

PIPE SUPPORT SPACINGS

As polyethylene is a flexible material, adequate pipe supports must be provided for pipes installed in above ground applications

TABLE 7 ABOVE GROUND PIPEWORK MAX SUPPORT SPACING (Meters)

Pipe Diameter (mm)	SDR 26	SDR21	SDR17	SDR13.6	SDR 11	SDR 9	SDR 7.4
20							0.70
25					0.70	0.75	0.80
32			0.75	0.80	0.85	0.85	0.90
40			0.90	0.90	1.00	1.05	1.05
50		0.95	1.00	1.05	1.15	1.15	1.20
63	1.05	1.10	1.20	1.25	1.30	1.40	1.40
75	1.20	1.25	1.35	1.40	1.50	1.55	1.60
90	1.30	1.40	1.50	1.55	1.65	1.70	1.80
110	1.35	1.50	1.60	1.65	1.70	1.80	1.85
125	1.50	1.65	1.75	1.85	1.95	2.00	2.05
140	1.65	1.80	1.90	2.00	2.10	2.20	2.25
160	1.80	1.90	2.05	2.15	2.25	2.35	2.40
180	1.90	2.00	2.15	2.25	2.40	2.55	2.55
200	2.00	2.15	2.30	2.40	2.55	2.65	2.70
225	2.15	2.30	2.50	2.60	2.70	2.80	2.90
250	2.25	2.40	2.60	2.70	2.85	3.00	3.05
280	2.40	2.60	2.75	2.90	3.05	3.15	3.25
315	2.50	2.70	2.90	3.05	3.20	3.30	3.40
355	2.70	2.90	3.10	3.25	3.40	3.55	3.65
400	2.90	3.00	3.30	3.45	3.65	3.80	3.90
450	3.00	3.20	3.40	3.60	3.75	3.90	4.00
500	3.15	3.40	3.60	3.80	4.00	4.15	
560	3.35	3.60	3.85	4.00	4.25	4.40	
630	3.60	3.85	4.10	4.30	4.55	4.70	
710	3.80	4.10	4.40	4.60	4.85		
800	4.05	4.30	4.65	4.90	5.15		
900	4.30	4.50	4.95	5.15	5.45		
1000	4.55	4.70	5.20	5.45	5.75		

ABOVE GROUND INSTALLATION

As polyethylene is a flexible pipe material, adequate pipe support must be provided to prevent sagging when polyethylene pipes have to be installed above ground. Pipe supports should be designed to support both the pipe weights and its content and also accommodate the weight of any heavy fittings, valves etc. The pipe brackets, straps or plinths should have non-abrasive surfaces to prevent damage to the pipe. The support and bracketing design should allow for the stresses generated from thermal movement and if, for aesthetic reasons pipe deflection is unacceptable, continuous pipe support should be provided. The table above gives recommendations for maximum support spacing's for a pipe full of water at an ambient temperature of 20°C or below. At a temperature of 40°C and above continuous support is recommended for visual acceptance.

As the pipeline cools, any contraction will be resisted by the pipe clamps and when reheated to its normal operation temperature pipe sagging between supports will be minimized. Polyethylene is a good insulating material (thermal conductivity 0.4wm°C) and will help prevent or delay the freezing of the pipe contents.

The pipe itself will not fail if the contents do freeze as polyethylene can safely expand to cater for increased volume. It is however good practice for operational reasons to insulate pipe work to prevent freezing and to ensure the insulation is water proof. Pipe work should be protected from possible impact damage and provision should be made for draining down horizontal pipe runs at low points in the system.