



INFRAPIPE
SOLUTIONS LTD.

Sclairpipe®

VERSATILE HIGH DENSITY HDPE PIPE



Sclairpipe

Sclairpipe® high density polyethylene (HDPE) pipe represents the latest advances in both material and manufacturing techniques. Since 1968, Sclairpipe has been proven in a

wide range of municipal and industrial piping applications. It has been used extensively in pressure and non-pressure applications such as sewers, sewage forcemains, and potable drinking water. Infra Pipe

is recognised by the brand name Sclairpipe, a large diameter pipe (>63") ideal for marine intake and outfall installations, river and lake crossings as well as other high volume, high pressure applicaitons.

Lighter. Stronger. Chemical Resistant.

Sclairpipe is a tough, lightweight, solid wall pipe with a smooth internal surface. Available in various diameters from 3" to 63". It is a well suited alternative to copper, PVC, ductile iron and concrete pipe in a variety of applications.

Sclairpipe weighs approximately 1/10 that of a similar sized concrete pipe. Handling requires a minimum of heavy equipment and Sclairpipe can easily be assembled on ice or through wet marshy areas. It will not corrode, tuberculate or support biological growth, making it the material of

ideal for use in sanitary sewage effluent applications or in "hot" soil projects. Sclairpipe has a smooth ID and maintains its flow capability over time - Hazen Williams C Factor remains 150, even after years of use.

Easier to Transport and Install. Leak Proof.

Sclairpipe is much easier to handle and install than heavier, rigid concrete pipe, offering potential cost savings during the construction process. It is

structurally designed to withstand impact, especially in cold weather installations when other pipes are prone to cracks and breaks. Sclairpipe will float

even when full of water. For marine applications long lengths of pipe can be assembled on shore and then floated into position.





Thermal butt fusion provides an economical and fast method of delivering a complete, long, continuous length of pipe. Thermal fusion eliminates potential leak points every 8-20 feet commonly found with gasketed (or bell or spigot) pipe materials. The fused joints provide a continuous leak proof

system that eliminates the risk of joint leakage due to ground shifting. Fused joints are fully restrained and as such may reduce or eliminate the need for expensive thrust blocks. With Sclairpipe infiltration and exfiltration problems are eliminated.

Sclairpipe Advantages

- Leak Proof
- Corrosion Resistant
- Chemical Resistant
- Fatigue Resistant
- Impact Resistant
- Lightweight
- Flexible
- UV Resistant
- Environmentally Friendly
- Lower Life Cycle Cost

Cost Effective. Permanent.

Sclairpipe offers distinct advantages. It can be cold bent during installation to a radius as small as 25 times the pipe's nominal diameter, and the installed bend radius can be as small as 50 times the nominal pipe diameter. Sclairpipe, installed on a radius, eliminates many of the fittings that would be required for directional changes when using

other pipe materials. In addition, the flexibility of Sclairpipe allows it to adapt to uneven ground, unconsolidated river bottoms and excavated underwater trenches without the need for expensive foundations or minor degree elbows. It is well suited for dynamic soils and it is extremely seismic resistant.

Sclairpipe is cost effective in both the short and long term. The fact that it is lightweight makes it easier to transport and install. It is leak proof and fatigue resistant means there will be years of maintenance free use. The Plastics Pipe Institute estimates the service life for HDPE pipe to conservatively be 100 years.

Proven performance in a wide range of applications

Since its development in 1955, large diameter HDPE pipe has been successfully used in many installations worldwide. In North America, Sclairpipe high density polyethylene pipe was first introduced in 1968. Since then it

has been installed for river, lake and salt water crossings, municipal and industrial fresh and salt water intakes and effluent outfalls. Sclairpipe has also been used extensively for pipeline repair and rehabilitation.

Some popular applications of Sclairpipe include:

- Potable Water Distribution
- Pressure Water Systems
- Sewage Systems
- Water Mains
- Sliplining
- Fire Mains
- Directional Drilling
- Trenchless Technologies
- Conduit
- Slurry Pipe
- Mining
- Marine Pipelines & Crossings
- Deep Water Intakes
- Deep Water Outfalls
- Irrigation Lines
- Biofilters
- Gas Gathering
- Landfill



Potable Water

Sclairpipe is used for both new water main installations and to rehabilitate deteriorated piping systems made from other materials. It can accept repetitive pressure surges that far exceed the static pressure rating of the pipe. Sclairpipe is easy to handle and is available in long lengths that cut down on jointing time. Thermal fusion on site reduces installation time and ensures leakproof joints that eliminate infiltration and exfiltration problems. Sclairpipe is well suited for dynamic soils and is extremely seismic resistant.



Sewage Systems

After more than 50 years of use in municipal and industrial sewer applications, Sclairpipe has proven to be a reliable, cost effective, long-term solution for sewer and wastewater systems. It offers resistance to corrosion and chemicals with durability and strength that rigid concrete, PVC or ductile iron pipes can't duplicate. Lightweight Sclairpipe is easy to install, extremely flexible and does not corrode or tuberculate over time.



Industry

Long-term reliable piping solutions are always in demand by industry. Sclairpipe offers resistance to corrosion, abrasion and chemicals resulting in a durable, strong and cost-effective installation.



Mining

Scclairpipe solid wall HDPE pipe is commonly used in mining applications for tailings disposal and water management including: river water diversion, reclamation lines, culvert, sewer and sub-drainage systems and slurry pipe. It is lightweight, flexible, durable. It is virtually leak proof, and can withstand corrosive chemicals, acids or salts commonly found in mines. Scclairpipe combines strength and durability in above ground applications and is UV resistant.



Irrigation

Scclairpipe is a cost effective solution for irrigation and agricultural drainage applications such as river and canal diversion, agricultural irrigation systems and pipelines, and water conservation. A Scclairpipe irrigation system will withstand the test of time.



Heating & Cooling

Scclairpipe has proven to be a strong, leak proof and chemically inert solution for district cooling applications including dual-purpose projects providing cooling and potable water. It can be assembled on shore in a continuous flexible length, floated on the water's surface and then sunk by a controlled process. The pipe can also be manufactured in specific lengths and connected on site by flanges with the aid of marine divers. Scclairpipe's resistance to both corrosion and zebra mussel fouling makes it an ideal solution.



NPS	DR13.5 (160 psi)				DR11 (200 psi)			DR9 (250 psi)			DR7.3 (317 psi)			NPS
	Avg OD (in)	Avg ID (in)	Min Wall (in)	Avg Weight (lbs/ft)	Avg ID (in)	Min Wall (in)	Avg Weight (lbs/ft)	Avg ID (in)	Min Wall (in)	Avg Weight (lbs/ft)	Avg ID (in)	Min Wall (in)	Avg Weight (lbs/ft)	
3	3.50	2.95	0.259	1.16	2.83	0.318	1.39	2.68	0.389	1.66	2.48	0.479	1.99	3
4	4.50	3.79	0.333	1.91	3.63	0.409	2.30	3.44	0.500	2.75	3.19	0.616	3.28	4
5	5.56	4.69	0.412	2.93	4.49	0.506	3.52	4.25	0.618	4.20	3.95	0.762	5.02	5
6	6.63	5.58	0.491	4.15	5.35	0.602	4.99	5.06	0.736	5.96	4.70	0.908	7.12	6
7	7.13	6.01	0.528	4.80	5.75	0.648	5.78	5.45	0.792	6.89	5.06	0.976	8.23	7
8	8.63	7.27	0.639	7.03	6.96	0.784	8.47	6.59	0.958	10.10	6.12	1.182	12.07	8
10	10.75	9.06	0.796	10.93	8.68	0.977	13.15	8.22	1.194	15.69	7.63	1.473	18.75	10
12	12.75	10.75	0.944	15.37	10.29	1.159	18.50	9.75	1.417	22.08	9.05	1.747	26.37	12
13	13.38	11.27	0.991	16.92	10.80	1.216	20.36	10.22	1.486	24.29	9.49	1.832	29.02	13
14	14.00	11.80	1.037	18.53	11.30	1.273	22.31	10.70	1.556	26.62	9.93	1.918	31.79	14
16	16.00	13.49	1.185	24.21	12.92	1.455	29.13	12.23	1.778	34.76	11.35	2.192	41.53	16
18	18.00	15.17	1.333	30.64	14.53	1.636	36.87	13.76	2.000	44.00	12.77	2.466	52.56	18
20	20.00	16.86	1.481	37.82	16.15	1.818	45.52	15.29	2.222	54.32	14.19	2.740	64.89	20
22	22.00	18.55	1.630	45.77	17.76	2.000	55.08	16.82	2.444	65.72	15.61	3.014	78.51	22
24	24.00	20.23	1.778	54.47	19.37	2.182	65.55	18.35	2.667	78.22	17.03	3.288	93.44	24
26	26.00	21.92	1.926	63.92	20.99	2.364	76.93	19.88	2.889	91.80				26
28	28.00	23.60	2.074	74.13	22.60	2.545	89.22	21.40	3.111	106.46				28
30	30.00	25.29	2.222	85.10	24.22	2.727	102.42	22.93	3.333	122.22				30
32	32.00	26.97	2.370	96.83	25.83	2.909	116.53	24.46	3.556	139.05				32
36	36.00	30.35	2.667	122.55	29.06	3.273	147.49	27.52	4.000	175.99				36
40	40.00	33.72	2.963	151.29										40
42	42.00	35.40	3.111	166.80										42
48	48.00													48
54	54.00													54
63	63.00													63

Pipe dimensions are in accordance with ASTM F714 and AWWA C906. Pressure Ratings are for water at 73°F. Ratings will vary for other fluids and temperatures. Some of the pipe sizes and DR's above are available only on request. Check with your representative for availability. Other dimensions and DR's not listed may be available upon special request. Weights are calculated by the methodology established in PPI's TR-7. Technical information contained herein is furnished without charge or obligation and is given and accepted at recipient's sole risk. As conditions of use may vary and are beyond the control of Infra Pipe Solutions., no representations or warranty, express or implied, are made with respect to the accuracy, reliability, or completeness of the this information.

Product innovation and quality assurance

For 50 years Infra Pipe has been a leader in the design, development, manufacture and support of polyethylene piping systems. Infra Pipe's experienced engineers can offer design and engineering assistance, assuring you of a dependable piping system designed to meet your needs. Visit our website (www.infrapipes.com) and see how our innovative online calculator can assist you. Extensive R&D in the early 1960's led us to produce 16" diameter polyethylene pipe at a time when many considered large diameter polyethylene pipes a technical impossibility.

Today Infra Pipe produces solid wall Sclairpipe in sizes up to 63". All Infra Pipe products are manufactured from special, high strength resins with complete quality control maintained from raw material to finished pipe product. Infra Pipe was the first North American manufacturer of polyethylene pipe and fittings to have its Quality Management System registered to the ISO 9001:2015 level.

Our strict manufacturing specifications are verified daily,

using precise dimensional controls and accelerated long term hydrostatic testing. A continuous quality control process assures you of long-term pipe performance. Sclairpipe resins are classified in accordance with ASTM D3350. Sclairpipe's material classification is based on PPI's (Plastic Pipe Institute) method of determining and validating the Long-Term Hydrostatic Stress (LTHS) of polyethylene pipe. The pipe resin used to extrude bi-modal PE4710 Sclairpipe has a minimum cell classification of PE445574C and a minimum PENT of 2,000 hrs.

NPS	DR32.5 (64 psi)				DR26 (80 psi)			DR21 (100 psi)			DR17 (125 psi)			NPS
	Avg OD (in)	Avg ID (in)	Min Wall (in)	Avg Weight (lbs/ft)	Avg ID (in)	Min Wall (in)	Avg Weight (lbs/ft)	Avg ID (in)	Min Wall (in)	Avg Weight (lbs/ft)	Avg ID (in)	Min Wall (in)	Avg Weight (lbs/ft)	
3	3.50	3.27	0.108	0.51	3.21	0.135	0.63	3.15	0.167	0.77	3.06	0.206	0.94	3
4	4.50	4.21	0.138	0.84	4.13	0.173	1.03	4.05	0.214	1.27	3.94	0.265	1.55	4
5	5.56	5.20	0.171	1.28	5.11	0.214	1.58	5.00	0.265	1.94	4.87	0.327	2.36	5
6	6.63	6.19	0.204	1.81	6.08	0.255	2.24	5.96	0.315	2.75	5.80	0.390	3.35	6
7	7.13	6.66	0.219	2.09	6.54	0.274	2.59	6.41	0.339	3.18	6.24	0.419	3.88	7
8	8.63	8.06	0.265	3.07	7.92	0.332	3.80	7.75	0.411	4.66	7.55	0.507	5.68	8
10	10.75	10.05	0.331	4.77	9.87	0.413	5.91	9.66	0.512	7.24	9.41	0.632	8.83	10
12	12.75	11.92	0.392	6.70	11.71	0.490	8.31	11.46	0.607	10.18	11.16	0.750	12.42	12
13	13.38	12.50	0.412	7.38	12.28	0.514	9.14	12.02	0.637	11.21	11.71	0.787	13.67	13
14	14.00	13.09	0.431	8.08	12.86	0.538	10.02	12.59	0.667	12.28	12.25	0.824	14.98	14
16	16.00	14.96	0.492	10.56	14.70	0.615	13.08	14.38	0.762	16.04	14.00	0.941	19.56	16
18	18.00	16.83	0.554	13.36	16.53	0.692	16.56	16.18	0.857	20.29	15.76	1.059	24.76	18
20	20.00	18.70	0.615	16.49	18.37	0.769	20.44	17.98	0.952	25.06	17.51	1.176	30.56	20
22	22.00	20.56	0.677	19.96	20.21	0.846	24.74	19.78	1.048	30.32	19.26	1.294	36.98	22
24	24.00	22.43	0.738	23.75	22.04	0.923	29.44	21.58	1.143	36.08	21.01	1.412	44.01	24
26	26.00	24.30	0.800	27.87	23.88	1.000	34.55	23.38	1.238	42.34	22.76	1.529	51.65	26
28	28.00	26.17	0.862	32.33	25.72	1.077	40.07	25.17	1.333	49.11	24.51	1.647	59.90	28
30	30.00	28.04	0.923	37.11	27.55	1.154	46.00	26.97	1.429	56.37	26.26	1.765	68.77	30
32	32.00	29.91	0.985	42.22	29.39	1.231	52.34	28.77	1.524	64.14	28.01	1.882	78.24	32
36	36.00	33.65	1.108	53.44	33.06	1.385	66.24	32.37	1.714	81.18	31.51	2.118	99.02	36
40	40.00	37.39	1.231	65.98	36.74	1.538	81.77	35.96	1.905	100.22	35.01	2.353	122.25	40
42	42.00	39.26	1.292	72.74	38.58	1.615	90.16	37.76	2.000	110.49	36.76	2.471	134.78	42
48	48.00	44.87	1.477	95.01	44.09	1.846	117.76	43.15	2.286	144.32	42.01	2.824	176.04	48
54	54.00	50.48	1.662	120.24	49.60	2.077	149.03	48.55	2.571	182.65	47.27	3.176	222.81	54
63	63.00	58.89	1.938	163.66	57.86	2.423	202.85	56.64	3.000	248.61				63

Pipe dimensions are in accordance with ASTM F714 and AWWA C906. Pressure Ratings are for water at 73°F. Ratings will vary for other fluids and temperatures. Some of the pipe sizes and DR's above are available only on request. Check with your representative for availability. Other dimensions and DR's not listed may be available upon special request. Weights are calculated by the methodology established in PPI's TR-7. Technical information contained herein is furnished without charge or obligation and is given and accepted at recipient's sole risk. As conditions of use may vary and are beyond the control of Infra Pipe Solutions., no representations or warranty, express or implied, are made with respect to the accuracy, reliability, or completeness of the this information.

Innovative joining methods and equipment

Sclairpipe piping systems can be assembled by heat fusion (butt, electrofusion, socket and saddle fusion), flanged connections, compression couplings and various mechanical couplings. A full range of pressure rated fittings is available to suit any application.

The standard stocked length of Sclairpipe pipe is 50 feet, in sizes above 4".

Please visit our website: www.infrapipes.com to use the online design tools to determine the pipe size best suited for your application.

Choose the size that's right for you

Sclairpipe is available in standard Dimensional Ratio's (DR's), in sizes ranging from 3" to 63" in diameter. Sclairpipe is available in PE 4710. With the higher allowable stress rating of PE 4710, the pipe wall can be thinner for the same pressure

rating (higher DR).

The Dimensional Ratio relates the minimum wall thickness of the pipe to its outside diameter, and is important to define the pressure rating of a particular pipe. The maximum continuous operating pressure stated is based on the allowable hydrostatic design stress of each specific material (per ASTM D3350 and PPI's TR-3), and the pipe wall thickness (DR), at a service temperature of 73.4° F.

Ordering & shipping information

Infra Pipe welcomes your inquiries for non-standard sizes, lengths and pressure ratings of Sclairpipe pipe.

We can meet most special packaging requirements and provide custom pipe fittings. Please contact your local Infra Pipe representative or visit our web site.

The charts below outline standard shipment sizes for straight length and coiled pipe.



Standard Shipments - Straight Lengths

IPS PIPE				
PIPE SIZE	AVG OD	BUNDLE QTY	TRUCK LOAD QTY	CONTAINER QTY
4"	4.50	38	380	480
5"	5.563	23	276	320
6"	6.625	20	200	208
7"	7.125	17	136	180
8"	8.625	14	112	120
10"	10.750	11	66	80
12"	12.750	4	56	52
13"	13.375	42		48
14"	14.000	42		42
16"	16.000	30		30
18"	18.000	25		25
20"	20.000	20		20
22"	22.000	16		16
24"	24.000	16		14
26"	26.000	9		9
28"	28.000	9		9
30"	30.000	9		9
32"	32.000	9*		8
36"	36.000	4		6
42"	42.000	4		4
48"	48.000	4*		3
54"	54.000	2*		2
63"	63.000	2*		2

Notes:

* Bunks required

** Drop deck trailer - maximum 42' length

Typical pipe lengths range from 40 to 50 feet in size

Other pipe lengths available including 60 feet upon request.



Scclairpipe general specifications & material standards

REFERENCE SPECIFICATIONS

ASTM F714: Standard Specification for Polyethylene Plastic Pipe Based on Outside Diameter
ASTM D3035: Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter
ISO 9001:2015: Model for Quality Assurance in Production and Installation.
AWWA C906: Polyethylene (PE) Pressure Pipe and Fittings 4 In. (100 mm) Through 63 In. (1,600 mm) for Water Distribution and Transmission
NSF / ANSI 61 Drinking Water System Components–Health Effects
BNQ 3624-027 Polyethylene Pipe for the Transport of Fluids Under Pressure

GENERAL REQUIREMENTS

The pipe manufacturer shall provide, upon request, an outline of quality control procedures performed on polyethylene system components.

QUALIFICATION OF MANUFACTURER

The general quality assurance practices and methods shall be in accordance with ISO 9001:2015.

MATERIAL

The pipe shall be made from a HDPE material having a minimum material designation code of PE4710. The material shall have a minimum cell classification of 445574C as defined in ASTM D3350. PE4710 resins shall have a minimum PENT value of 2,000 hours. The Hydrostatic Design Stress (HDS) at 23°C (73.4°F) shall be 1,000 psi for PE4710 resin and shall be listed in the name of pipe manufacturer in PPI TR-4. In addition, the material shall be listed as meeting NSF/ANSI 61. The pipe material shall contain 2% - 3% well dispersed carbon black. Additives which can be conclusively proven not to be detrimental to the pipe may also be used, provided the pipe produced meets the requirements of this specification.

PIPE

The pipe shall be manufactured in accordance with _____ [User specified] [AWWA C906, ASTM F714, ASTM D3035, BNQ 3624-027]. HDPE pipe shall be rated for use at a pressure class of _____ [User specified] psi. [The specifier chooses the pressure class from table below]. The outside diameter of the pipe shall be based upon the IPS or DIPS sizing system. [User to specify the appropriate sizing system.]

Pipe Standard Dimension Ratio (DR)	Pressure Rating (PR) or, Pressure Class (PC) for water @ 73°F, <u>psig</u>	Allowable Total Pressure During Recurring Surge	Allowable Total Pressure During Occasional Surge
32.5	63	95	126
26	80	120	160
21	100	150	200
17	125	188	250
13.5	160	240	320
11	200	300	400
9	250	375	500
7.3	320	480	640

MARKING

The pipe shall be marked in accordance with the standards to which it is manufactured.

JOINING METHODS

The preferred method to join pipe shall be the butt fusion procedure outlined in ASTM F2620 or PPI TR-33. All fusion joints shall be made in compliance with the pipe or fitting manufacturer's recommendations. Fusion joints shall be made by qualified fusion technicians per PPI TN-42 and ASTM F3190.

Mechanical connection of HDPE to auxiliary equipment such as valves, pumps, and fittings shall use mechanical joint adapters and other devices as outlined in the PPI Handbook of Polyethylene Pipe (2nd Edition), Chapter 9 and AWWA Manual of Practice M55, Chapter 6.

INSTALLATION

Buried HDPE pressure pipe and fittings shall be installed in accordance with ASTM D2774 or AWWA M55.

TESTING

Hydrostatic leakage testing for pressure piping should comply with ASTM F2164 and PPI TN-46.



INFRAPIPE
SOLUTIONS LTD.

Infra Pipe Solutions Ltd.
6507 Mississauga Road
Mississauga, ON, L5N 1A6
Canada

T: 905.858.0206
F: 905.858.0208
E: sales.infrapipes@infrapipes.com
W: www.infrapipes.com