.875	2.290	3.2	20	20	20	15	15	10
3	3.500	2.864	4.7	30	20	20	20	15	15
3 1/2	4.000	3.326	6.1	30	20	20	20	15	15
4	4.500	3.786	7.7	30	30	20	20	20	15
5	5.563	4.768	11.7	40	30	20	20	20	20
6	6.625	5.709	16.5	40	30	30	30	20	20
8	8.625	7.565	27.7	40	40	30	30	30	20
10	10.75	9.49	42.9	40	40	40	40	30	30
12	12.75	11.29	60.2	40	40	40	40	30	30
14	14.00	12.41	72.6	40	40	40	40	40	30
16	16.00	14.21	94.7	40	40	40	40	40	40
18	18.00	16.01	119.7	40	40	40	40	40	40
20	20.00	17.81	147.7	40	40	40	40	40	40
24	24.00	21.42	212.5	40	40	40	40	40	40

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PAGE 7 of 20



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Table A6.4-8; Max Allowable Restraint Spacing for Insulated Sched 80 PVC Pipe – Full of Water

Seismic Coefficient C_s				0.25	0.50	0.75	1.00	1.50	2.00
Seismic Hazard Level SHL				D	C	B	A	----	----
Pipe Size (in)	Pipe O. D. (in)	Pipe I. D. (in)	Pipe Weight w_p (lb/ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)
3/4	1.050	0.722	1.2	10	9	8	7	7	6
1	1.315	0.936	1.6	10	10	10	9	8	7
1 1/4	1.660	1.255	2.1	15	10	10	10	10	9
1 1/2	1.900	1.476	2.5	15	15	10	10	10	10
2	2.375	1.913	3.4	20	15	15	10	10	10
2 1/2	2.875	2.290	4.7	20	20	15	15	10	10
3	3.500	2.864	6.4	30	20	20	15	15	15
3 1/2	4.000	3.326	8.0	30	20	20	20	15	15
4	4.500	3.786	9.8	30	20	20	20	15	15
5	5.563	4.768	15.6	30	30	20	20	20	15
6	6.625	5.709	21.0	40	30	30	20	20	20
8	8.625	7.565	33.4	40	40	30	30	20	20
10	10.75	9.49	49.7	40	40	40	30	30	30
12	12.75	11.29	68.2	40	40	40	40	30	30
14	14.00	12.41	81.2	40	40	40	40	40	30
16	16.00	14.21	104.4	40	40	40	40	40	30
18	18.00	16.01	130.6	40	40	40	40	40	40
20	20.00	17.81	159.7	40	40	40	40	40	40
24	24.00	21.42	226.7	40	40	40	40	40	40

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PAGE 8 of 20



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Table A6.4-9; Max Allowable Restraint Spacing for Sched 120 PVC Pipe - Empty

Seismic Coefficient C_s				0.25	0.50	0.75	1.00	1.50	2.00
Seismic Hazard Level SHL				D	C	B	A	----	----
Pipe Size (in)	Pipe O. D. (in)	Pipe I. D. (in)	Pipe Weight w_p (lb/ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)
3/4	1.050	0.690	0.3	15	15	10	10	10	10
1	1.315	0.891	0.4	20	15	15	10	10	10
1 1/4	1.660	1.204	0.6	20	20	15	15	10	10
1 1/2	1.900	1.423	0.8	20	20	20	15	15	10
2	2.375	1.845	1.1	30	20	20	20	15	15
2 1/2	2.875	2.239	1.6	30	30	20	20	20	15
3	3.500	2.758	2.2	40	30	30	20	20	20
4	4.500	3.574	3.6	40	40	30	30	20	20
6	6.625	5.434	6.9	40	40	40	40	30	30
8	8.625	7.189	10.9	40	40	40	40	40	40

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PAGE 9 of 20



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Table A6.4-10; Max Allowable Restraint Spacing for Sched 120 PVC Pipe – Half Full of Water

Seismic Coefficient C_s				0.25	0.50	0.75	1.00	1.50	2.00
Seismic Hazard Level SHL				D	C	B	A	----	----
Pipe Size (in)	Pipe O. D. (in)	Pipe I. D. (in)	Pipe Weight w_p (lb/ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)
3/4	1.050	0.690	0.4	15	10	10	10	10	9
1	1.315	0.891	0.6	20	15	10	10	10	10
1 1/4	1.660	1.204	0.9	20	15	15	10	10	10
1 1/2	1.900	1.423	1.1	20	20	15	15	10	10
2	2.375	1.845	1.7	20	20	20	15	15	10
2 1/2	2.875	2.239	2.4	30	20	20	20	15	15
3	3.500	2.758	3.5	30	30	20	20	20	15
4	4.500	3.574	5.8	40	30	30	20	20	20
6	6.625	5.434	11.9	40	40	30	30	30	20
8	8.625	7.189	19.7	40	40	40	40	30	30

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PAGE 10 of 20



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Table A6.4-11; Max Allowable Restraint Spacing for Sched 120 PVC Pipe – Full of Water

Seismic Coefficient C_s				0.25	0.50	0.75	1.00	1.50	2.00
Seismic Hazard Level SHL				D	C	B	A	----	----
Pipe Size (in)	Pipe O. D. (in)	Pipe I. D. (in)	Pipe Weight w_p (lb/ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)
3/4	1.050	0.690	0.5	15	10	10	10	9	8
1	1.315	0.891	0.7	15	15	10	10	10	10
1 1/4	1.660	1.204	1.1	20	15	15	10	10	10
1 1/2	1.900	1.423	1.5	20	15	15	10	10	10
2	2.375	1.845	2.2	20	20	15	15	10	10
2 1/2	2.875	2.239	3.3	30	20	20	15	15	15
3	3.500	2.758	4.8	30	20	20	20	15	15
4	4.500	3.574	7.9	40	30	20	20	20	20
6	6.625	5.434	17.0	40	40	30	30	20	20
8	8.625	7.189	28.5	40	40	40	30	30	20

MAXIMUM RESTRAINT SPACING – PVC & CPVC PIPE

PAGE 11 of 20



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SECTION – A6.4

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Table A6.4-12; Max Allowable Restraint Spacing for Insulated Sched 120 PVC Pipe – Full of Water

Seismic Coefficient C_s				0.25	0.50	0.75	1.00	1.50	2.00
Seismic Hazard Level SHL				D	C	B	A	----	----
Pipe Size (in)	Pipe O. D. (in)	Pipe I. D. (in)	Pipe Weight w_p (lb/ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)
3/4	1.050	0.690	1.2	10	10	8	8	7	6
1	1.315	0.891	1.6	10	10	10	9	8	7
1 1/4	1.660	1.204	2.1	15	10	10	10	10	9
1 1/2	1.900	1.423	2.5	15	15	10	10	10	10
2	2.375	1.845	3.5	20	15	15	10	10	10
2 1/2	2.875	2.239	4.7	20	20	15	15	10	10
3	3.500	2.758	6.5	30	20	20	15	15	15
4	4.500	3.574	10.0	30	20	20	20	20	15
6	6.625	5.434	21.5	40	30	30	20	20	20
8	8.625	7.189	34.1	40	40	30	30	30	20

MAXIMUM RESTRAINT SPACING – PVC & CPVC PIPE
PAGE 12 of 20

SECTION – A6.4

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Table A6.4-13; Max Allowable Restraint Spacing for Sched 40 CPVC Pipe – Empty

Seismic Coefficient C_s				0.25	0.50	0.75	1.00	1.50	2.00
Seismic Hazard Level SHL				D	C	B	A	----	----
Pipe Size (in)	Pipe O. D. (in)	Pipe I. D. (in)	Pipe Weight w_p (lb/ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)
3/4	1.050	0.804	0.2	15	15	15	15	15	9
1	1.315	1.029	0.4	20	15	15	15	15	15
1 1/4	1.660	1.360	0.5	20	20	15	15	15	15
1 1/2	1.900	1.590	0.6	20	20	15	15	15	15
2	2.375	2.047	0.8	30	20	20	20	15	15
2 1/2	2.875	2.445	1.2	30	20	20	20	20	15
3	3.500	3.042	1.6	40	30	20	20	20	20
3 1/2	4.000	3.521	1.9	40	30	30	20	20	20
4	4.500	3.998	2.3	40	40	30	30	20	20
5	5.563	5.016	3.1	40	40	40	30	30	20
6	6.625	6.031	4.0	40	40	40	40	30	30
8	8.625	7.945	5.9	40	40	40	40	40	30
10	10.75	9.98	8.5	40	40	40	40	40	40
12	12.75	11.89	11.2	40	40	40	40	40	40
14	14.00	13.07	13.2	40	40	40	40	40	40
16	16.00	14.94	17.3	40	40	40	40	40	40
18	18.00	16.81	21.9	40	40	40	40	40	40
20	20.00	18.74	25.7	40	40	40	40	40	40
24	24.00	22.54	35.8	40	40	40	40	40	40

MAXIMUM RESTRAINT SPACING – PVC & CPVC PIPE
PAGE 13 of 20

SECTION – A6.4

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Table A6.4-14; Max Allowable Restraint Spacing for Sched 40 CPVC Pipe – Half Full of Water

Seismic Coefficient C_s				0.25	0.50	0.75	1.00	1.50	2.00
Seismic Hazard Level SHL				D	C	B	A	----	----
Pipe Size (in)	Pipe O. D. (in)	Pipe I. D. (in)	Pipe Weight w_p (lb/ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)
3/4	1.050	0.804	0.4	15	10	10	10	9	8
1	1.315	1.029	0.5	15	10	10	10	10	9
1 1/4	1.660	1.360	0.8	20	15	10	10	10	10
1 1/2	1.900	1.590	1.0	20	15	15	10	10	10
2	2.375	2.047	1.5	20	20	15	15	10	10
2 1/2	2.875	2.445	2.2	30	20	20	15	15	15
3	3.500	3.042	3.2	30	20	20	20	15	15
3 1/2	4.000	3.521	4.0	30	20	20	20	20	15
4	4.500	3.998	5.0	30	30	20	20	20	15
5	5.563	5.016	7.3	40	30	30	20	20	20
6	6.625	6.031	10.2	40	30	30	30	20	20
8	8.625	7.945	16.7	40	40	30	30	30	20
10	10.75	9.98	25.4	40	40	40	40	30	30
12	12.75	11.89	35.2	40	40	40	40	30	30
14	14.00	13.07	42.3	40	40	40	40	40	30
16	16.00	14.94	55.3	40	40	40	40	40	40
18	18.00	16.81	70.0	40	40	40	40	40	40
20	20.00	18.74	85.5	40	40	40	40	40	40
24	24.00	22.54	122.3	40	40	40	40	40	40

MAXIMUM RESTRAINT SPACING – PVC & CPVC PIPE

PAGE 14 of 20



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Table A6.4-15; Max Allowable Restraint Spacing for Sched 40 CPVC Pipe – Full of Water

Seismic Coefficient C_s				0.25	0.50	0.75	1.00	1.50	2.00
Seismic Hazard Level SHL				D	C	B	A	----	----
Pipe Size (in)	Pipe O. D. (in)	Pipe I. D. (in)	Pipe Weight w_p (lb/ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)
3/4	1.050	0.804	0.5	10	10	10	9	8	7
1	1.315	1.029	0.7	15	10	10	10	9	9
1 1/4	1.660	1.360	1.1	15	15	10	10	10	10
1 1/2	1.900	1.590	1.4	20	15	10	10	10	10
2	2.375	2.047	2.2	20	15	15	10	10	10
2 1/2	2.875	2.445	3.2	20	20	15	15	10	10
3	3.500	3.042	4.7	20	20	20	15	15	10
3 1/2	4.000	3.521	6.1	30	20	20	20	15	15
4	4.500	3.998	7.7	30	20	20	20	15	15
5	5.563	5.016	11.6	30	20	20	20	20	15
6	6.625	6.031	16.3	40	30	20	20	20	20
8	8.625	7.945	27.4	40	30	30	30	20	20
10	10.75	9.98	42.3	40	40	30	30	20	20
12	12.75	11.89	59.3	40	40	40	30	30	20
14	14.00	13.07	71.4	40	40	40	30	30	30
16	16.00	14.94	93.3	40	40	40	40	30	30
18	18.00	16.81	118.0	40	40	40	40	40	30
20	20.00	18.74	145.3	40	40	40	40	40	30
24	24.00	22.54	208.7	40	40	40	40	40	40

MAXIMUM RESTRAINT SPACING – PVC & CPVC PIPE

PAGE 15 of 20



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Table A6.4-16; Max Allowable Restraint Spacing for Insulated Sched 40 CPVC Pipe – Full of Water

Seismic Coefficient C_s				0.25	0.50	0.75	1.00	1.50	2.00
Seismic Hazard Level SHL				D	C	B	A	-----	-----
Pipe Size (in)	Pipe O. D. (in)	Pipe I. D. (in)	Pipe Weight w_p (lb/ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)
3/4	1.050	0.804	1.2	10	9	7	7	6	5
1	1.315	1.029	1.6	10	10	9	8	7	7
1 1/4	1.660	1.360	2.1	15	10	10	10	9	8
1 1/2	1.900	1.590	2.5	15	10	10	10	9	9
2	2.375	2.047	3.4	15	15	10	10	10	10
2 1/2	2.875	2.445	4.7	20	15	15	10	10	10
3	3.500	3.042	6.4	20	20	15	15	10	10
3 1/2	4.000	3.521	8.0	20	20	20	15	15	10
4	4.500	3.998	9.7	30	20	20	15	15	15
5	5.563	5.016	15.5	30	20	20	20	15	15
6	6.625	6.031	20.9	30	30	20	20	20	15
8	8.625	7.945	33.1	40	30	30	20	20	20
10	10.75	9.98	49.2	40	40	30	30	20	20
12	12.75	11.89	67.2	40	40	30	30	30	20
14	14.00	13.07	80.0	40	40	40	30	30	30
16	16.00	14.94	103.0	40	40	40	40	30	30
18	18.00	16.81	128.9	40	40	40	40	30	30
20	20.00	18.74	157.2	40	40	40	40	40	30
24	24.00	22.54	222.9	40	40	40	40	40	40

MAXIMUM RESTRAINT SPACING – PVC & CPVC PIPE
PAGE 16 of 20



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Table A6.4-17; Max Allowable Restraint Spacing for Sched 80 CPVC Pipe – Empty

Seismic Coefficient C_s				0.25	0.50	0.75	1.00	1.50	2.00
Seismic Hazard Level SHL				D	C	B	A	----	----
Pipe Size (in)	Pipe O. D. (in)	Pipe I. D. (in)	Pipe Weight w_p (lb/ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)
3/4	1.050	0.722	0.3	15	10	10	10	10	9
1	1.315	0.936	0.5	20	15	10	10	10	10
1 1/4	1.660	1.255	0.6	20	15	15	15	10	10
1 1/2	1.900	1.476	0.8	20	20	15	15	15	10
2	2.375	1.913	1.0	30	20	20	20	15	15
2 1/2	2.875	2.290	1.6	30	20	20	20	20	15
3	3.500	2.864	2.1	40	30	20	20	20	20
3 1/2	4.000	3.326	2.6	40	30	30	20	20	20
4	4.500	3.786	3.1	40	30	30	30	20	20
5	5.563	4.768	4.3	40	40	40	30	30	20
6	6.625	5.709	6.0	40	40	40	40	30	30
8	8.625	7.565	9.1	40	40	40	40	40	30
10	10.75	9.49	13.4	40	40	40	40	40	40
12	12.75	11.29	18.5	40	40	40	40	40	40
14	14.00	12.41	22.2	40	40	40	40	40	40
16	16.00	14.21	28.5	40	40	40	40	40	40
18	18.00	16.01	35.7	40	40	40	40	40	40
20	20.00	17.81	43.6	40	40	40	40	40	40
24	24.00	21.42	61.9	40	40	40	40	40	40

MAXIMUM RESTRAINT SPACING – PVC & CPVC PIPE
PAGE 17 of 20

SECTION – A6.4

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Table A6.4-18; Max Allowable Restraint Spacing for Sched 80 CPVC Pipe – Half Full of Water

Seismic Coefficient C_s				0.25	0.50	0.75	1.00	1.50	2.00
Seismic Hazard Level SHL				D	C	B	A	----	----
Pipe Size (in)	Pipe O. D. (in)	Pipe I. D. (in)	Pipe Weight w_p (lb/ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)
3/4	1.050	0.722	0.4	15	10	10	10	9	8
1	1.315	0.936	0.6	15	15	10	10	10	10
1 1/4	1.660	1.255	0.9	20	15	15	10	10	10
1 1/2	1.900	1.476	1.1	20	15	15	15	10	10
2	2.375	1.913	1.7	20	20	15	15	15	10
2 1/2	2.875	2.290	2.5	30	20	20	15	15	15
3	3.500	2.864	3.5	30	20	20	20	15	15
3 1/2	4.000	3.326	4.5	30	30	20	20	20	15
4	4.500	3.786	5.6	40	30	20	20	20	20
5	5.563	4.768	8.2	40	30	30	20	20	20
6	6.625	5.709	11.5	40	40	30	30	20	20
8	8.625	7.565	18.8	40	40	40	30	30	30
10	10.75	9.49	28.8	40	40	40	40	30	30
12	12.75	11.29	40.2	40	40	40	40	40	30
14	14.00	12.41	48.4	40	40	40	40	40	40
16	16.00	14.21	62.9	40	40	40	40	40	40
18	18.00	16.01	79.3	40	40	40	40	40	40
20	20.00	17.81	97.6	40	40	40	40	40	40
24	24.00	21.42	140.0	40	40	40	40	40	40

MAXIMUM RESTRAINT SPACING – PVC & CPVC PIPE

PAGE 18 of 20

SECTION – A6.4

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Table A6.4-19; Max Allowable Restraint Spacing for Sched 80 CPVC Pipe – Full of Water

Seismic Coefficient C_s				0.25	0.50	0.75	1.00	1.50	2.00
Seismic Hazard Level SHL				D	C	B	A	---	---
Pipe Size (in)	Pipe O. D. (in)	Pipe I. D. (in)	Pipe Weight w_p (lb/ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)
3/4	1.050	0.722	0.5	15	10	10	10	9	8
1	1.315	0.936	0.7	15	10	10	10	10	9
1 1/4	1.660	1.255	1.2	20	15	10	10	10	10
1 1/2	1.900	1.476	1.5	20	15	15	10	10	10
2	2.375	1.913	2.3	20	15	15	15	10	10
2 1/2	2.875	2.290	3.4	20	20	15	15	15	10
3	3.500	2.864	4.9	30	20	20	20	15	15
3 1/2	4.000	3.326	6.4	30	20	20	20	15	15
4	4.500	3.786	8.0	30	20	20	20	20	15
5	5.563	4.768	12.1	40	30	20	20	20	20
6	6.625	5.709	17.1	40	30	30	20	20	20
8	8.625	7.565	28.5	40	40	30	30	20	20
10	10.75	9.49	44.1	40	40	40	30	30	30
12	12.75	11.29	61.9	40	40	40	40	30	30
14	14.00	12.41	74.6	40	40	40	40	30	30
16	16.00	14.21	97.2	40	40	40	40	40	30
18	18.00	16.01	122.9	40	40	40	40	40	40
20	20.00	17.81	151.6	40	40	40	40	40	40
24	24.00	21.42	218.0	40	40	40	40	40	40

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PAGE 19 of 20



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Table A6.4-20; Max Allowable Restraint Spacing for Insulated Sched 80 CPVC Pipe – Full of Water

Seismic Coefficient C_s				0.25	0.50	0.75	1.00	1.50	2.00
Seismic Hazard Level SHL				D	C	B	A	-----	-----
Pipe Size (in)	Pipe O. D. (in)	Pipe I. D. (in)	Pipe Weight w_p (lb/ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)	Actual Maximum Spacing S_T (ft)
3/4	1.050	0.722	1.2	10	9	8	7	6	6
1	1.315	0.936	1.6	10	10	10	9	8	7
1 1/4	1.660	1.255	2.1	15	10	10	10	9	8
1 1/2	1.900	1.476	2.6	15	10	10	10	10	9
2	2.375	1.913	3.5	20	15	10	10	10	10
2 1/2	2.875	2.290	4.8	20	20	15	15	10	10
3	3.500	2.864	6.6	20	20	20	15	15	10
3 1/2	4.000	3.326	8.2	30	20	20	15	15	15
4	4.500	3.786	10.0	30	20	20	20	15	15
5	5.563	4.768	16.0	30	20	20	20	20	15
6	6.625	5.709	21.6	40	30	20	20	20	20
8	8.625	7.565	34.2	40	30	30	30	20	20
10	10.75	9.49	50.9	40	40	40	30	30	20
12	12.75	11.29	69.8	40	40	40	40	30	30
14	14.00	12.41	83.2	40	40	40	40	30	30
16	16.00	14.21	107.0	40	40	40	40	40	30
18	18.00	16.01	133.8	40	40	40	40	40	40
20	20.00	17.81	163.6	40	40	40	40	40	40
24	24.00	21.42	232.2	40	40	40	40	40	40

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PAGE 20 of 20



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