

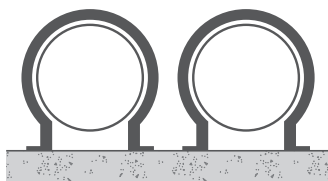
Plastic pipe systems require regular support which can vary according to pipe material, size and wall dimension of the pipe, the weight (density) of the liquid carried and the temperature of the pipe wall.

There are three types of mechanism which support or restrain pipe movement: Restrained within a channel; supported with clips or brackets at predetermined intervals and limiting rings to restrict axial movement.

Supports, brackets and limiting rings



- Full support of the pipeline can be achieved by running along suitable channel and restraining it from lateral movement



- Pipelines which are suspended have to be supported by brackets spaced at predetermined intervals (see the following tables)

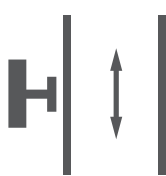


- Limiting Rings PVCu and ABS: These can be made by cutting a small length (dissecting $\frac{1}{3}$ rd of the circumference) of class 'C' or 10 bar pipe of the same outside diameter of the carrier pipe. The remaining segment can be sprung open and then solvent welded into place on the carrier pipe

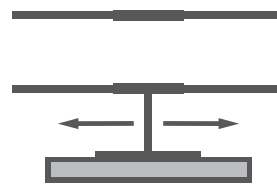
Brackets

Pipe brackets need to be made with the inside diameter of the bracket marginally larger than the pipe outer diameter. This allows free lineal movement of the pipe and avoids inhibiting expansion or contraction. They should also be smooth, to avoid damage to the outer surface of the pipe.

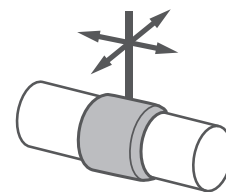
Loose brackets—axial movement is required without constraint



- A loose bracket allows axial movement

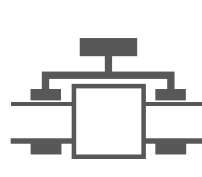


- A sliding bracket allows movement along a flat supporting surface

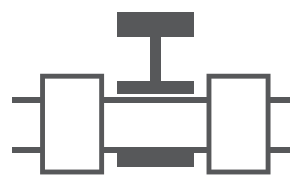


- Hanging bracket allows radial and axial movement

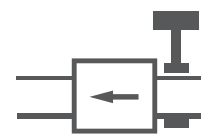
Fixed brackets—axial movement constrained or controlled



- A bracket on either side prevents axial movement



- A bracket between two pipe sockets or limiting rings prevents axial movement.



- A bracket to control pipe movement in one direction

BRACKET SPACING FOR PVCu PN 16 METRIC PIPE AND CLASS E (15 BAR) IMPERIAL PIPE

Pipe size		Bracket spacing in metres				
mm	inch	20°C	30°C	40°C	50°C	60°C
16	3/8	0.80	0.70	0.50	*	*
20	1/2	0.90	0.80	0.60	*	*
25	3/4	1.00	0.90	0.70	0.55	0.40
32	1	1.10	0.95	0.75	0.60	0.45
40	1 1/4	1.20	1.10	0.90	0.70	0.55
50	1 1/2	1.30	1.20	1.00	0.80	0.60
63	2	1.40	1.30	1.10	0.90	0.65
75	2 1/2	1.50	1.40	1.20	1.00	0.70
90	3	1.60	1.50	1.30	1.20	0.85
110	4	1.90	1.80	1.60	1.30	1.10
125	-	2.10	2.00	1.85	1.60	1.25
140	5	2.20	2.10	1.90	1.65	1.35
160	6	2.30	2.20	2.00	1.75	1.50

* Implies full support requirement.

BRACKET SPACING FOR PVCu CLASS D (12 BAR) IMPERIAL PIPE

Pipe size	Bracket spacing in metres				
inch	20°C	30°C	40°C	50°C	60°C
1 1/4	0.90	0.83	0.68	0.53	0.41
1 1/2	0.98	0.90	0.75	0.60	0.45
2	1.05	0.98	0.83	0.68	0.49
2 1/2	1.13	1.05	0.90	0.75	0.53
3	1.20	1.13	0.98	0.90	0.64
4	1.43	1.35	1.20	0.98	0.83
5	1.65	1.58	1.43	1.24	1.01
6	1.73	1.65	1.50	1.31	1.13

BRACKET SPACING FOR PVCu PN 10 METRIC PIPE AND CLASS C (9 BAR) IMPERIAL PIPE

Pipe size		Bracket spacing in metres				
mm	inch	20°C	30°C	40°C	50°C	60°C
40	1 1/4	0.74	0.68	0.56	0.43	0.34
50	1 1/2	0.81	0.74	0.62	0.50	0.37
63	2	0.87	0.81	0.68	0.56	0.40
75	2 1/2	0.93	0.87	0.74	0.62	0.43
90	3	0.99	0.93	0.81	0.74	0.53
110	4	1.18	1.12	0.99	0.81	0.68
125	-	1.30	1.24	1.15	0.99	0.78
140	5	1.36	1.30	1.18	1.02	0.84
160	6	1.43	1.36	1.24	1.09	0.93
225	8	1.61	1.52	1.43	1.24	1.09
250	-	1.74	1.67	1.58	1.36	1.21
280	10	1.98	1.86	1.77	1.55	1.33
315	12	2.23	2.11	1.98	1.74	1.52

* Implies full support requirement.

BRACKET SPACING FOR ABS CLASS E PIPE (15 BAR)

Pipe size inch	Bracket spacing in metres				
	20°C	30°C	40°C	50°C	60°C
3/8	0.80	0.75	0.65	0.60	0.50
1/2	0.90	0.80	0.75	0.65	0.55
3/4	1.00	0.95	0.85	0.75	0.70
1	1.10	1.00	0.95	0.80	0.75
1 1/4	1.20	1.10	1.00	0.90	0.80
1 1/2	1.25	1.20	1.10	0.95	0.85
2	1.40	1.30	1.20	1.00	0.90
2 1/2	1.50	1.35	1.25	1.15	1.00
3	1.60	1.45	1.35	1.20	1.05
4	1.80	1.65	1.55	1.35	1.20

BRACKET SPACING FOR ABS CLASS C PIPE (9 BAR)

Pipe size inch	Bracket spacing in metres				
	20°C	30°C	40°C	50°C	60°C
1	0.68	0.62	0.59	0.50	0.47
1 1/4	0.74	0.68	0.62	0.56	0.50
1 1/2	0.78	0.74	0.68	0.59	0.53
2	0.87	0.81	0.74	0.62	0.56
2 1/2	0.93	0.84	0.78	0.71	0.62
3	0.99	0.90	0.84	0.74	0.65
4	1.12	1.02	0.96	0.84	0.74
5	1.24	1.12	1.05	0.93	0.81
6	1.30	1.18	1.12	0.99	0.87
8	1.43	1.30	1.18	1.05	0.93



BRACKET SPACING FOR PE100 PN16/SRD11

Pipe size mm	Bracket spacing in metres				
	20°C	30°C	40°C	50°C	60°C
20	0.66	0.66	0.55	0.55	0.44
25	0.77	0.66	0.66	0.66	0.55
32	0.88	0.88	0.77	0.77	0.66
40	0.99	0.99	0.88	0.88	0.77
50	1.10	1.10	0.99	0.99	0.88
63	1.32	1.32	1.21	1.10	0.99
75	1.54	1.43	1.32	1.21	1.10
90	1.65	1.65	1.54	1.43	1.32
110	1.87	1.76	1.65	1.65	1.43
125	1.98	1.87	1.76	1.76	1.54
140	2.09	2.09	1.98	1.87	1.65
160	2.31	2.20	2.09	1.98	1.76
180	2.42	2.31	2.20	2.09	1.98
200	2.53	2.42	2.31	2.20	2.09
225	2.75	2.64	2.53	2.42	2.31
250	2.86	2.75	2.64	2.53	2.31
280	3.08	2.97	2.86	2.64	2.42
315	3.19	3.08	2.97	2.86	2.64

BRACKET SPACING FOR PE100 PN10/SRD17

Pipe size mm	Bracket spacing in metres				
	20°C	30°C	40°C	50°C	60°C
32	0.80	0.80	0.70	0.70	0.60
40	0.90	0.90	0.80	0.80	0.70
50	1.00	1.00	0.90	0.90	0.80
63	1.20	1.20	1.10	1.00	0.90
75	1.40	1.30	1.20	1.10	1.00
90	1.50	1.50	1.40	1.30	1.20
110	1.70	1.60	1.50	1.50	1.30
125	1.80	1.70	1.60	1.60	1.40
160	2.10	2.00	1.90	1.80	1.60
180	2.20	2.10	2.00	1.90	1.80
200	2.30	2.20	2.10	2.00	1.90
250	2.60	2.50	2.40	2.30	2.10
280	2.80	2.70	2.60	2.40	2.20
315	2.90	2.80	2.70	2.60	2.40



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Look out for
our next bulletin
coming in June