

Single-wall HDPE Heavy-Duty Subdrain



Lightweight, easy installation

- Flexibility to bend around obstacles and contours
- No heavy lifting equipment needed
- Optional lengths and coil sizes
- Excellent in shifting and freezing soils
- Resists damage caused by impacts, external loads and vibrations

Environmental stability

- Resists acids, bases and salts
- Unaffected by bacteria and aggressive soils

Reliable delivery

With 25 years as a Canadian leader in plastic pipe, Ideal is the source to depend on

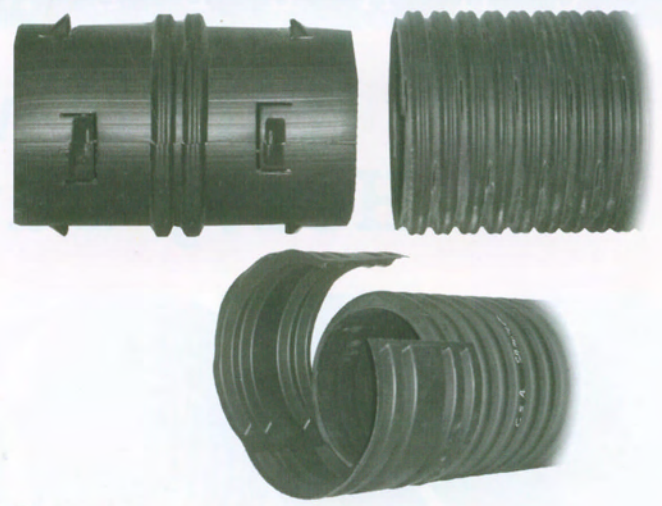
A flexible partner

Talk to us about the products best suited to your business needs

IDEAL PIPE

1000[®] CHALLENGER[®]

HEAVY-DUTY SUBDRAIN



1 Scope

This specification covers the general requirements of corrugated high density polyethylene pipe for use in roadway subdrain and related construction applications.

2 Material

Pipe shall be manufactured from high density polyethylene resin, which shall meet or exceed the requirements of cell classification 324420C as defined in ASTM D3350. Resistant to a wide range of soil acidity: pH 1.25 to 14.

3 Joining System

The pipe shall be joined with insert or split (wrap) couplers.

4 Pipe Stiffness

Pipes shall have minimum pipe stiffness of 320 kPa at 5% deflection when tested in accordance with ASTM D2412.

5 Hydraulics

The following Manning's 'n' values shall be used to calculate flow. See CPPA Technical Hydraulic booklet available from Ideal Pipe or the Plastics Pipe Institute.

I.D. mm	100 (4")	150 (6")	200 (8")	250 (10")	300 (12")
'n'	0.017	0.017	0.018	0.019	0.020

6 Structural Design

Structural design shall conform to the industry accepted procedures found in the Corrugated Polyethylene Pipe Association's technical booklets from Ideal Pipe or the Plastics Pipe Institute.

Ideal Pipe is a leading manufacturer of high density polyethylene (HDPE) pipe, providing a complete range of products for engineered projects and drainage applications.

- CHALLENGER 3000 Gasketed Smoothwall Pipe
- CHALLENGER 2000 Culvert & Drainage Pipe
- CHALLENGER 1000 Subdrain • Corrugated Subdrain
- WAVETEX Protective Conduit • Accessories and Fittings

7 Applicable Standards

OPSS 1840; 421
OPSD 806.02

8 Options

Available as solid, perforated or filtered pipe.

9 Pipe Dimensions

CHALLENGER 1000 is available in diameters from 100 mm (4") to 300 mm (12") and in selective coil sizes 50 ft. to 4000 ft. or length sections of 20 ft. Nominal pipe size is based on inside diameter of the pipe.

20-Year Limited Warranty



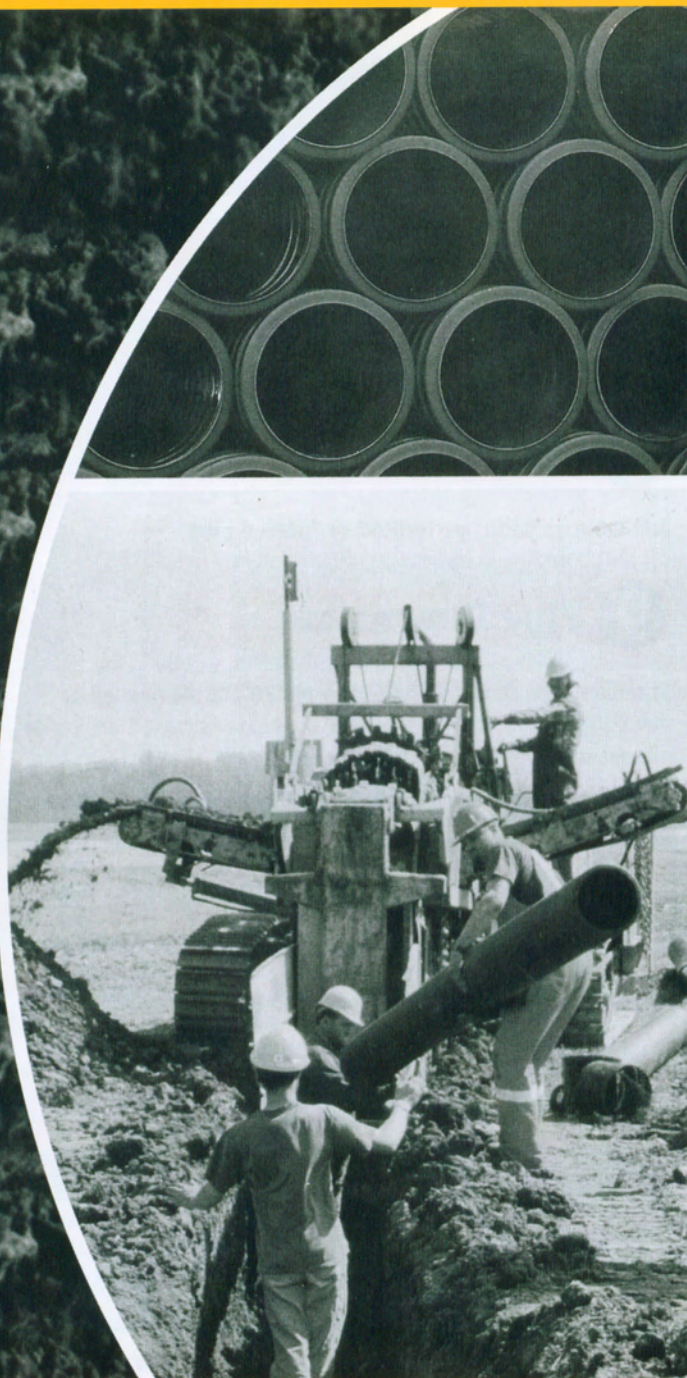
IDEAL PIPE

1196 Sunningdale Road West
London, Ontario, N6G 5B6
toll-free: 1-800-265-7098

telephone: (519) 473-2669 • fax: (519) 641-2524
sales@idealpipe.ca
www.idealpipe.ca

"For ideal results on the job, you need Ideal pipe underground."

Smoothwall HDPE Culvert and Drainage Pipe



Standards compliant

CSA, OPSS, ASTM and other standards

Environmental stability

Resists acids, bases and salts; corrosion-free
Unaffected by bacteria and aggressive soils

Excellent flow characteristics

Carry high flows in smaller pipes
Abrasion resistant

Lightweight strength

Excellent in shifting or freezing soils
Resists damage caused by impacts, external
loads and vibrations
Light weight; easy installation

Reliable delivery

With 25 years as a Canadian leader in plastic
pipe, Ideal is the source to depend on

A flexible partner

Talk to us about the products best suited to
your business needs

IDEAL PIPE

2000[®] CHALLENGER[®]

CULVERT & DRAINAGE PIPE



1 Scope

This specification covers the general requirements of corrugated high density polyethylene pipe with a smooth interior for use in culverts, municipal drainage and related engineering applications.

2 Material

Pipe shall be manufactured from high density polyethylene resin, which shall meet or exceed the requirements of cell classification 324420C as defined in ASTM D3350. Resistant to a wide range of soil acidity: pH 1.25 to 14.

3 Joining System

The pipe shall be joined with external snap-on or split couplers.

4 Pipe Stiffness

Pipes shall have minimum pipe stiffness of 210 kPa or 320 kPa at 5% deflection when tested in accordance with ASTM D2412.


5 Hydraulics

A Manning's 'n' value of 0.010 shall be used to calculate the flow for all sizes of smooth interior CHALLENGER 2000 Pipe. See *CPPA Technical Hydraulic booklet available from Ideal Pipe or the Plastics Pipe Institute.*

6 Structural Design

Performance analysis review, including structural design shall conform to the industry accepted procedures found in the Corrugated Polyethylene Pipe Association's technical booklets from Ideal Pipe or the Plastics Pipe Institute.

7 Applicable Standards

ASTM D3350 OPSS 1840, 410 OPSD 806.02
 CSA B182.8-02 available on request

8 Options

Available as solid, perforated or filtered pipe.

9 Pipe Dimensions


Standard pipe lengths shall be 6 m (20') or as needed to meet job requirements. Nominal pipe size is based on inside diameter of the pipe.

Nominal (inches)	ID	OD	Weight (kg/m)
4	100 mm	116 mm	0.7
6	150 mm	175 mm	1.4
8	200 mm	235 mm	2.5
10	250 mm	295 mm	4.0
12	300 mm	370 mm	6.0
15	375 mm	450 mm	7.5
18	450 mm	530 mm	11.5
21	525 mm	630 mm	16.5
24	600 mm	715 mm	19.5
30	750 mm	885 mm	30.0

20-Year Limited Warranty



Ideal Pipe is a leading manufacturer of high density polyethylene (HDPE) pipe, providing a complete range of products for engineered projects and drainage applications.

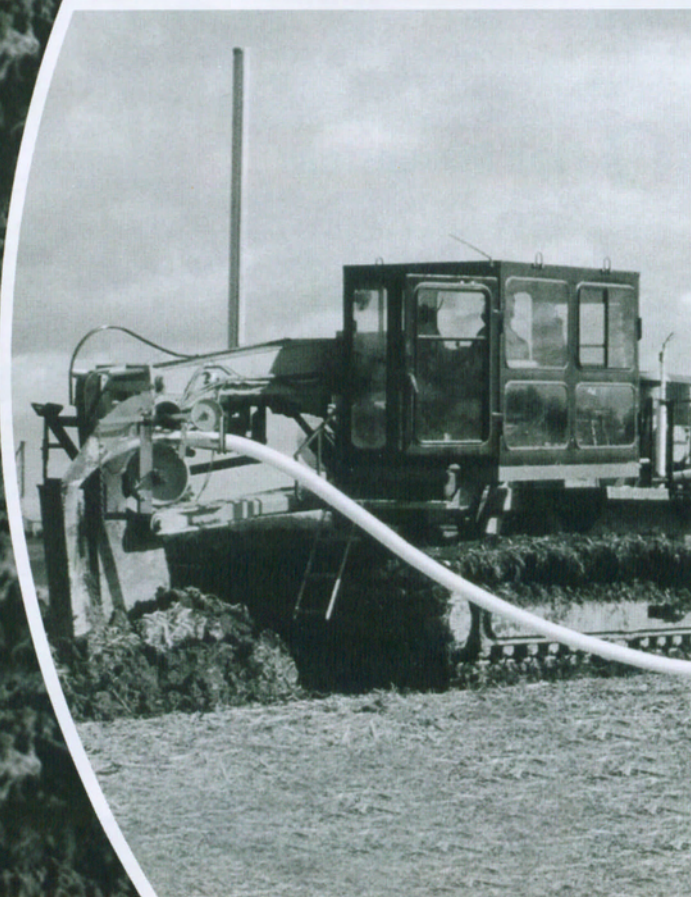
 CHALLENGER 3000 Gasketed Smoothwall Pipe
 CHALLENGER 2000 Culvert & Drainage Pipe
 CHALLENGER 1000 Subdrain • Corrugated Subdrain
 WAVETEX Protective Conduit • Accessories and Fittings

IDEAL PIPE

1196 Sunningdale Road West
 London, Ontario, N6G 5B6
 toll-free: 1-800-265-7098
 telephone: (519) 473-2669 • fax: (519) 641-2524
 sales@idealpipe.ca
 www.idealpipe.ca

"For ideal results on the job, you need Ideal pipe underground."

Corrugated HDPE Drainage Tubing



For agricultural applications, golf courses, athletic fields, municipal parks

Wide range of pipe diameters and shipping lengths
Optional perforations and filters for varied soil types

Fast, easy installation

Ideal specializes in flexible, lightweight, easy to handle HDPE pipe

Reliable delivery

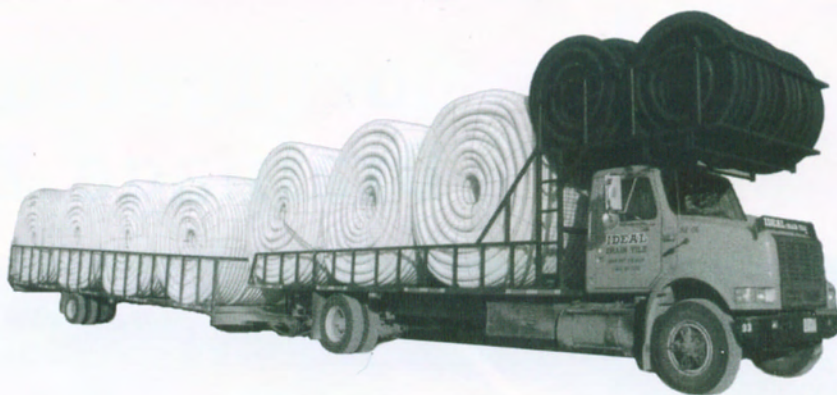
With 25 years as a Canadian leader in plastic pipe, Ideal is the source to depend on

A flexible partner

Talk to us today about the products best suited to your business needs

IDEAL PIPE

Ideal Subdrain Drainage Tubing



1 Scope

This specification covers the general requirements of corrugated high density polyethylene drainage tubing for use in various land drainage applications.

2 Material

Pipe shall be manufactured from high density polyethylene resin, which shall meet or exceed the requirements of cell classification 324420C as defined in ASTM D3350. Resistant to a wide range of soil acidity: pH 1.25 to 14.

3 Joining System

Drainage tubing shall be joined with snap, insert or split couplers.

4 Pipe Stiffness

Drainage tubing shall have minimum pipe stiffness of 210 kPa at 5% deflection when tested in accordance with ASTM D2412.

5 Hydraulics

The following Manning's 'n' values shall be used to calculate flow. See *CPPA Technical Hydraulic booklet available from Ideal Pipe or the Plastics Pipe Institute.*

I.D. mm	50	75	100	150	200	250	300	375
	(2")	(3")	(4")	(6")	(8")	(10")	(12")	(15")
'n'	.016	.016	.017	.017	.018	.019	.020	.021

6 Structural Design

Structural design shall conform to the industry accepted procedures found in the Corrugated Polyethylene Pipe Association's technical booklets from Ideal Pipe or the Plastics Pipe Institute.

Ideal Pipe is a leading manufacturer of high density polyethylene (HDPE) pipe, providing a complete range of products for engineered projects and drainage applications.

- Ⓢ CHALLENGER 3000 Gasketed Smoothwall Pipe
- CHALLENGER 2000 Culvert & Drainage Pipe
- CHALLENGER 1000 Subdrain • Corrugated Subdrain
- WAVETEX Protective Conduit • Accessories and Fittings

7 Applicable Standards

ASTM F405, F667
OPSS 1840; 405

8 Options

Ideal drainage tubing is available with a variety of perforation patterns and engineered geosynthetic filters for different soil types.

9 Pipe Dimensions

Ideal drainage tubing is available in diameters from 50 mm (2") to 375 mm (15") and shipped in selective coil sizes, 50 ft. to 4000 ft. or length sections of 20 ft. Nominal pipe size is based on inside diameter of the pipe.

TILE CALCULATOR									
Spacing (ft.)	20	30	33	40	45	50	55	60	66
Feet/Acre	2205	1470	1320	1089	981	872	799	726	660
M/Ha	1661	1107	994	820	739	657	602	547	497



IDEAL PIPE

1196 Sunningdale Road West
London, Ontario, N6G 5B6
toll-free: 1-800-265-7098

telephone: (519) 473-2669 • fax: (519) 641-2524
sales@idealpipe.ca
www.idealpipe.ca

"For ideal results on the surface, you need Ideal pipe underground."