

XLPE/PTFE HDPE/PTFE

lined pipe



DESIGN FEATURES

Double layer pipe; XLPE or HDPE exterior with PTFE liner

Available in 1" -20" diameter

Maximum design temperature of 266 °F

Coated steel or plastic flanges

No cold flow sealing faces

Superior PTFE grade for extended permeation resistance

Excellent stress crack resistance

Can be cut and assembled on site

Excellent thermal cycling life

No welding

Low weight

Cost effective

No special training

Numerous sealing options

Bending radius of 7 times OD

Pipe OD	max. operating pressure	max. single pipe length	wall thickness	weight per foot	pair of flanges
1"	300 psig	160 ft	0.17"	0.38 lbs	3.5 lbs
1-1/2"	300 psig	160 ft	0.27"	0.67 lbs	6 lbs
2"	300 psig	80 ft	0.18-0.33"	1.35 lbs	9 lbs
3"	300 psig	60 ft	0.22-0.39"	2.18 lbs	17.5 lbs
4"	220 psig	35 ft	0.27-0.38"	3.28 lbs	24 lbs
6"	150 psig	30 ft	0.38"	5.10 lbs	33 lbs
8"	150 psig	18 ft	0.54"	9.66 lbs	60.5 lbs

MAXIMUM SPAN and CALCULATED DEFLECTION @ 50 PSIG Operating Pressure

Pipe OD	Pipe Rated Pressure							
	150 psig		175 psig		220 psig		300 psig	
Pipe OD	span	deflection	span	deflection	span	deflection	span	deflection
1"	---	---	---	---	---	---	3.25 ft	0.280 in
1.5"	---	---	---	---	---	---	5.0 ft	0.325 in
2"	---	---	5.0 ft	0.381 in	5.0 ft	0.337 in	5.5 ft	0.373 in
3"	7.0 ft	0.333"	7.2 ft	0.330 in	7.5 ft	0.330 in	7.8 ft	0.354 in
4"	9.0 ft	0.311"	9.0 ft	0.239 in	10.0 ft	0.360 in	---	---
6"	13.5 ft	0.328"	---	---	---	---	---	---
8"	18 ft	0.311"	---	---	---	---	---	---

MAXIMUM SPAN and CALCULATED DEFLECTION @ Maximum Rated Pipe Pressure

Pipe OD	Pipe Rated Pressure							
	150 psig		175 psig		220 psig		300 psig	
Pipe OD	span	deflection	span	deflection	span	deflection	span	deflection
1"	---	---	---	---	---	---	2.2 ft	0.154 in
1.5"	---	---	---	---	---	---	4.0 ft	0.325 in
2"	---	---	4.5 ft	0.250 in	5.0 ft	0.359 in	5.4 ft	0.356 in
3"	7.0 ft	0.337"	7.2 ft	0.330 in	7.5 ft	0.338 in	7.6 ft	0.344 in
4"	9.0 ft	0.311"	9.0 ft	0.347 in	10.0 ft	0.390 in	---	---
6"	13.5 ft	0.328"	---	---	---	---	---	---
8"	18 ft	0.311"	---	---	---	---	---	---

Maximum Deflection

$$y_{max} = 9.525 \text{ mm } (0.375")$$

$$y = \frac{5wL^4 + 8w_c L^3}{384EI}$$

w = uniformly distributed weight of pipeline in (N/m)

w_c = concentrated weight on pipeline (N)

L = span length (m)

D = pipe OD (m)

d = pipe ID (m)

E = modulus of elasticity of pipe (N/m²)

I = moment of inertia of pipe (m⁴)

Maximum Allowable Stress

$$S_a \leq 22 \text{ MPa } (3200 \text{ psig}) \text{ with } 1.25 \text{ safety factor}$$

$$S_a = \frac{PD_o + 10000wl^2}{4t_n \quad 12Z}$$

P = design pressure (MPa)

D_o = pipe OD (mm)

t_n = wall thickness (mm)

w = pipe weight (N/m)

l = pipe span (m)

Z = section modulus (mm³)