

PRODUCT CATALOGUE
Northern Alberta

2021

INLAND PIPE





ABOUT INLAND

Inland roots in the Calgary area date back to the early 1900's. Over time, through a number of mergers and acquisitions Inland Pipe is now part of the Lehigh Hanson group in North America and part of the world-wide HeidelbergCement Group.

HeidelbergCement is the global market leader in aggregates and a prominent player in the fields of cement, concrete and other downstream activities, making it one of the world's largest manufacturers of building materials. The company employs some 52,000 people at 2,500 locations in more than 40 countries.

Inland Pipe and our sister company Ocean Pipe (British Columbia) combine to form the largest producer of concrete pipe and manholes in Western Canada.

Our automated Spyhill facility in Calgary, Alberta is the most advanced precast drainage facility in North America.

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Notes:

- All concrete products within this catalogue are manufactured using sulphate resistant (HS or HSb) cement as per CSA A3000.
- Applicable taxes and freight charges are extra.
- Prices effective January 31, 2021.
- Restocking fees are 15% for returned undamaged stock items. Cancelled orders may be subject to 100% restocking charges.
- Listed product weights are approximate and intended for shipping purposes. Exact weights can be calculated upon request.
- Prices shown in this catalogue are intended as an estimating guide and are subject to change. Detailed quotations are available upon request.
- Cast-in fixtures and appurtenances, other than swift lifts, are subject to approval by design Engineer and extra costs will apply.



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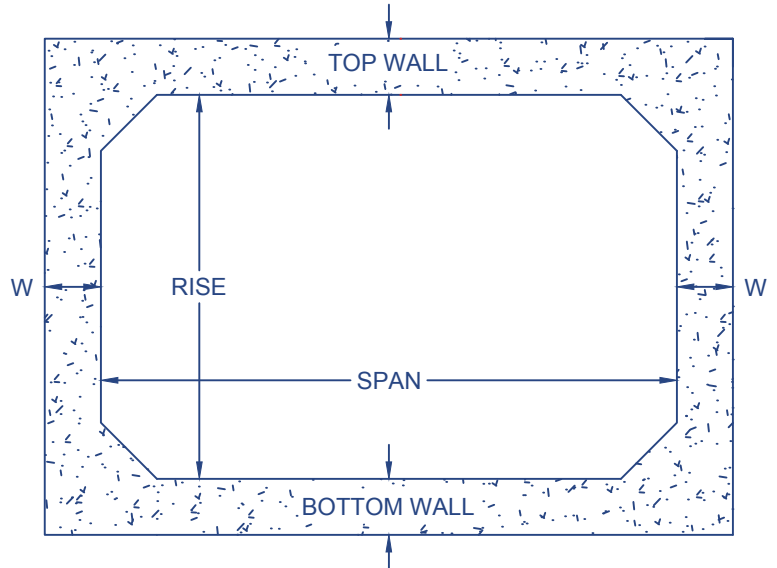
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2021

INLAND PIPE

New Product Applications

3660 x 3660mm Box Culvert



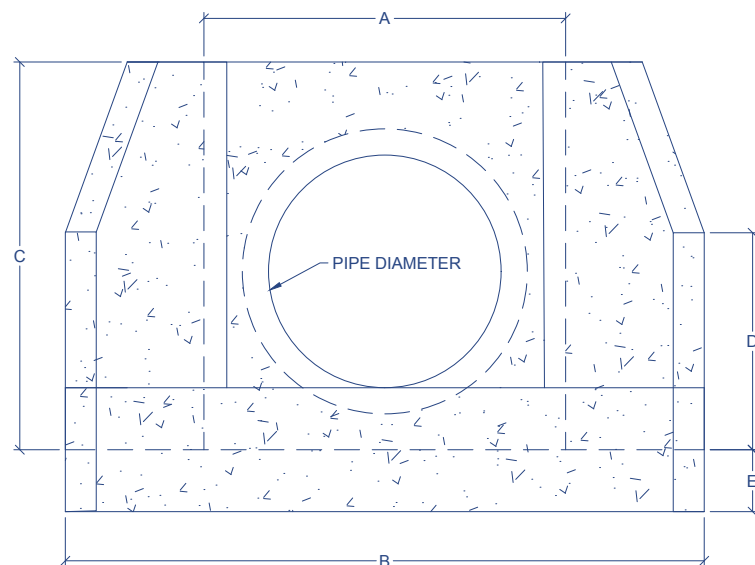
Inland Pipe's 3660 x 3660mm box culvert can be used for a number of applications.

Box sections can be used horizontally for culverts or storm water detention tanks and vertically for manholes, control structures and lift stations. See our box culvert section for more details.

Headwalls

Inland Pipe can now provide Headwall structures for large diameter pipe in Alberta.

Please contact your Inland Pipe representative for more information.



TYPE	PIPE DIAMETER (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
26-28	1500 - 1800	2955	4186	2540	1421	406
26-28	1950 - 2400	2955	4186	3226	2107	406

Canadian Precast Concrete Quality Assurance Certification (CPCQA Certification)



This stamp means **Quality**. It signifies that your precast concrete drainage product has met the stringent demands of the **CPCQA Certification**.

The **INLAND PIPE** Calgary Plant has consistently achieved and maintained its Prequalification, and is currently certified to provide precast concrete pipe, manholes and box sections under the Program.

What does Prequalification mean?

Owners of infrastructure projects, who purchase precast concrete drainage products from prequalified plants, receive products that have been tested for quality through the manufacturing process and inspected upon completion. Concrete drainage products supplied from a prequalified plant comply with the requirements of the latest editions of the following specifications:

- CSA A257.0 / ASTM C497 - testing procedures for precast drainage materials
- CSA A257.1 / ASTM C14 - non-reinforced concrete pipe
- CSA A257.2 / ASTM C76 - reinforced concrete pipe
- CSA A257.3 / ASTM C443 - joints for precast drainage materials
- CSA A257.4 / ASTM C478 - precast reinforced manhole sections
- CSA S6-06 / ASTM C1433 - precast reinforced box culvert sections

ACHIEVING AND MAINTAINING PREQUALIFICATION:

A consulting engineer is retained to carry out an independent inspection of the applicant's plant and product. Samples of products are tested and the engineer submits a detailed report to the third party consultant. This report to the Chair states a compliance, or noncompliance with the prequalification requirements, together with a recommendation. The Chair issues the Prequalification Certificate.

The Certificate states the Product to which the prequalification applies and is normally valid for 12 months after the date of issue.

Each year, plants are inspected by the engineer who checks and tests to ascertain whether or not quality control and the standard of workmanship is being maintained at a satisfactory level. Every third year, the engineer undertakes detailed inspection and testing, and submits a report comparable to the original inspection for prequalification.

Quality control personnel within the precast concrete manufacturing facilities receive regular training, provided by the manufacturer, to ensure the quality control processes are performed correctly by the staff, and the information gathered is analyzed and maintained in accordance with the program.

Pipe Fill Heights Estimation Table

PIPE DIAMETER (mm)	MAXIMUM DEPTH (m) TO PIPE CROWN FOR: STANDARD INSTALLATION TYPE				PIPE CLASS	PIPE DIAMETER (mm)	MAXIMUM DEPTH (m) TO PIPE CROWN FOR: STANDARD INSTALLATION TYPE			
	1	2	3	4			1	2	3	4
300	-	-	-	-	II	1350	5.1	3.6	2.5	1.4
	-	-	-	-	III		6.9	4.7	3.5	2.3
	-	-	-	-	IV		11.0	7.6	5.8	4.1
	15.2	10.6	8.2	5.3	V		15.6	10.8	8.4	6.0
375	-	-	-	-	II	1500	5.0	3.3	2.4	1.4
	-	-	-	-	III		6.8	4.6	3.5	2.3
	-	-	-	-	IV		10.9	7.5	5.8	4.0
	15.6	10.9	8.5	5.5	V		15.5	10.8	8.4	6.0
450	-	-	-	-	II	1650	5.0	3.3	2.4	1.5
	-	-	-	-	III		6.7	4.5	3.3	2.2
	-	-	-	-	IV		10.8	7.4	5.7	4.0
	15.8	10.9	8.6	5.6	V		15.4	10.7	8.3	5.9
525	-	-	-	-	II	1800	4.9	3.2	2.3	1.3
	-	-	-	-	III		6.6	4.5	3.3	2.2
	-	-	-	-	IV		10.7	7.4	5.6	4.0
	16.0	11.0	8.7	5.7	V		15.3	10.6	8.2	5.9
600	-	-	-	-	II	1950	4.8	3.1	2.2	1.2
	-	-	-	-	III		6.6	4.4	3.3	2.1
	11.4	7.7	6.1	4.0	IV		10.6	7.3	5.6	3.9
	16.0	11.0	8.7	5.8	V		15.1	10.6	8.1	5.9
675	-	-	-	-	II	2100	4.8	3.1	2.2	1.2
	7.2	4.8	3.8	2.4	III		6.5	4.4	3.2	2.1
	11.4	7.7	6.1	4.0	IV		10.5	7.3	5.5	3.9
	16.0	11.0	8.7	5.9	V		15.1	10.6	8.1	5.8
750	5.4	3.5	2.7	1.5	II	2400	4.6	3.0	2.1	1.1
	7.2	4.8	3.7	2.4	III		6.4	4.3	3.1	2.0
	11.3	7.7	6.0	4.1	IV		10.4	7.2	5.4	3.8
	16.0	11.0	8.7	5.9	V		14.9	10.5	8.1	5.8
900	5.3	3.5	2.6	1.5	II	2700	4.5	2.9	2.0	1.0
	7.1	4.8	3.7	2.4	III		6.2	4.2	3.1	1.9
	11.1	7.7	6.0	4.1	IV		10.2	7.2	5.4	3.7
	15.8	10.9	8.6	6.0	V		14.7	10.4	8.0	5.7
1050	5.2	3.5	2.6	1.5	II	3000	4.6	3.0	2.0	1.1
	7.0	4.7	3.6	2.3	III		6.3	4.3	3.1	2.0
	11.1	7.6	5.9	4.1	IV		10.3	7.2	5.5	3.8
	15.7	10.9	8.5	6.0	V		14.9	10.6	8.1	5.8
1200	5.2	3.4	2.5	1.5	II					
	7.0	4.7	3.6	2.3	III					
	11.1	7.6	5.9	4.1	IV					
	15.7	10.9	8.5	6.0	V					

NOTES:

- MAXIMUM DEPTH TO PIPE CROWN VALUES ARE INTENDED AS AN ESTIMATING GUIDE ONLY
- CALCULATIONS BASED ON THE FOLLOWING DESIGN PARAMETERS:
 - SOIL DENSITY OF 2082 kg/m³
 - TRUCK LIVE LOAD; CL-800
 - POSITIVE PROJECTION EMBANKMENT CONDITIONS
- UNDER CERTAIN CONDITIONS, SHALLOW COVER INSTALLATIONS MAY REQUIRE CLASS V PIPE; CALL FOR ESTIMATE
- TYPE 2 STANDARD INSTALLATION IS TYPICAL IN EDMONTON AND SURROUNDING AREA; REFER TO PAGE 32 FOR DETAILS

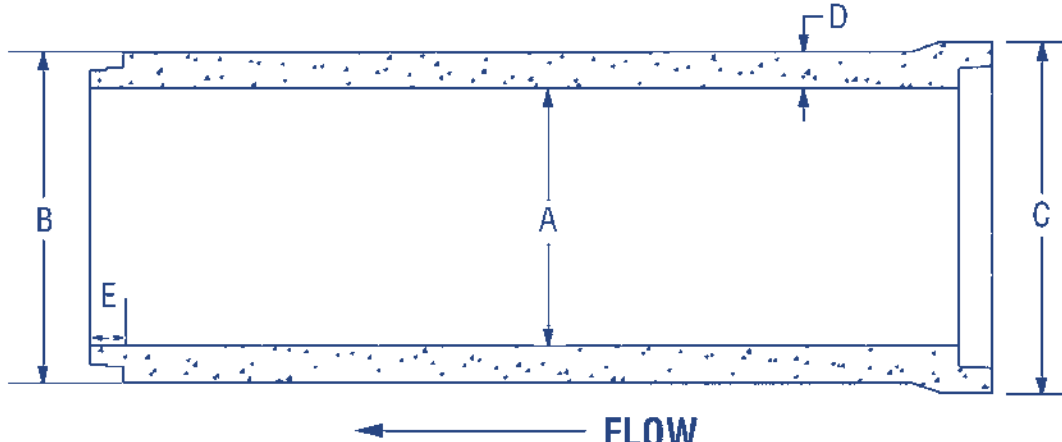
Concrete Pipe

HIGH SULFATE RESISTANT CEMENT - ASTM C76

					PRICES per METRE										
NOMINAL INSIDE DIA. (mm) (in.)		LGTH. (m)	WGT. (kg/m)	VOL. (L/m)	ASTM C-14 CL-3	REINFORCED PIPE ASTM C76, CL-5 CSA 257.2 140-D				DIMENSIONS (mm)					EST. CITY CARTAGE (\$/m)
										A	B	C	D	E	
250	10"	1.25	112	51						254	324	428	37	63	
300	12"	2.50	197	73						305	445	508	70	90	
375	15"	2.50	263	114						381	533	606	76	90	
450	18"	2.50	336	164						457	622	702	83	95	
525	21"	2.50	417	223						533	711	803	89	95	
NOMINAL INSIDE DIA. (mm) (in.)	LGTH. (m)	WGT. (kg/m)	VOL. (L/m)	ASTM C-14 CL-3	REINFORCED PIPE (CSA 257.2, ASTM C76)				DIMENSIONS (mm)					EST. CITY CARTAGE (\$/m)	
					CL-2 50-D	CL-3 65-D	CL-4 100-D	CL-5 140-D	A	B	C	D	E		
600	24"	2.50	506	292						610	800	905	95	98	
675	27"	2.50	603	370	n/a					686	889	1006	102	98	
750	30"	2.50	708	456	n/a					762	978	1038	108	98	
900	36"	2.50	942	656	n/a					914	1156	1229	121	98	
1050	42"	2.50	1207	894	n/a					1067	1334	1461	133	108	
1200	48"	2.50	1503	1167	n/a					1219	1511	1514	146	108	
1350	54"	2.50	1832	1478	n/a					1372	1689	1692	159	108	
1500	60"	2.50	2192	1824	n/a					1524	1867	1870	171	121	
1650	66"	2.50	2583	2206	n/a					1676	2045	2048	184	127	
1800	72"	2.50	3006	2627	n/a					1829	2223	2226	197	127	
1950	78"	2.50	3461	3082	n/a					1981	2400	2400	210	127	
2100	84"	2.50	3948	3577	n/a					2134	2578	2578	222	127	
2400	96"	2.50	5015	4668	n/a					2438	2934	2934	229	127	
2700	108"	2.50	6210	5909	n/a					2743	3289	3289	273	149	
3000	120"	2.50	7010	7297	n/a					3048	3607	3607	279	152	

- 300mm to 2100mm single offset joint design with self lubricating (Superseal) gasket
- 2400mm to 3000mm single offset joint design with manually lubricated gasket
- Radius Pipe available; add 15% to list prices, pg. 8.
- Direct Design pipe (ASTM C1417, ASCE 15-98) available; call for details and pricing
- Micro tunneling pipe available, call for pricing.

- Pipe sizes over 900mm are not typically stocked; please call for availability
- The City Cartage is intended as an estimating guide only
- Straight Wall and Jacking Pipe available, call for pricing
- HDPE lined pipe available, call for pricing.
- Pipe wall type in curve table, pg 8



Concrete Pipe

SIDD

STANDARD INSTALLATION DIRECT DESIGN (SIDD)

SIDD practice was introduced to Calgary in 2005 as an alternative to indirect pipe design and now can be used for all concrete pipes 1050mm in inside diameter and larger by City of Calgary Specifications. The SIDD method arose from improved analytical knowledge and field experience installing concrete pipe, which led to improvements in understanding the structural behaviour of buried pipe in its installed condition.

Direct Design of concrete pipes allows pipe design engineers to analyze the anticipated loading situation for your specific project and design the pipe accordingly using the most efficient placement of reinforcement within the pipe walls. SIDD differs from the more commonly used indirect design method in that it utilizes standard installations and allows for analysis of other limiting states for the pipe including shear and radial tension, which may govern the design of larger diameter pipes or pipes with deeper burials. Indirect design is based on the widely known ASTM C76 standard and analyzes only flexural design requirements of the pipe. SIDD offers the following additional benefits over indirect design:

1. **Better understanding of soil behaviour below and around the pipe**
2. **More accurate procedure for determining the structural response of the pipe to the applied loads**
3. **More accurate methods for determining the effective reinforcement**
4. **More effective designs in new standardized beddings and embedment soil configurations**

SIDD pipe conforms to following standards:

Manufacturing : ASTM C 1417
 Design : ASCE 15-98
 Installation : ASTM C 1479

Refer to pages 31-32 for information on Standard Installations
 Refer to page 8 for Standard Installation illustrations

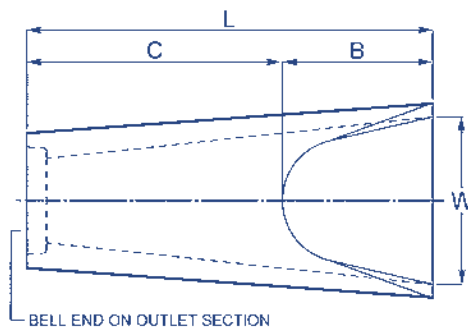
Please call us for pricing and other details on SIDD pipe



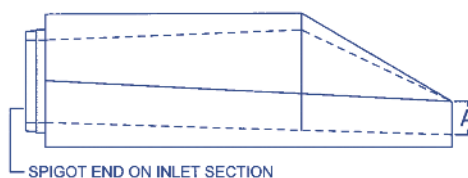
Flared Ends

NOMINAL DIAMETER (mm)	LENGTH (mm)	WEIGHT (kg/ea.)	PRICE (\$/ea.)	GALVANIZED ROUND GRATES		EST. CITY CARTAGE (\$/ea.)
				w/ NO GATE (\$/ea.)	w/ GATE (\$/ea.)	
300	1854	570				
375	1854	780				
450	1854	1010				
525	1854	1238				
600	1867	1465				
750	1873	1800				
900	2438	3390				
1050	2489	4660				
1200	2489	4490				
1350	2545	3665				
1500	2450	3980				

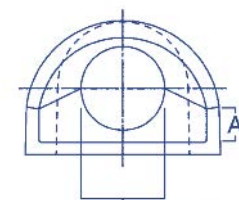
- Available as either Bell or Spigot
- Flared ends larger than 1500mm diameter are available; call for estimate
- 675mm flared ends consist of 675 adpt (pg 9) used with 750 flared end



PLAN VIEW



LONGITUDINAL SECTION



END VIEW

ACTUAL INSIDE DIAMETER (mm)	A (mm)	B (mm)	C (mm)	L (mm)	W (mm)
305	102	610	1245	1854	610
381	152	686	1168	1854	762
457	229	686	1168	1854	914
533	241	1105	762	1867	1219
610	241	1105	762	1867	1219
762	305	1372	502	1873	1524
914	381	1600	838	2438	1829
1067	533	1600	889	2489	1981
1219	610	1829	660	2489	2134
1372	685	1650	895	2545	2545
1524	760	1525	820	2450	2740

Prefabricated Bends

HIGH SULFATE RESISTANT CEMENT - ASTM C76

DESCRIPTION Nominal Diameter (mm)	WEIGHT (kg/ea.)	CL-4 50D - 100D PRICE (\$/ea.)	CL-5 101D - 140D PRICE (\$/ea.)	EST. CITY CARTAGE (\$/ea.)
300	400			
375	550			
450	725			
525	975			
600	1055			
675	1270			
750	1600			
900	2160			
1050	2900			
1200	3400			
1350	3810			
1500	4740			
1650	5620			
1800	6565			
1950	7450			
2100	9000			

- Available in angles up to 90° in 5° increments
- Bends larger than 2100mm diameter are available; call for estimate
- Other fittings such as TEE'S & double Bends are available; call for pricing

Curved Alignment Reference Table

PIPE LENGTH (mm) STANDARD 2500mm			RADIUS PIPE (mm) MAX DROP 0.75"		DEFLECTED STRAIGHT PIPE (mm) MAX PULL 13mm		
SIZE (mm)	ACTUAL ID (mm)	WALL TYPE	WALL DEPTH (mm)	PIPE OD (mm)	MINIMUM RADIUS ACHIEVABLE (TIGHTEST CURVE)		
					DROP (m)	PULL (m)	COMBO (m)
300	305	C	70	445	58.2	85.5	34.7
375	381	C	76	534	69.7	102.6	41.6
450	457	C	83	622	81.3	119.6	48.5
525	533	C	89	711	92.9	136.7	55.4
600	610	C	95	801	104.7	154.0	62.4
675	686	C	102	889	116.3	171.0	69.4
750	762	C	108	978	127.9	188.1	76.3
900	914	C	121	1155	151.0	222.2	90.1
1050	1067	C	133	1334	174.4	256.5	104.0
1200	1219	C	146	1511	197.6	290.6	117.9
1350	1372	C	159	1690	220.9	324.9	131.8
1500	1524	C	172	1867	244.1	359.0	145.6
1650	1676	C	184	2044	267.3	393.1	159.5
1800	1829	C	197	2223	290.6	427.5	173.4
1950	1981	C	210	2400	313.8	461.6	187.2
2100	2134	C	222	2579	337.1	495.9	201.1
2400	2438	C	248	2933	383.5	564.1	228.8
2700	2748	C	274	3295	430.8	633.7	257.0
3000	3048	B	279	3607	471.5	693.6	281.3

Plugs/Caps/Adaptors (Increaser & Reducers)

HIGH SULFATE RESISTANT CEMENT

DESCRIPTION NOMINAL DIAMETER (mm)	WEIGHT (kg/ea.)	PRICE (\$/ea.)	EST. CITY CARTAGE (\$/ea.)
250	30		
300	30		
375	45		
450	70		
525	90		
600	150		
675	175		
750	200		
900	250		
1050	500		
1200	700		
1350	900		
1500	1400		
1650	1600		
1800	1800		
1950	2200		
2100	3500		
2400	3973		
2700	5270		
3000	6500		

- Plugs fit into bell ends
- Caps fit onto spigot ends
- DROP RADIUS Block/connection available: call for pricing



THE **NEW** CONCRETE PIPE

Strong. Durable. Versatile.

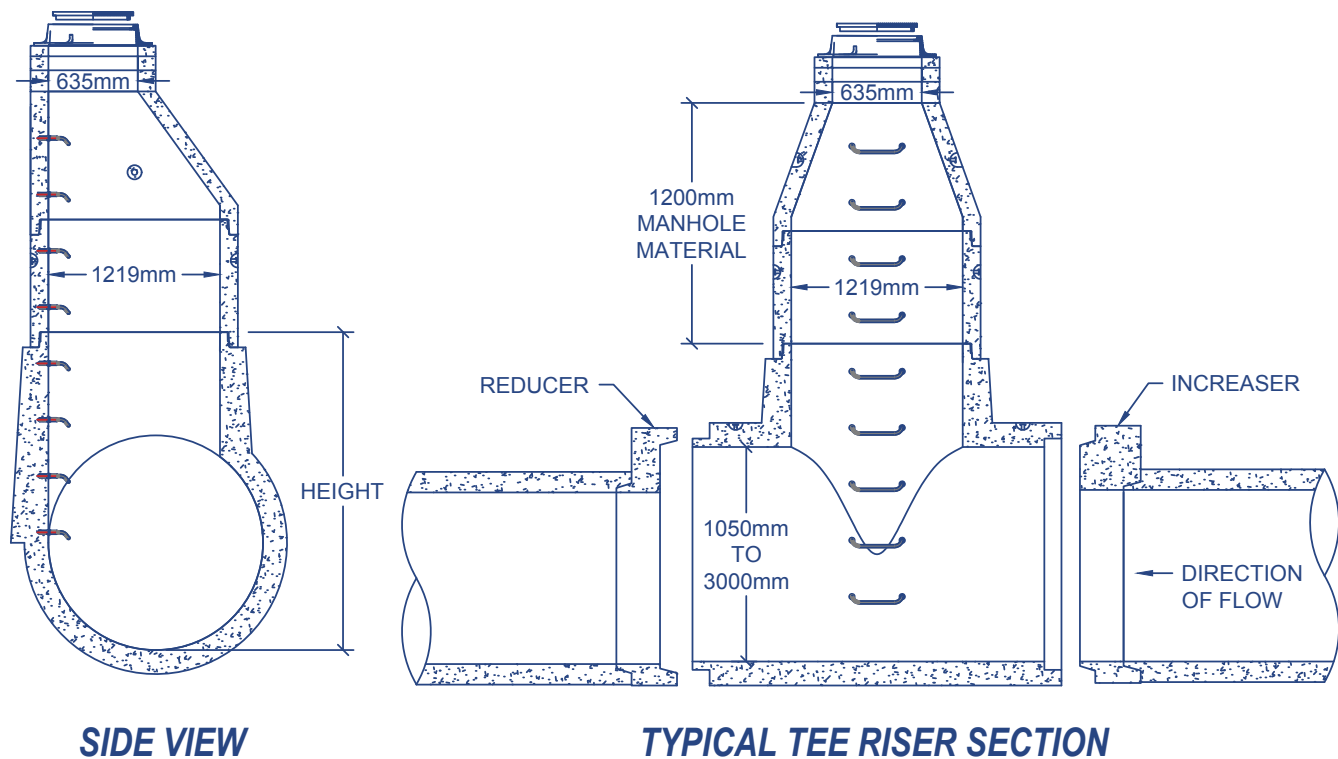
And now we're even better. Our advanced manufacturing methods, concrete mix designs, and vastly improved joint designs and gaskets provide superior products for wastewater collection systems and underground utility installations.

Tee Risers

HIGH SULFATE RESISTANT CEMENT - ASTM C76

DESCRIPTION Nominal Diameter (mm) x Length (m)	HEIGHT (mm)	WEIGHT (kg/ea.)	CL-4 50D - 100D PRICE (\$/ea.)	CL-5 101D - 140D PRICE (\$/ea.)	EST. CITY CARTAGE (\$/ea.)
1050 x 2.5	1633	4325			
1200 x 2.5	1786	4500			
1350 x 2.5	2098	5000			
1500 x 2.5	2258	5310			
1650 x 2.5	2418	6100			
1800 x 2.5	2583	7100			
1950 x 2.5	2743	8200			
2100 x 2.5	2908	9500			
2400 x 2.5	3338	11850			
2700 x 2.5	3638	14800			
3000 x 2.5	4088	18050			

- 1200 Tee Risers with Adaptors may be used in straight thru applications for 675mm to 900mm pipe.
- See page 9 for Adaptor pricing.
- Larger TEE risers can be made to have a larger access opening if required



Manhole Material

Standard 1200mm Diameter

HIGH SULFATE RESISTANT CEMENT - ASTM C478

1200mm NOMINAL DIAMETER (RUBBER GASKET JOINT)	WEIGHT (kg/ea.)	PRICE (\$/ea.)	EST. CITY CARTAGE (\$/ea.)
1200mm Base (Round)	710		
1200mm x 2.0m M.H. Barrel c/w 5 Steps	2730		
1200mm x 1.20m M.H. Barrel c/w 3 Steps	1585		
1200mm x 0.80m M.H. Barrel c/w 2 Steps	1050		
1200mm x 0.41m M.H. Barrel c/w 1 Step	525		
1200mm x 0.30m M.H. Barrel c/w 1 Step	397		
1200mm x 0.91m Conical Top	1370		
1200mm Slab Top w/ 635mm Hole M.J.	753		
1200mm Slab Top w/ 914mm Hole M.J.	553		
T-Top	350		
E-Top	300		
DK-7 Top	200		
1200mm Bell-Bell or Spigot-Spigot Adaptor Barrel c/w 1 Step	525		
GRADE RINGS	WEIGHT (kg/ea.)	PRICE (\$/ea.)	EST. CITY CARTAGE (\$/ea.)
635mm INSIDE DIAMETER			
50mm Grade Ring (24 Rings/Pallet)	50		
75mm Grade Ring (16 Rings/Pallet)	65		
100mm Grade Ring (12 Rings/Pallet)	70		
150mm Grade Ring (8 Rings/Pallet)	110		
914mm INSIDE DIAMETER			
75mm Grade Ring (16 Rings/Pallet)	140		
100mm Grade Ring (8 Rings/Pallet)	180		

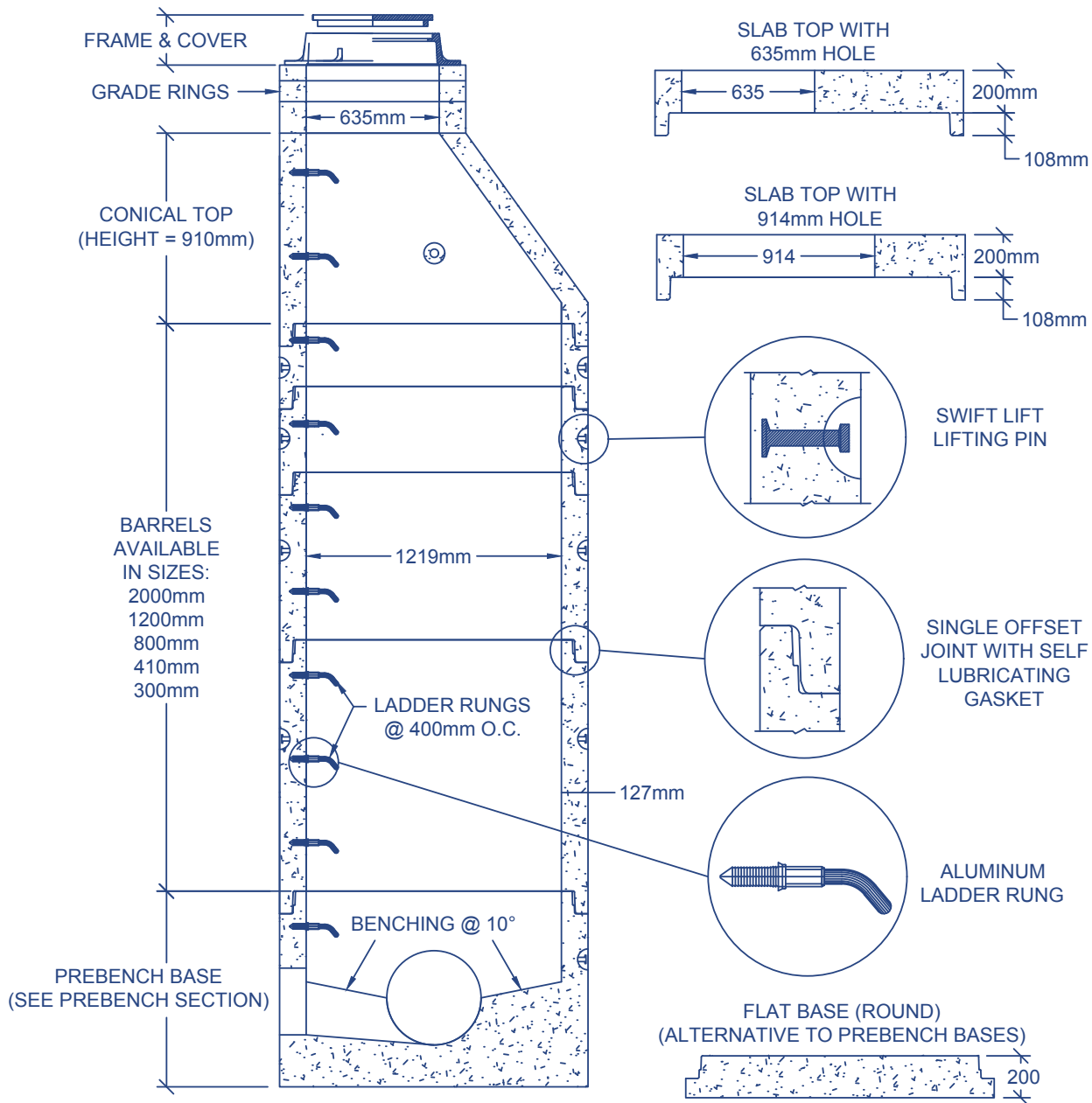
- Superseal self lubricated rubber gaskets are provided with above barrels. Bituminous joint sealant also available see page 24
- Refer to page 18 for Slab Top reference drawings
- Approximate volume capacity is 1167 L/m



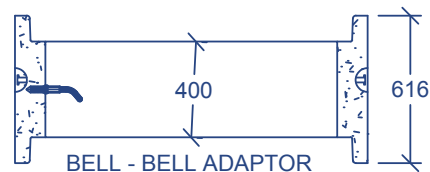
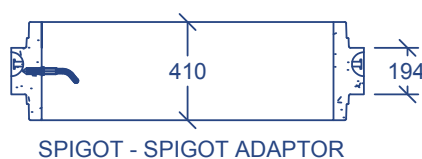
Edmonton Pipe Yard on 149 Street
Photo taken in May, 1958

Manhole Material

Standard 1200mm Diameter



TYPICAL 1200mm MANHOLE CONFIGURATION



Manhole Material

Standard 1200mm Diameter - Estimation Table

DEPTH (m)	PREBENCH BASE	HEIGHT OF MANHOLE BARRELS (m)					CONICAL TOP 0.91m	SLAB TOP 200mm	GRADE RINGS			FRAME & COVER	EST. TOTAL COST (\$)	EST. TOTAL WGT. (kg)
		2.00	1.20	0.80	0.41	0.30			150mm	100mm	75mm			
UNIT	1,811.15	1510.24	957.71	721.27	452.56	398.28	895.08	580.23	113.24	93.51	91.53	590.70		
1.50	1							1	1	2		1		3,423
1.60	1					1		1	1			1		3,679
1.70	1				1			1	1			1		3,808
1.80	1				1			1	1	1		1		3,878
1.90	1					2		1	1			1		4,075
2.00	1					2		1	1	1		1		4,145
2.10	1				1	1		1	1	1		1		4,274
2.20	1						1		1	2		1		4,040
2.30	1					1	1		1			1		4,296
2.40	1					1	1		1	1		1		4,366
2.50	1				1		1			2		1		4,455
2.60	1					2	1		1			1		4,692
2.70	1				1	1	1		1			1		4,821
2.80	1				1	1	1		1		1	1		4,886
2.90	1				2		1			2		1		4,980
3.00	1				2		1			3		1		5,050
3.10	1			1		1	1		1			1		5,346
3.20	1			1		1	1		1	1		1		5,416
3.30	1			1	1		1		1		1	1		5,540
3.40	1			1	1		1		1	1	1	1		5,610
3.50	1			1		2	1		1	1		1		5,812
3.60	1		1			1	1		1	1		1		5,951
3.70	1		1		1		1		1		1	1		6,075
3.80	1		1		1		1		1	1	1	1		6,145
3.90	1		1			2	1		1	1		1		6,347
4.00	1		1		1	1	1		1		1	1		6,471
4.10	1		1		2		1		1		1	1		6,600
4.20	1		1		2		1		1	1	1	1		6,670
4.30	1		1		1	2	1		1		1	1		6,867
4.40	1	1				1	1		1	1		1		7,096
4.50	1	1			1		1		1		1	1		7,220
4.60	1	1			1		1		1	1	1	1		7,290
4.70	1	1				2	1		1	1		1		7,492
4.80	1	1			1	1	1		1		1	1		7,616
4.90	1	1			2		1			2		1		7,710
5.00	1	1			2		1		2			1		7,790

The table is based on the following parameters:

- Depth is the difference from rim elevation to lowest pipe invert elevation
- Prebench base with an effective height 0.8mm. Table based on PB height of 0.80m.
- Standard prebench base for 300mm diameter pipe applied to the estimated total cost
- Slab top and conical top used in estimation table
- Standard frame and cover height of 150mm used.

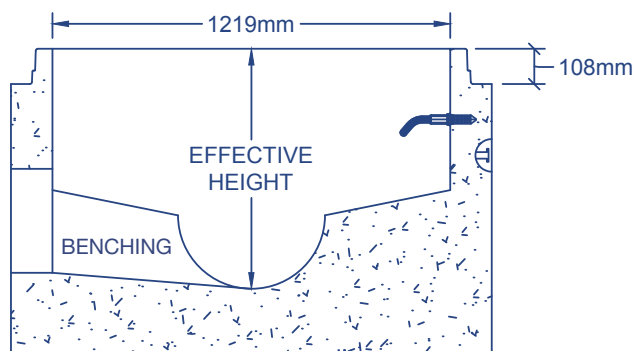
Prebench Bases

For Concrete, SDR35 & Ultrarib Pipe

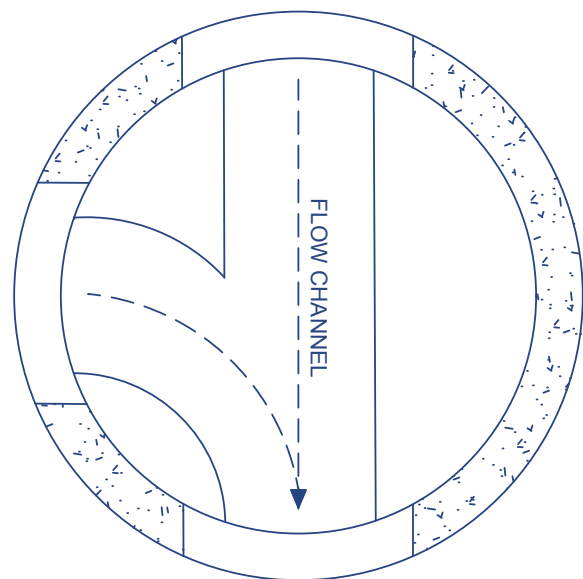
HIGH SULFATE RESISTANT CEMENT - ASTM C478

LARGEST NOMINAL PIPE DIAMETER (mm)	HEIGHT FROM INVERT CONCRETE PIPE (mm)	WEIGHT CONCRETE PIPE (kg/ea.)	STANDARD PRICE (\$/ea.)	SPECIAL PRICE (\$/ea.)	EST. CITY CARTAGE (\$/ea.)
150	705	1930			
200	705	2100			
250	705	2100			
300	800	2280			
375	800	2280			
450	915	2510			
525	915	2510			
*600	970	2460			
**MONOBASE	970	2285			

- Standard Base: Any prebench w/4 or less openings
- Special Base: Any prebench w/more than 4 openings
- Drawings required for manufacture
- * Available only for straight through configurations →○→ w/600 concrete pipe
- ** The monobase is without any openings or benching
- Extended prebench available; call for pricing
- 1500mm & 1800mm available; call for pricing



SECTION VIEW



TOP VIEW

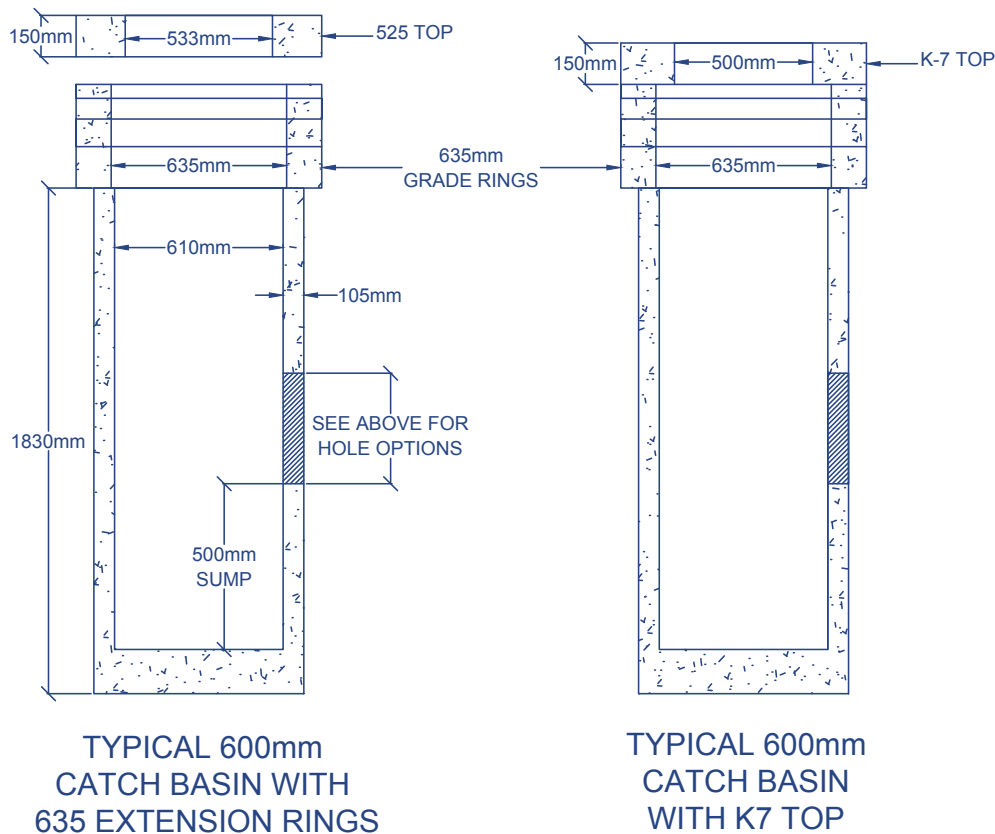
Catch Basin Material

600mm Diameter

HIGH SULFATE RESISTANT CEMENT

600mm NOMINAL DIAMETER (MORTAR JOINT)	HOLE OPTIONS	PIPE	WEIGHT (kg/ea.)	PRICE (\$/ea.)	EST. CITY CARTAGE (\$/ea.)
600mm x 1.85m C.B. Barrel c/w Base & Hole	375mm Knockout/Solid	any type	1134		
K7 Top			150		
525 Top			150		
GRADE RINGS (635mm I.D.)					
50mm Grade Ring			50		
75mm Grade Ring			65		
100mm Grade Ring			70		
150mm Grade Ring			110		

- Refer to page 18 for Slab Top reference drawings
- Rub-R-Nek (Kent Seal) is extra and NOT included in the above pricing; refer to page 24 & 25 for details
- Cored holes & boots available; call for pricing
- Available without knockout-solid



Catch Basin
Material 600mm

750mm NOMINAL DIAMETER (MORTAR JOINT)	WEIGHT (kg/ea.)	PRICE (\$/ea.)	EST. CITY CARTAGE (\$/ea.)
750mm x 1.85m C.B. Barrel c/w Base & Hole	1225		
750mm x 1.22m C.B. Barrel c/w Base & Hole	845		
750mm x 1.22m C.B. Barrel	725		
750mm x 0.61m C.B. Barrel c/w Base	565		
750mm x 0.61m C.B. Barrel	366		
750mm Slab Top	175		
K7 Top	150		

-
- 635mm GRADE RINGS
- 150mm
- 635mm
- 750mm SLAB TOP
- 762mm
- 89mm
- 500mm SUMP
- 100mm
- 750mm x 1.85m w/ BASE & RCH SIZE UP TO 375mm DIA.
- 150mm
- 635mm
- 80mm
- K7 TOP
- BARRELS AVAILABLE IN SIZES:
1.22m
0.61m
- 750mm x 1.22m w/ BASE & HOLE OR 0.61m BARREL w/ BASE ONLY
- TYPICAL 750mm CATCH BASIN WITH 635mm EXTENSION RINGS**
- TYPICAL 750mm CATCH BASIN WITH K7 TOP**

Catch Basin Material

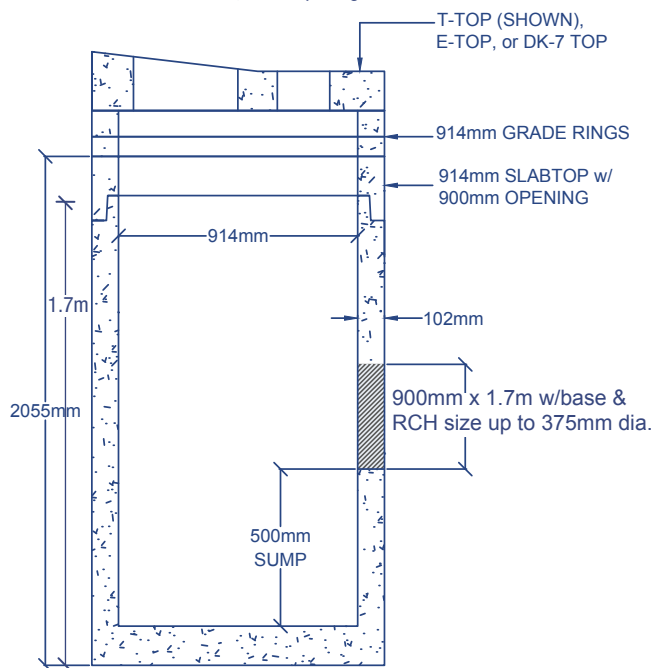
900mm Diameter

HIGH SULFATE RESISTANT CEMENT

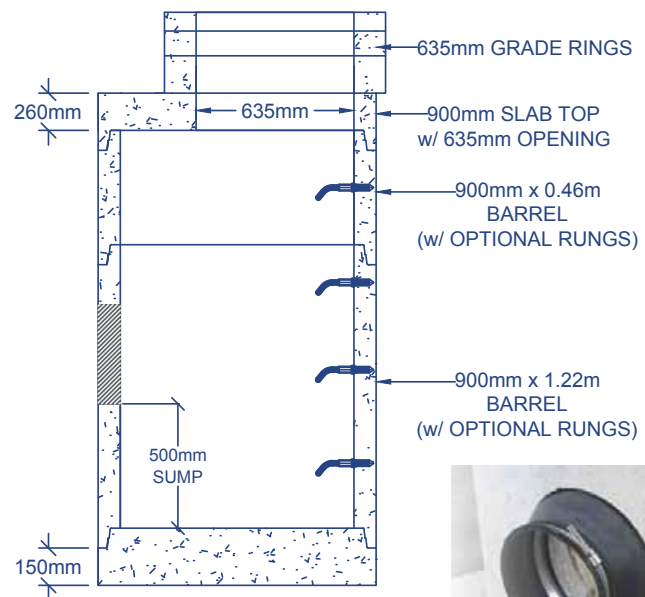
900mm NOMINAL DIAMETER (MORTAR JOINT)	WEIGHT (kg/ea.)	PRICE (\$/ea.)	EST. CITY CARTAGE (\$/ea.)
900mm Base	450		
* 900mm x 1.7m C.B. Barrel c/w Base & Hole	1870		
* 900mm x 1.22m C.B. Barrel c/w Base & Hole	1233		
* 900mm x 1.22m C.B. Barrel	1005		
* 900mm x 0.46m C.B. Barrel	357		
900mm Slab Top w/ 635mm Hole	280		
900mm Slab Top w/ 914mm Hole	160		
T-Top	350		
E-Top	300		
DK-7 Top	200		
GRADE RINGS (914mm I.D.)			
75mm Grade Ring	140		
100mm Grade Ring	180		

*Also available with steps

- Refer to page 18 for Slab Top reference drawings
- Rub-R-Nek (Kent Seal) is extra and NOT included in the above pricing; refer to page 24 & 25 for details.
- Cored hole & boots available; call for pricing



TYPICAL 900mm
CATCH BASIN WITH EITHER
T-TOP, E-TOP, OR DK-7 TOP



TYPICAL 900mm
CATCH BASIN
WITH SEPARATE BASE



STANDARD BOOT FOR
SDR PIPE

Catch Basin
Material 900mm

Slab Tops

<p>1200mm SLAB TOP w/ 635mm OPENING</p>	<p>1200mm SLAB TOP w/ 914mm OPENING</p>	<p>900mm SLAB TOP w/ 635mm OPENING</p>	<p>900mm SLAB TOP w/ 914mm OPENING</p>
<p>E-TOP/K3</p>	<p>DK-7 TOP</p>	<p>T-TOP/K1</p>	<p>750mm SLAB TOP w/ 635mm OPENING</p>
<p>K7 TOP</p>	<p>525 TOP</p>	<p>914mm GRADE RINGS</p>	<p>635mm GRADE RINGS</p>

SLAB TOP CROSS REFERENCE TABLE

SLAB TOP	NORWOOD FRAME AND COVER	TROJAN FRAME AND COVER	CITY OF EDMONTON STANDARDS
750mm TO 1200mm SLAB TOP w/ 635mm HOLE	F36A, F39, F38, NF49, NF80	F36A, F38, TF39, TF80	NO. 4A, 6, 6A, 6B, 8, F80
DK-7 TOP	DK-7	T-K2	DK-7
T-TOP	F51G & F51-S.I. (SIDE INLET)	T-K1 & T-K1 SIDE INLET	F-51 S.I. SIDE INLET
E-TOP	F51G	T-K1	F51
525 TOP	F33, F35, F35A, F36, F37, F39	TF33, TF36	NO. 2A
K7 TOP	SK-7	T-K1	K7

Manhole Material

Large Diameter

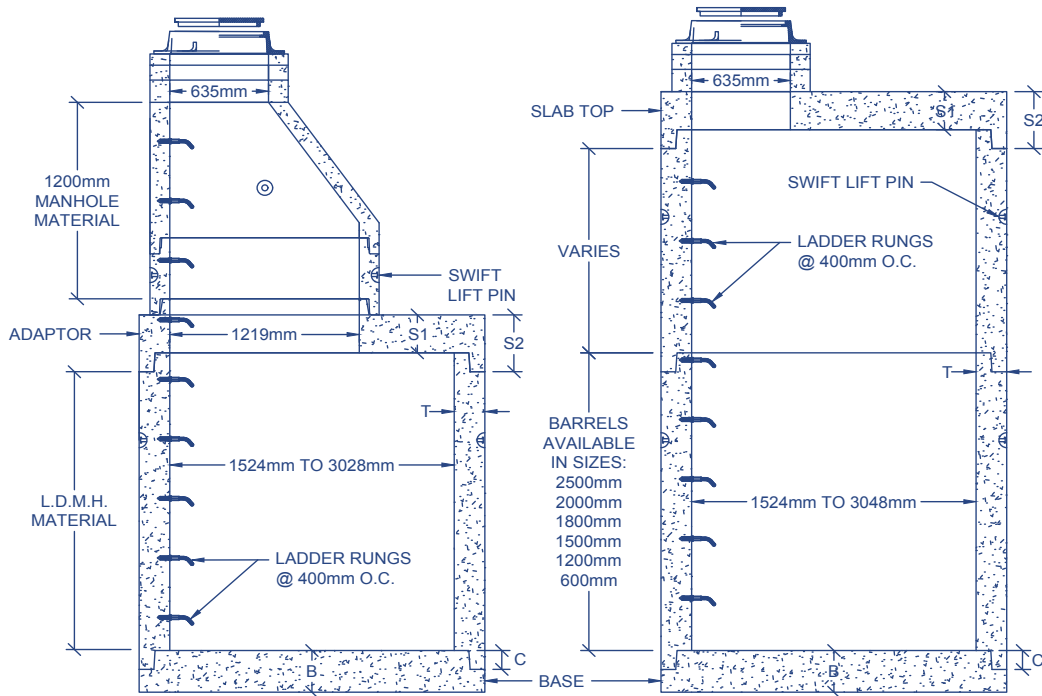
HIGH SULFATE RESISTANT CEMENT - ASTM C478

DESCRIPTION OF ITEMS (NOMINAL DIAMETER)	VOLUME (L/barrel)	WEIGHT (kg/ea.)	PRICE (\$/ea.)	EST. CITY CARTAGE (\$/ea. or v.m.)
1500mm DIAMETER MATERIAL				
1500mm x 2.5m M.H. Barrel	4560	5627		
1500mm x 2.0m M.H. Barrel	3648	4502		
1500mm x 1.8m M.H. Barrel	3283	4052		
1500mm x 1.5m M.H. Barrel	2736	3376		
1500mm x 1.2m M.H. Barrel	2189	2701		
1500mm x 0.6m M.H. Barrel	1094	1351		
1500mm Slab Top	-	1758		
1500mm Base	-	1887		
1800mm DIAMETER MATERIAL				
1800mm x 2.5m M.H. Barrel	6568	7721		
1800mm x 2.0m M.H. Barrel	5255	6177		
1800mm x 1.8m M.H. Barrel	4729	5559		
1800mm x 1.5m M.H. Barrel	3941	4633		
1800mm x 1.2m M.H. Barrel	3153	3706		
1800mm x 0.6m M.H. Barrel	1576	1853		
1800mm Slab Top	-	2620		
1800mm Base	-	2679		
2100mm DIAMETER MATERIAL				
2100mm x 2.5m M.H. Barrel	8942	10140		
2100mm x 2.0m M.H. Barrel	7153	8112		
2100mm x 1.8m M.H. Barrel	6438	7301		
2100mm x 1.5m M.H. Barrel	5365	6084		
2100mm x 1.2m M.H. Barrel	4292	4867		
2100mm x 0.6m M.H. Barrel	2146	2434		
2100mm Slab Top	-	3627		
2100mm Base	-	3603		
2400mm DIAMETER MATERIAL				
2400mm x 2.5m M.H. Barrel	11671	12884		
2400mm x 2.0m M.H. Barrel	9337	10307		
2400mm x 1.8m M.H. Barrel	8403	9276		
2400mm x 1.5m M.H. Barrel	7002	7730		
2400mm x 1.2m M.H. Barrel	5602	6184		
2400mm x 0.6m M.H. Barrel	2801	3092		
2400mm Slab Top	-	4785		
2400mm Base	-	4666		
2700mm DIAMETER MATERIAL				
2700mm x 2.5m M.H. Barrel	14773	15942		
2700mm x 2.0m M.H. Barrel	11819	12754		
2700mm x 1.8m M.H. Barrel	10637	11478		
2700mm x 1.5m M.H. Barrel	8864	9565		
2700mm x 1.2m M.H. Barrel	7091	7652		
2700mm x 0.6m M.H. Barrel	3546	3826		
2700mm Slab Top	-	6090		
2700mm Base	-	5864		
3000mm DIAMETER MATERIAL				
3000mm x 2.5m M.H. Barrel	18241	17998		
3000mm x 2.0m M.H. Barrel	14593	14398		
3000mm x 1.8m M.H. Barrel	13134	12958		
3000mm x 1.5m M.H. Barrel	10945	10799		
3000mm x 1.2m M.H. Barrel	8756	8639		
3000mm x 0.6m M.H. Barrel	4378	4319		
3000mm Slab Top	-	7380		
3000mm Base	-	7049		

- Add 10% to standard slab top price for a slab top adaptor
- Large diameter manhole material is NOT stock material; call for availability
- Refer to pg 29 & 30 for # of clutches & pins/mh size - custom slabs w/different openings available

Manhole Material

Large Diameter



**TYPICAL LARGE DIAMETER MANHOLE
COMBINED WITH 1200mm M.H. MATERIAL**

TYPICAL LARGE DIAMETER MANHOLE

LDMH DIMENSIONAL DETAIL

DIAMETER (mm)	WALL THICKNESS "T" (mm)	SPIGOT LENGTH "C" (mm)	SLAB TOP THICKNESS "S1" (mm)	SLAB TOP EFF. HGT. "S2" (mm)	BASE THICKNESS "B" (mm)
1524/60"	171	121	305	426	280
1829/72"	197	127	305	432	280
2134/84"	222	127	305	432	280
2438/96"	248	127	305	432	280
2743/108"	273	149	305	454	280
3048/120"	279	152	305	457	280

BITUMINOUS JOINT SEALANT (KENT SEAL) REQUIRED per JOINT

NOMINAL DIAMETER OF MANHOLE	SEALANT COIL SIZE	COILS per JOINT	APPROX. COST per JOINT
1500mm	1.5" THICK X 10.5' LONG	2	111.30
1800mm	1.5" THICK X 10.5' LONG	2	111.30
2100mm	1.5" THICK X 10.5' LONG	3	166.95
2400mm	1.5" THICK X 10.5' LONG	3	166.95
2700mm	1.5" THICK X 10.5' LONG	3	166.95
3000mm	1.5" THICK X 10.5' LONG	4	222.60

Box Sections - ASTM C1433

			PRICES per ITEM			
DESCRIPTION OF ITEMS (SPAN x RISE x LENGTH)	VOLUME (L/box)	WEIGHT (kg/ea.)	ASTM C1433 COVER RANGE 1.0m - 3.5m (HORIZONTAL INSTALL)	ASTM C1443 COVER RANGE 3.5m - 7.0m (HORIZONTAL INSTALL)	ASTM C1443 COVER RANGE 7.0m - 9.0m (HORZ. INST.) 0.0m - 1.0m (VERT. OR HORZ. INSTALL)	EST. CITY CARTAGE (\$/ea. or v.m.)
1829mm x 914mm (6'x3')						
2.5m BOX LENGTH	4021	7190				
2.0m BOX LENGTH	3217	5752				
1.8m BOX LENGTH	2895	5177				
1.5m BOX LENGTH	2413	4314				
1.2m BOX LENGTH	1930	3451				
0.6m BOX LENGTH	965	1726				
BASE / SLAB TOP	-	2736 / 2639				
2.5m BEND	-	7334				
2.5m BEVELED END	-	6291				
1829mm x 1219mm (6'x4')						
2.5m BOX LENGTH	5415	7858				
2.0m BOX LENGTH	4332	6286				
1.8m BOX LENGTH	3899	5657				
1.5m BOX LENGTH	3249	4715				
1.2m BOX LENGTH	2599	3772				
0.6m BOX LENGTH	1300	1886				
BASE / SLAB TOP	-	3393 / 3378				
2.5m BEND	-	8015				
2.5m BEVELED END	-	6875				
2439mm x 1219mm (8' x 4')						
2.5m Box Length	6949	10675				
2.0m Box Length	5595	8540				
1.8m Box Length	5036	7686				
1.5m Box Length	4196	6405				
1.2m Box Length	3357	5124				
0.6m Box Length	1679	2562				
BASE / SLAB TOP	-	4558 / 3833				
BEND	-	10889				
BEVEL END	-	9341				
2439mm x 1524mm (8'x5')						
2.5m BOX LENGTH	9087	11438				
2.0m BOX LENGTH	7269	9150				
1.8m BOX LENGTH	6542	8235				
1.5m BOX LENGTH	5452	6863				
1.2m BOX LENGTH	4362	5490				
0.6m BOX LENGTH	2181	2745				
BASE / SLAB TOP	-	5414 / 4796				
2.5m BEND	-	11666				
2.5m BEVELED END	-	10008				

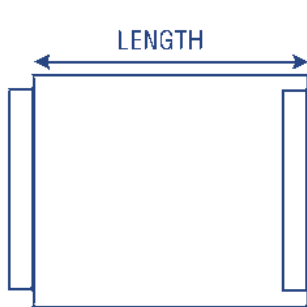
- Additional box sizes available; call for details - 1200mm x 600mm, 1200mm x 900mm and 3600mm x 3000mm
- Prices shown are intended only as an estimating guide; detailed quotations are available upon request
- Pricing assumes reinforcement design to CHBDC CSA-S6-06 with CL-800 loading. For other loading conditions, call for estimate.
- Add 10% to standard slab top price for a slab top adaptor
- Box material is NOT stock material; call for availability
- Rough cut, cored holes and rake out sections extra; call for pricing
- Bend and beveled end sections produced with 2.5m box length (all sizes except 3600 x 3600, which uses a max 1.8m box length)
- Box sections manufactured to ASTM C1433 Standard, using sulfate-resistant cement.

Box Sections - ASTM C1433

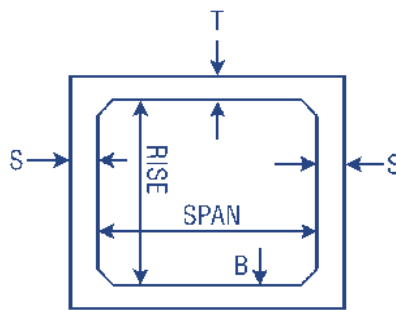
			PRICES per ITEM			
DESCRIPTION OF ITEMS (SPAN x RISE x LENGTH)	VOLUME (L/box)	WEIGHT (kg/ea.)	ASTM C1433 COVER RANGE 1.0m - 3.5m (HORIZONTAL INSTALL)	ASTM C1443 COVER RANGE 3.5m - 7.0m (HORIZONTAL INSTALL)	ASTM C1443 COVER RANGE 7.0m - 9.0m (HORZ. INST.) 0.0m - 1.0m (VERT. OR HORZ. INSTALL)	EST. CITY CARTAGE (\$/ea. or v.m.)
2439mm x 1829mm (8'x 6')						
2.5m BOX LENGTH	10594	12203				
2.0m BOX LENGTH	8475	9762				
1.8m BOX LENGTH	7628	8786				
1.5m BOX LENGTH	6356	7322				
1.2m BOX LENGTH	5085	5857				
0.6m BOX LENGTH	2543	2929				
BASE / SLAB TOP	-	6269 / 5758				
2.5m BEND	-	12447				
2.5m BEVEL END	-	10677				
3049mm x 1524mm (10'x5')						
2.5m BOX LENGTH	11294	17275				
2.0m BOX LENGTH	9035	13820				
1.8m BOX LENGTH	8132	12438				
1.5m BOX LENGTH	6776	10365				
1.2m BOX LENGTH	5421	8292				
0.6m BOX LENGTH	2711	4146				
BASE / SLAB TOP	-	4260 / 4110				
2.5m BEND	-	17275				
2.5m BEVEL END	-	8638				
2439mm x 2439mm (8' x 8')						
2.5m BOX LENGTH	14666	13728				
2.0m BOX LENGTH	11733	10982				
1.8m BOX LENGTH	10559	9884				
1.5m BOX LENGTH	8799	8237				
1.2m BOX LENGTH	7040	6589				
0.6m BOX LENGTH	3520	3295				
BASE / SLAB TOP	-	7980 / 7683				
2.5m BEND	-	14002				
2.5m BEVEL END	-	12012				
3049mm x 2439mm (10' x 8')						
2.5m BOX LENGTH	18269	19565				
2.0m BOX LENGTH	14615	15652				
1.8m BOX LENGTH	13153	14087				
1.5m BOX LENGTH	10961	11739				
1.2m BOX LENGTH	8769	9391				
0.6m BOX LENGTH	4385	4696				
BASE / SLAB TOP	-	10335 / 10333				
2.5m BEND	-	19956				
2.5m BEVEL END	-	17119				
3658mm x 3658mm (12' x 12')						
1.8m BOX LENGTH	23751	22277				
1.5m BOX LENGTH	19793	14851				
1.2m BOX LENGTH	15834	17960 / 18911				
BASE / SLAB TOP	-	22722				
1.8m BEND	-	19492				
1.8m BEVEL END	-	-				

- Additional box sizes available; call for details - 1200mm x 600mm, 1200mm x 900mm and 3600mm x 3000mm
- Prices shown are intended only as an estimating guide; detailed quotations are available upon request
- Pricing assumes reinforcement design to CHBDC CSA-S6-06 with CL-800 loading. For other loading conditions, call for estimate.
- Add 10% to standard slab top price for a slab top adaptor
- Box material is NOT stock material; call for availability
- Rough cut, cored holes and rake out sections extra; call for pricing
- Bend and beveled end sections produced with 2.5m box length (all sizes except 3600 x 3600, which uses a max 1.8m box length)
- Box sections manufactured to ASTM C1433 Standard, using sulfate-resistant cement.

Box Sections



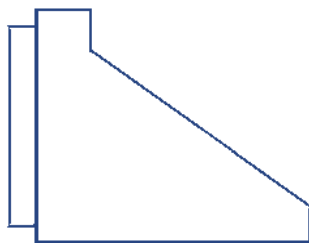
SIDE VIEW



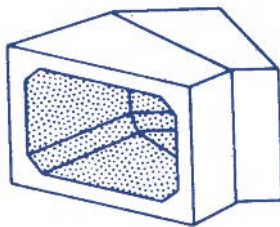
FRONT VIEW

APPLICATIONS

- Ditch and Creek Replacements
- Storm Sewers
- Highway Culverts
- Pedestrian Underpasses
- Lift Stations
- Utility Vaults
- Storage Tanks



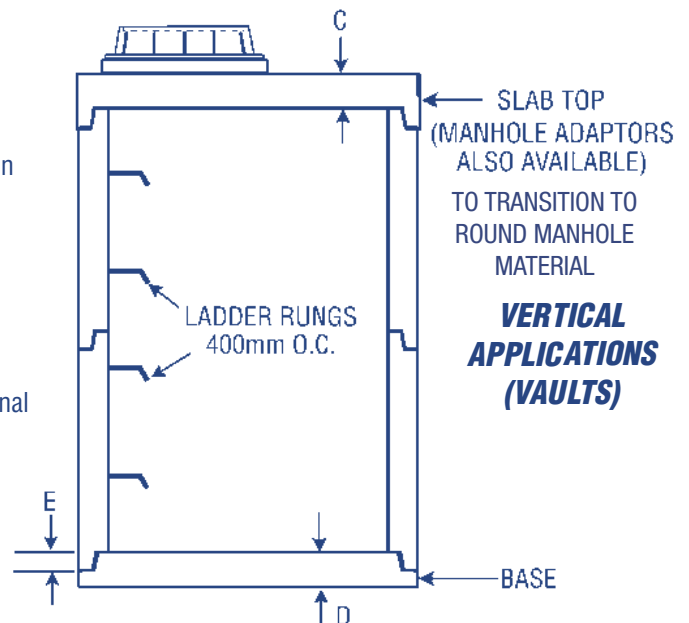
BEVELED END SECTIONS



BENDS (5° to 50°)

ADVANTAGES

- Cost Effective
- Reduced Vertical Dimension
- Reduced Installation Time
- Low Cover Requirements
- Reduced Dewatering Requirements
- Manufactured to International Specifications



VERTICAL APPLICATIONS (VAULTS)

BOX SECTION DIMENSION DETAIL

DESCRIPTION NOMINAL SPAN x RISE	ACTUAL INSIDE DIMENSIONS SPAN x RISE	SIDE WALL THICKNESS (mm)	TOP WALL THICKNESS (mm)	BOTTOM WALL THICKNESS (mm)	SLAB TOP THICKNESS (mm)	BASE THICKNESS (mm)	SPIGOT LENGTH (mm)
1800mm x 900mm	1829mm x 914mm	178	178	178	203	203	102
1800mm x 1200mm	1829mm x 1219mm	178	178	178	203	203	102
2400mm x 1200mm	2439mm x 1219mm	203	203	203	305	305	127
2400mm x 1500mm	2439mm x 1524mm	203	203	203	254	254	108
2400mm x 1800mm	2439mm x 1829mm	203	203	203	305	305	127
2400mm x 2400mm	2439mm x 2439mm	203	203	203	305	305	127
3000mm x 1500mm	3049mm x 1524mm	254	254	254	254	254	108
3000mm x 2400mm	3049mm x 2439mm	254	254	254	305	305	127
3600mm x 3600mm	3658mm x 3658mm	305	305	305	400	400	127

Joint Requirements for Kent Seal & Con Sealant

KENT SEAL AND CON SEALANT REQUIRMENTS FOR MANHOLE AND BOX STRUCTURE JOINT'S.

# of Coils required/joint						
Diameter or Box Size (mm)	(Kent Seal 0.50")	(Kent Seal 0.75")	(Kent Seal 1.0")	(Kent Seal 1.5")	Conseal (1.0")	Conseal (1.5")
600 CB	0.4	*0.5	0.6	0.8	*0.6	0.8
635 Grade Ring	0.4	*0.5	0.6	0.8	*0.6	0.8
750 CB	0.5	*0.5	0.7	0.9	*0.7	0.9
900 CB	0.5	*0.6	0.8	1	*0.8	1.1
914 mm Grade Ring	0.5	*0.6	0.8	1.1	*0.8	1.1
1200 MH	0.7	0.8	1	1.4	*1	1.4
1500 MH	0.9	1	1.3	*1.7	1.3	*1.8
1800 MH	1	1.2	1.5	*2	1.5	*2.1
2100 MH	1.2	1.4	1.7	*2.4	1.7	*2.5
2400 MH	1.3	1.6	2	*2.7	2	*2.8
2700 MH	1.5	1.8	2.2	*3	2.2	*3.2
3000 MH	1.6	2	2.7	*3.3	2.4	*3.5
1200 x 600 BX	0.7	0.8	1	*1.4	1	*1.4
1200 x 900 BX	0.8	0.9	1.1	*1.6	1.1	*1.6
1800 x 900 BX	1	1.2	1.5	*2	1.5	*2.1
2400 x 1200 BX	1.1	1.3	1.6	*2.2	1.6	*2.3
2400 x 1200 BX	1.3	1.5	1.9	*2.6	1.9	*2.7
2400 x 1500 BX	1.4	1.6	2	*2.8	2	*2.9
2400 x 1800 BX	1.5	1.8	2.2	*3	2.2	*3.1
2400 x 2400 BX	1.6	2	2.4	*3.4	2.4	*3.5
3000 x 1500 BX	1.6	1.9	2.3	*3.2	2.3	*3.4
3000 x 2400 BX	1.9	2.2	2.8	*3.8	2.8	*4
3600 x 3600 BX	2.4	2.9	3.6	*5	3.6	*5.3
Product Type and Thickness	# Coils Per Box	*BOLD TEXT REPRESENTS RECOMMENDED THICKNESS FOR APPLICABLE DIAMETER OR BOX SIZE * Refer to pg. 25 for pricing.				
Kent 0.5"	12					
Kent 0.75"	8					
Kent 1.0"	6					
Kent 1.5"	4					
Conseal 1.0"	8					
Conseal 1.5"	5					

Miscellaneous Materials

DESCRIPTION OF ITEMS	WEIGHT OR QUANTITY	PRICE (\$/ea.)
JOINT SEALANT & LUBRICANT		
0.5" (12.7mm) WIDE KENT SEAL / RUB-R-NEK (12 COILS/BOX)	21.75' COIL	
0.75" (19.1mm) WIDE KENT SEAL / RUB-R-NEK (8 COILS/BOX)	18.0' COIL	
1.0" (25.4mm) WIDE KENT SEAL / RUB-R-NEK (6 COILS/BOX)	14.5' COIL	
1.5" (38.1mm) WIDE KENT SEAL / RUB-R-NEK (4 COILS/BOX)	10.5' COIL	
1.0" (25.4mm) WIDE CON-SEAL CS440 OIL GAS RESIST (14.5' COILS)	8 COILS/BOX	
1.5" (38.1mm) WIDE CON-SEAL CS440 OIL GAS RESIST (10.0' COILS)	5 COILS/BOX	
WL-8 GASKET LUBRICANT	3.6 kg PAIL	
NC TEE GASKETS - MANHOLE TO PIPE ONLY:		
4" (100mm) DIAMETER GASKET for 5.25" (133mm) CORED HOLE	1 PC.	
6" (150mm) DIAMETER GASKET for 7.38" (188mm) CORED HOLE	1 PC.	
8" (200mm) DIAMETER GASKET for 10" (250mm) CORED HOLE	1 PC.	
10" (250mm) DIAMETER GASKET for 12" (300mm) CORED HOLE	1 PC.	
12" (300mm) DIAMETER GASKET for 14" (355mm) CORED HOLE	1 PC.	
15" (375mm) DIAMETER GASKET for 16" (400mm) CORED HOLE	1 PC.	
NC TEE GASKETS - PIPE TO PIPE ONLY:		
4" (100mm) DIAMETER GASKET for 5.25" (133mm) CORED HOLE	1 PC.	
6" (150mm) DIAMETER GASKET for 7.38" (188mm) CORED HOLE	1 PC.	
8" (200mm) DIAMETER GASKET for 10" (250mm) CORED HOLE	1 PC.	
12" (300mm) DIAMETER GASKET for 14" (355mm) CORED HOLE	1 PC.	
MANHOLE STEPS (LADDER RUNGS)		
GALVANIZED; SIZE: 12" x 12" (300mm x 300mm)	each	
ALUMINUM; SIZE: 12" x 9" (300mm x 225mm)	each	
POLY-COVERED ALUMINUM; SIZE: 12" x 9" (300mm x 225mm)	each	
CEMENT & GROUT		
TYPE HS CEMENT - HIGH SULFATE RESISTANCE (40/PALLET)	20 kg BAG	
FAST PATCH GROUT - 20 MINUTE SET (56/PALLET)	25 kg BAG	
Sikaset Plug	23 kg PAIL	
* SAFETY PLATFORMS (ALUMINUM; Bolt on Riveted Landing)		
1200mm DIAMETER MANHOLE SAFETY PLATFORM (MSU TYPE RSL)	18 kg	
1500mm DIAMETER MANHOLE SAFETY PLATFORM (MSU TYPE RSL)	40 kg	
1800mm DIAMETER MANHOLE SAFETY PLATFORM (MSU TYPE RSL)	50 kg	
2100mm DIAMETER MANHOLE SAFETY PLATFORM (MSU TYPE RSL)	55 kg	
2400mm DIAMETER MANHOLE SAFETY PLATFORM (MSU TYPE RSL)	59 kg	
3000mm DIAMETER MANHOLE SAFETY PLATFORM (MSU TYPE RSL)	68 kg	
* FRAMES, COVERS & TRASH RACKS		
F39 FRAME	80 kg	
F39 COVER (GRATED or VENTED)	40 kg	
NF 90 FRAME & COVER w/ GASKET	127 kg	
F51 FRAME	86 kg	
F51 GRATE	57 kg	
F51 SIDE INLET	78 kg	
F39 TRASH RACK - STANDARD 500mm HEIGHT	91 kg	
F39 TRASH RACK - LARGE 785mm HEIGHT	80 kg	
600mm FROST COVER c/w HANDLES	3.0 kg	
900mm FROST COVER c/w HANDLES	4.0 kg	
1200mm FROST COVER c/w HANDLES	6.0 kg	
SWIFT LIFTING DEVICES		
4 TON CLUTCH (LIFTING EYE)	each	
8 TON CLUTCH (LIFTING EYE)	each	
4 TON REPLACEMENT PIN w/ WING NUT	each	
8 TON REPLACEMENT PIN w/ WING NUT	each	

* Other sizes or types available upon request

• Minimum Charge for Rough Cut Holes is \$204.75 ea.

• Do not remove cut-outs until barrels are in final position in the field.

• Swift lift clutches are not returnable for refund.

Terms & Conditions/Freight Guidelines

TERMS AND CONDITIONS OF SALE

• Prices listed in this publication are effective as of January 31, 2017

1. Definitions.

- (a) "Products" means concrete pipe, manholes and associated products.
- (b) "Purchaser" means the individual or company placing an order to purchase Products.
2. **Purchase of Products.** The Quotation and these Terms and Conditions shall together constitute the purchase agreement ("Agreement"). The Agreement is the only agreement between the parties and supersedes all other agreements, representations, correspondence, undertakings or communications between the parties regarding the purchase of Products.
3. **Payment Terms.**
 - (a) Full payment is due on the 25th day of the month following the Purchaser pick-up or delivery of Products.
 - (b) Prices exclude applicable taxes, fees, duties and surcharges. Purchaser is solely responsible for the payment of such amounts.
 - (c) Unless otherwise stated, prices are in Canadian Dollars.
 - (d) Purchaser shall pay all fees, expenses and disbursements (including legal fees on a solicitor and his own client basis) incurred by Seller in connection with collecting any overdue accounts
 - (e) Seller reserves the right at any time to require the Purchaser to post adequate security, and to discontinue the supply of Products in the absence of such security, in its sole discretion.
 - (f) All purchases by Purchaser pursuant to this Quotation require payment in advance unless Seller has entered into a written credit agreement with Purchaser. In the event Purchaser makes payment with a cheque, and such cheque, upon presentation, is not promptly negotiated by Purchaser's bank, Purchaser shall immediately make payment using a certified cheque. Purchaser shall also pay a service charge of \$25.00 for any cheque that is not negotiated by Purchaser's bank promptly upon presentation. Purchaser shall pay Seller interest on all amounts not paid when due at a rate of 2.0% per month (24% per annum). Invoice shall be deemed correct unless Purchaser notifies Seller in writing of any errors within 30 days from the date of such invoice. Purchaser's payments shall be applied first against any outstanding interest charges, next against any service charges and then to the outstanding principle in the invoice.
 - (g) If Purchaser defaults or if Seller considers Purchaser's financial responsibility impaired or unsatisfactory, Seller shall be entitled to suspend or terminate, in whole or in part, any order or agreement until all outstanding payments are made and/or acceptable assurances or security is provided by Purchaser.
 - (h) All Products approved for fabrication must be taken no later than January 31 of the following year. Products NOT taken prior to the due date will be subject to per diem storage charges.
4. **Additional Surcharges.**
 - (a) A surcharge will be added for a delivery requiring a wide load permit and pilot vehicles.
 - (b) A surcharge of \$100/hour will be added if the Purchaser has not unloaded the truck within one hour of the truck's arrival at the destination specified.
 - (c) A surcharge will be added if the Purchaser does not unload a delivery in its entirety at the destination specified.
5. **Availability of Products.** The quantities of the Products stated in this Quotation are for the sole purpose of identifying the estimated total quantities and price of the Products expected to be delivered by Seller to Purchaser and are not intended to constitute a commitment by Purchaser to purchase, or Seller to deliver, the stated quantities of the Products (or another quantity or Products sufficient to meet Purchaser's requirements) to Purchaser. Although Seller will make reasonable efforts to deliver Products in accordance with Purchaser's schedule, Seller's ability to actually deliver the amount of the Products stated in Seller's invoices to Purchaser is subject to the availability of the Products (which availability might be limited for reasons both within and outside of Seller's control, including, without limitation, those set forth in Section 6).
6. **Force Majeure.** Seller shall not be considered in default in the performance of its obligations hereunder if such performance is prevented or delayed because of an act of God, lack of availability of raw materials or Products, equipment or facility failures, war, blockade, embargo, hostilities, revolution, civil commotion, strike or lockout, labor dispute, epidemic, fire, wind, earthquake or flood, severe weather, traffic delays, delays of third parties or because of any law, order, proclamation, regulation or ordinance of any government, or for any other cause, whether similar or dissimilar to those enumerated, beyond the reasonable control of Seller. If Seller's performance is prevented or delayed Seller shall have the right to prorate among its various customers such Products as it may be able to manufacture and deliver.
7. **Delivery Conditions.**
 - (a) Purchaser shall schedule all deliveries directly with the Seller. Purchaser shall provide a minimum of 24 hours' notice.
 - (b) Purchaser is responsible to provide Seller with safe and reasonable access for Seller's delivery truck to deliver Products. Seller reserves the right to stop deliveries until Purchaser provides such access.
 - (c) Delivered prices are for delivery to the destination specified.
 - (d) Purchaser shall be responsible to provide suitable access roads to destination specified as well as equipment to unload the Products.
 - (e) In the event Seller requires access over curbs, sidewalks, driveways or other property, Seller shall not be responsible for any loss, cost or damage in connection therewith. Purchaser waives all claims against Seller and shall indemnify and save the Seller harmless and against any and all losses, damages, expenses, liabilities, claims, suits

and demands of whatever nature (including legal fees on a solicitor and client basis) suffered or incurred by Seller and resulting from such access.

8. **Unloading.** Purchaser will be responsible for unloading the Products at the destination specified.
9. **Products Specifications and Warranty.** Products shall conform to present standard specifications (for the respective Products) of CSA and/or ASTM. Seller expressly warrants the title to the Products and, except as provided in this section, Seller makes no representation or warranty whatsoever with respect to the Products, express or implied (whether written, oral, statutory or arising by previous course of dealing or usage of trade) including merchantability and fitness for a particular purpose, and Seller hereby disclaims all such other representations and warranties to the maximum extent permitted by applicable law.
10. **Indemnity.** The Purchaser shall indemnify, hold harmless and defend Seller, its employees, contractors, and representatives from and against any and all losses, damages, expenses, liabilities, claims, suits and demands of whatever nature (including legal fees and expenses on a solicitor and client basis) suffered or incurred by Seller and resulting from any and all claims, suits or demands made against Seller by any other person arising out of or in connection with Purchaser's resale of the Products purchased from Seller, unless and to the extent attributable to any negligence or breach of this Agreement by Seller of the terms and conditions herein.
11. **Limitation of Liability.** Notwithstanding any other provisions of this Agreement, Seller shall not be liable to the Purchaser whether due to breach of contract, negligence, warranty, strict liability or otherwise, for any special, indirect or consequential damages, or for any loss of profits, loss of revenue or loss of anticipated business suffered or incurred by the Purchaser. Seller's liability to a Purchaser in relation to this Agreement, whether due to breach of contract, negligence, warranty, strict liability or otherwise, is strictly limited to the replacement of the Products or a refund of the purchase price for the order of Products in question. Seller having no control over the use of the Products will not guarantee finished work, nor shall Seller be responsible for the condition of the Products after delivery to Purchaser.
12. **Limitation of Actions.** Purchaser is responsible for inspection of the Products upon delivery. Notwithstanding any other provisions in this Agreement, no suit or claim based on any cause of action whatsoever arising out of or in any way connected with this Agreement or the Products may be brought by the Purchaser, or any party claiming through the Purchaser, more than 60 days after receipt of the Products. Claims for loss or damage in transit must be reported to Seller within 24 hours of delivery of Product to the destination specified and must be supported by customer's notation on truck delivery receipt and/or bill of lading.
13. **Use of Products.** Purchaser's use of the Products is at its own risk and the Purchaser shall indemnify and save Seller harmless from any and all losses, damages, expenses, liabilities, claims, suits and demands of whatever nature (including legal fees and expenses on a solicitor and client basis) suffered or incurred by Seller arising out of, or relating to the Purchaser's control, use, possession, transportation or ownership of the Products.
14. **Title and Risk of Loss.** Title and risk of loss to the Products shall pass to Purchaser on Purchaser's pick-up at Seller's premises. Title and risk of loss to Products delivered shall pass to Purchaser on delivery at the destination specified.
15. **Waiver.** No waiver of any provision of the Agreement shall be binding unless given in writing and signed by an authorized officer of the party to be bound thereby.
16. **Governing Law.** This Agreement shall be interpreted under and governed by the laws of the Province where the Products are delivered and the federal laws of Canada applicable therein.
17. **Arbitration.** If any dispute arises between the parties pursuant to this Agreement such dispute shall be resolved by a sole arbitrator pursuant to the provisions of the Arbitration Act of the Province where the Products are delivered.
18. **Term of Agreement.** Unless otherwise agreed to by the parties in writing, the prices in the Quotation are valid for the period of time set out in the Quotation from the date of the Quotation. Seller may, in its sole discretion, increase the price of, or decline to deliver, the Products identified in this Quotation after such date.
19. **Builder's Lien.** For the purposes of the Builder's Lien Act Products not herein quoted but delivered or supplied to the same project shall be considered part of the same contract until last date of delivery or supply notwithstanding separate purchase orders.
20. **Product Return.** Purchaser may return any standard Product to Seller's premises provided:
 - (a) such Product is in good condition;
 - (b) Purchaser pays Seller a restocking fee of 15% of the price of the Product; and
 - (c) such Product is returned to Seller on or before six months from the date of the original pick-up from Seller's premises or delivery to the destination specified. Custom and non-standard Products including but not limited to manhole and catch basin barrels with custom holes, radius pipe, pipe larger than 1200mm, custom slab tops, bends, wyes, tees and specialty cast in components will not be refunded. Custom or nonstandard Products returned will not receive credit and be subject to a disposal fee of \$20.00 per tonne charged by Seller to Purchaser. Custom and non-standard Products remaining on completed orders will be invoiced to the Purchaser and can either be picked-up by Purchaser (FOB Seller's Plant) or will be subject to a disposal fee of \$20.00 per tonne.
21. **Freight Rates.** Freight rates are based on a minimum truck load of 27,000 kilograms and do not apply during periods of road restrictions. Delivery charges for truckloads of less than 27,000 kilograms shall be calculated at an hourly rate as described in the Freight Guidelines outlined in Seller's catalogue and shall include loading, traveling and unloading time.

FREIGHT GUIDELINES

- Estimated city cartage rates shown in this publication are intended as an estimating tool only. City deliveries include St. Albert, Sherwood Park, Leduc, Spruce Grove & Stony Plain.
- Delivery charges for loads will be determined in accordance with the table below:

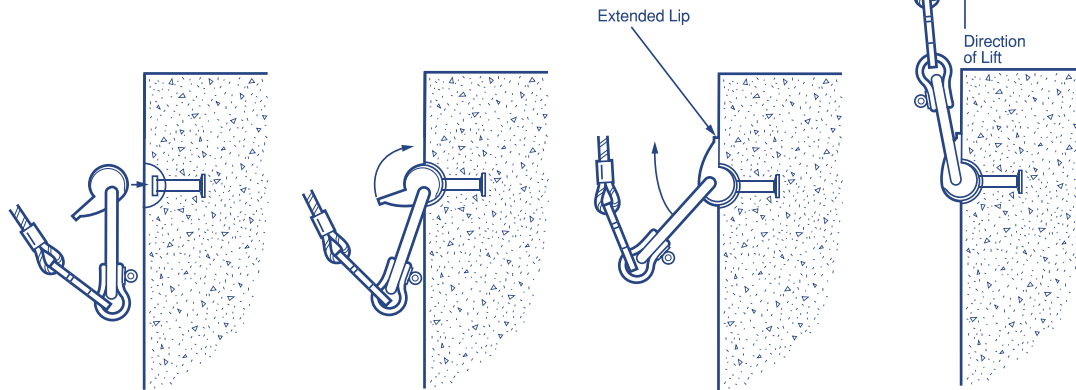
TRAILER TYPE	LOAD RANGE (kg)	COST per LOAD (\$)		
		M.H. MATERIAL	AND	PIPE
TRI-AXLE	22,000 - 27,500	\$605.00		
SUPER-B	27,500 - 39,000	\$780.00		
PICKER	2,200	PER HOUR		

- Prices shown include 60 minutes of unloading time. Trucks held longer than 60 minutes will be subject to additional charges.
- Oversized load (2100mm material and above) between 8'6"-12' maybe subject to additional wide load charges.
- Loads over 12' wide may be subject to additional charges (pilot trucks, extra time)

Swift Lift Procedures

How to Guide

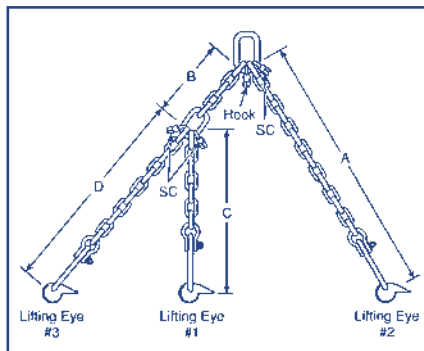
Lifting Eye Clutch for Pipe & Manhole Material



Note: Direction of extended lip should be in the direction of lift.

1. To install the P-50 Universal Lifting Eye, hold the unit upside down with the T-shaped slot of the body directly over the head of the swift lift anchor.
2. Lower the body of the lifting eye until the T-shaped slot engages the head of the anchor.
3. Rotate the body until the extended lip of the body touches the concrete surface.

Lift Chain Sling Detail



HOISTING GEAR LEG DIMENSIONS

A	B	C	D
1440mm (57")	400mm (16")	1040mm (41")	1940mm (76")

• The measurements listed above are for pipe 1.5m to 2.5m in length.

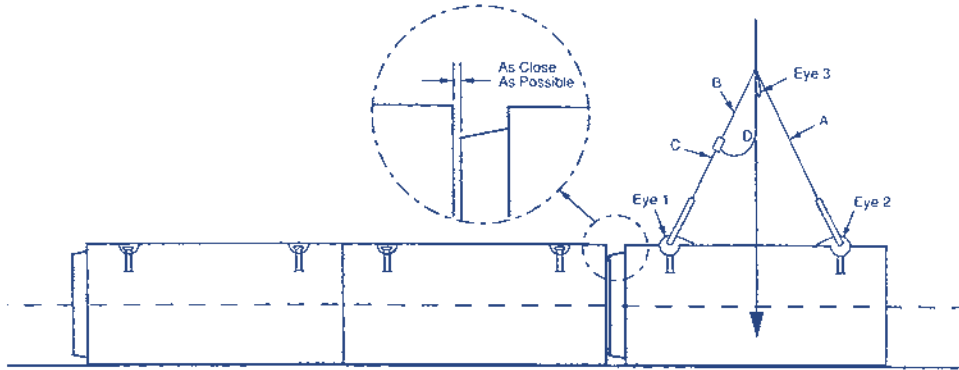
Notes:

1. Swift Lift anchors are available in pipe sizes 1050mm and larger.
2. Pipe 1050mm O/ to 1650mm O/ use the 4 ton lifting eye and pipe 1800mm and larger use the 8 ton lifting eye.
3. Manholes 1200mm and 1800mm use 4 ton lifting eye and manholes 2100mm and larger use the 8 ton lifting eye.
4. Refer to pg. 29 & 30 for # of lifting pins/each pipe size and manhole materials.

Swift Lift Procedures

How to Guide

How to Maneuver Pipe Using Swift Lift

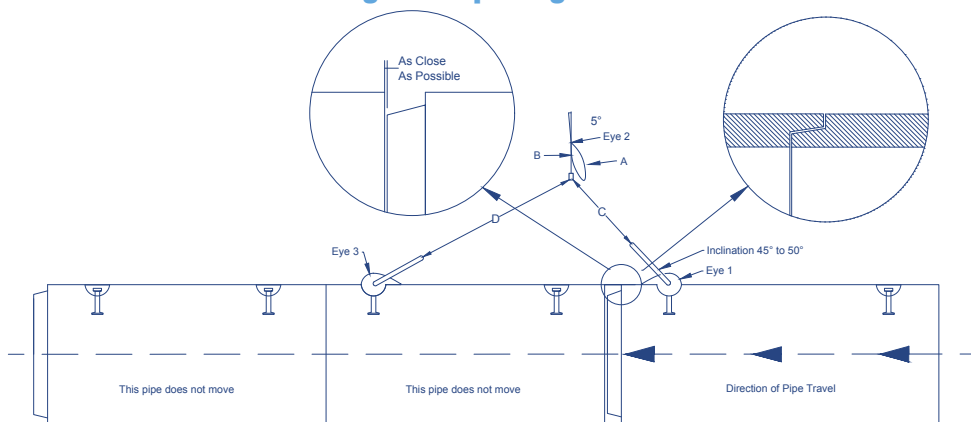


1. The pipe is first transported to the installation site with the symmetrical sling and lowered close to the already placed pipe.

Note: a) As with lifting any concrete element, special care should be taken by the driver of the placement vehicle to ensure the impact or dynamic loads are reduced to a minimum. Because these loads can greatly increase the weight of the element, and this safety note should not be overlooked.

b) Load must be applied simultaneously to all Swift Lift Anchors in order to safely lift product.

Correct Method for Homing the Pipe Together



1. To pull the pipe into position, the long leg of the hoisting gear is coupled to the previously placed pipe.
2. Eye 2 is disconnected from the swift lift anchor and attached to master link.
3. Eye 3 is then connected to the pipe you will be homing to.
4. Crane or backhoe operator must ensure the lifting point is over the outer lifting anchor of the previously placed pipe so that the direction of pull is slightly inclined toward placed pipe.
5. Operator must then lift up on the hoisting gear until pipe is homed together.

Swift Lift

Clutch & Pins

PIPE	TON	LIFT PINS
250 - 900 PIPE (DO NOT HAVE LIFTING PINS)	0	0
1050 - 1650 PIPE	4T	2 LP
1800 - 3000 PIPE	8T	2 LP
FLARED ENDS		
300 FE TO 1200 FE BELL / SPIGOTS	4T	2 LP
1350 FE TO 1500 FE BELL / SPIGOTS	4T	4 LP
BENDS		
1200 - 1650 BEND	4T	4 LP
1800 - 2100 x 2.5M BEND	8T	4 LP
2700 x 2.5M BEND	8T	4 LP
3000 BEND	8T	4 LP
2400 X 1200 BOX BEND	8T	4 LP
2400 X 1800 BOX BEND	8T	4 LP
2400 X 2400 BOX BEND	8T	4 LP
PLUGS / CAPS / ADAPTOR		
1500 SPIG TO SPIG ADAPTOR	4T	2 LP
1800 X 1650 REDUCER	8T	2 LP
1200 - 1650 CAP / PLUG	4T	3 LP
1800 - 3000 CAP / PLUG	8T	3 LP
1800 X 1200 BOX CAP / PLUG	4T	6 LP
2400 X 1200 BOX CAP / PLUG	8T	6 LP
2400 X 1800 BOX CAP / PLUG	8T	6 LP
2400 X 2400 BOX CAP / PLUG	8T	6 LP
3000 X 2400 BOX ADAPTOR	8T	4 LP
1050 - 2100 INCREASE / DECREASER	4T	2 LP
TEE RISERS		
1050 - 1650 T-RISER	4T	2 LP
1800 - 3000 T-RISER	8T	2 LP
1200 T RISER SADDLE	4T	2 LP
1200 MANHOLE MATERIAL		
1200 BASE	4T	1 LP
1200 RISERS	4T	2 LP
1200 CONE	4T	2 LP
1200 SLABTOP	4T	2 LP
1200 PREBENCHES	4T	2 LP
CATCH BASIN MATERIAL		
600 / 750 / 900 CB'S & RISERS	4T	2 LP
900 BASE	4T	1 LP
900 SLABTOP /K2 / K3 / DK7 / E-TOP / T-TOP / M-TOP	4T	2 LP

Swift Lift

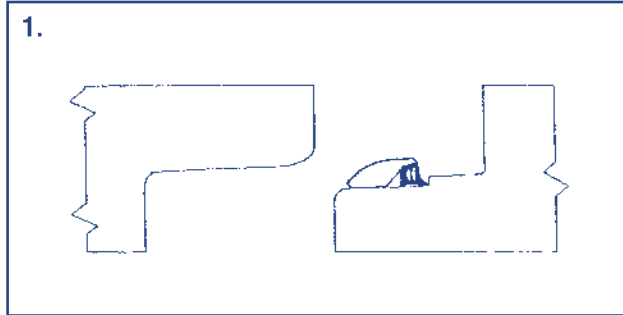
Clutch & Pins

LARGE DIAMETER MANHOLE MATERIAL	TON	LIFT PINS
1500 - 1800 BASE	4T	1 LP
2100 BASE	8T	1 LP
2400 - 2700 BASE	8T	3 LP
3000 BASE	8T	4 LP
3600 BASE	8T	4 LP
1500 - 1800 ST 635 / 710 / 914 / 1200	4T	3 LP
1500 K3 / ETOP	4T	2 LP
2100 - 2700 ST 635 / 710 / 914 / 1200	8T	3 LP
2100 - 2400 SLABTOP W / HATCH	8T	4 LP
3000 SLABTOP (ALL)	8T	3 LP
3600 SLABTOP	8T	4 LP
1500 - 1800 RISERS	4T	3 LP
2100 - 3000 RISERS	8T	3 LP
3600 X 1.0M RISER	8T	3 LP
BOX SECTIONS		
1200 X 600 / 900 BOX BEVEL	4T	4 LP
1200 X 600 - 900 BOX BASE / SLABTOP	4T	2 LP
1200 X 600 - 900 BOX MATERIAL	4T	4 LP
1800 X 1200 BOX BASE / SLABTOP	4T	4 LP
1800 X 1200 BOX MATERIAL / T-RISER	8T	4 LP
2400 X 1200 BOX MATERIAL / SLABTOP	8T	4 LP
2400 X 1200 BOX BASE	8T	2 LP
2400 X 1800 BOX SLAB / BASE / BOX MATERIAL	8T	4 LP
2400 2400 BOX MATERIAL	8T	4 LP
2400 X 2400 BOX BASE / SLAB	8T	4 LP
3000 X 2400 BOX BASE / ST / BOX MATERIAL / BELL / SPIGOT	8T	4 LP
3600 X 3600 BASE	8T	4 LP
3600 X 3600 ST	8T	4 LP
3600 X 3600 BOX MATERIAL	8T	4 LP
VAULTS		
1220 X 1220 X 1000 VAULT RISER	4T	4 LP
1220 X 1220 X 2000 VAULT	4T	8 LP
1525 X 1525 X 1000 VAULT RISER	4T	4 LP
1525 X 1525 X 2000 VAULT	4T	8 LP
1830 X 1830 X 1000 VAULT RISER	4T	4 LP
1830 X 1830 X 2140 VAULT	4T	8 LP
1980 X 1980 X 1000 VAULT RISER	4T	4 LP
1980 X 1980 X 2200 VAULT	4T	8 LP
2400 X 2400 X 1000 VAULT RISER	8T	4 LP
2400 X 2400 X 2380 VAULT	8T	8 LP
2800 X 2800 X 1000 VAULT RISER	8T	4 LP
2800 X 2800 X 1400 VAULT RISER	8T	4 LP
2800 X 2800 X 2800 VAULT	8T	8 LP

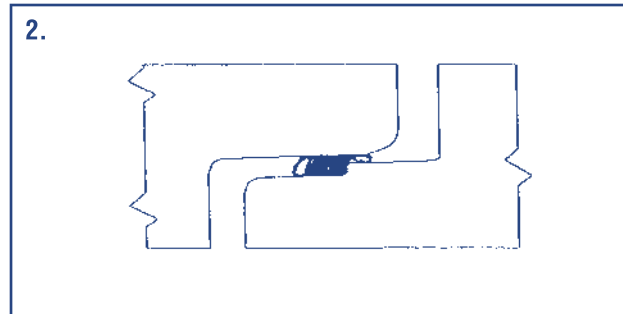
Superseal Gaskets Installation

1. Ensure Bell, Spigot and Gasket are free from loose debris or foreign material.

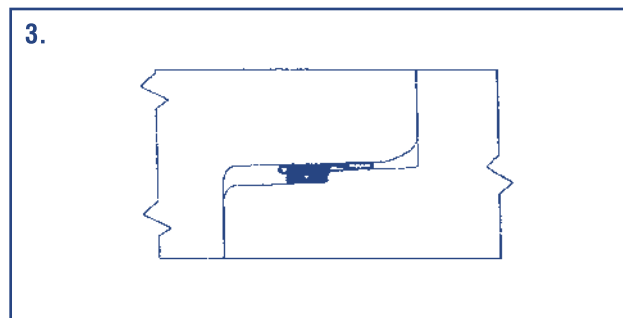
Stretch the gasket around the spigot, with the nose against the step, and the tube laying flat against the spigot. **DO NOT LUBRICATE.**



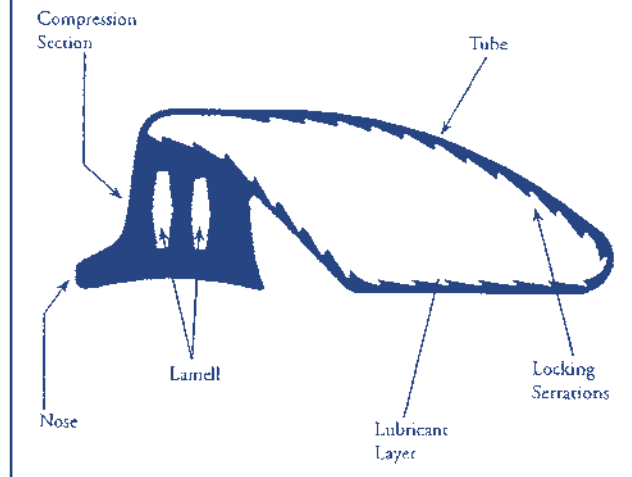
2. Align the spigot with the bell, and thrust the spigot home using suitable mechanical means. The homing process will cause the lubricated tube to "roll" over itself, above the compression section, allowing the pipe to slide forward.



3. Once fully homed, the compression section seals the total annular space; the rolling tube comes to rest within the small annular space - acting as a cushion against side loads, and the serrations act to resist pipe pull-out



...in Round Pipe & Manholes



MATERIALS

Tylox® SuperSeal gaskets* are available in the following materials:

- Isoprene

Optional Materials

- Nitrite (Oil Resistant)
- Isoprene / EPDM blend (Green Book & C425)
- Neoprene (Oil and Ozone Resistant)

Other materials may be available as special order.

Contact Inland Pipe for your specific requirements

SPECIFICATIONS

Tylox SuperSeal gaskets* are manufactured to meet the material requirements of the following specifications:

- ASTM C361, C425, & C443
- AASHTO M198.4
- CSA A257
- "Green Book"

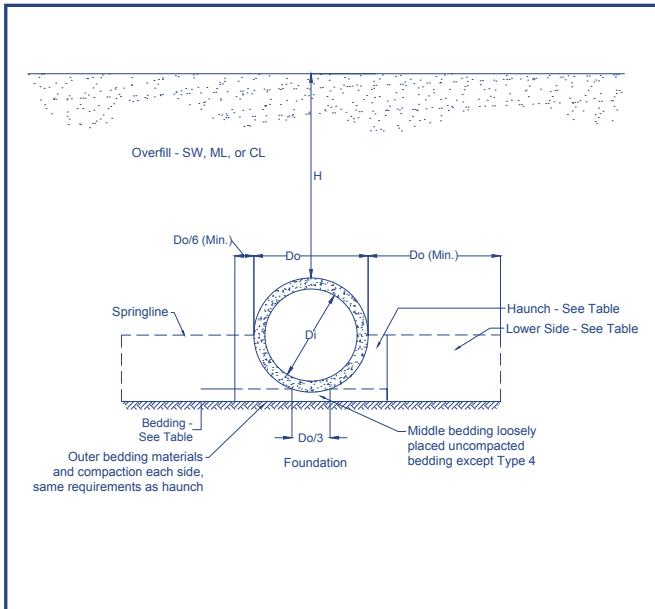
Other specifications may be available as special order.

Contact Inland Pipe for your specific requirements

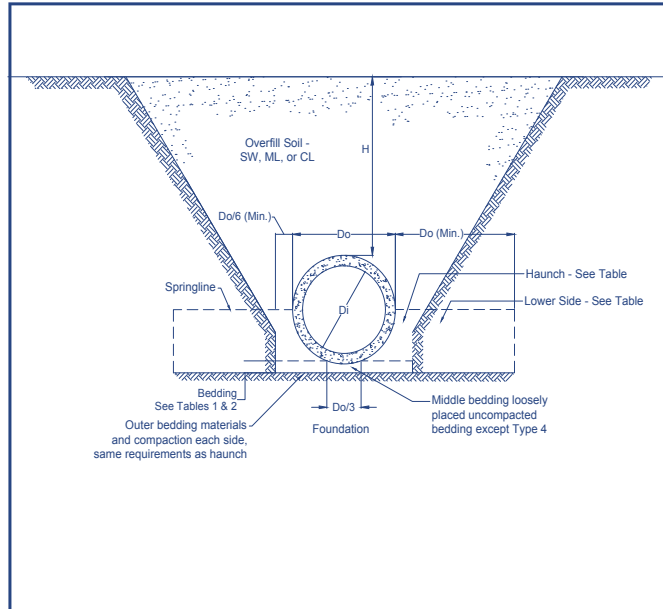
*Tylox SuperSeal Gaskets are patented under US Patent 4934716

Standard Installations

EMBANKMENT



TRENCH



INSTALLATION TYPE	Standard Installation Soil Types and Minimum Compaction Requirements		
	Bedding Thickness	Haunch	Lower Side
TYPE 1	$D_o/24$ minimum, not less than 75 mm (3 in). If rock foundation use $D_o/12$ minimum, not less than 150 mm (6 in).	95% SW, SP, GW, GP	90% SW, SP, GW, GP 95% GM, SM, ML, GC, SC* 100% CL, MH, GC, SC
TYPE 2	$D_o/24$ minimum, not less than 75 mm (3 in). If rock foundation, use $D_o/12$ minimum, not less than 150 mm (6 in).	90% SW, SP, GW, GP 95% GM, SM, ML, GC, SC*	85% SW, SP, GW, GP 90% GM, SM, ML, GC, SC* 95% CL, MH, GC, SC
TYPE 3	$D_o/24$ minimum, not less than 75 mm (3 in). If rock foundation, use $D_o/12$ minimum, not less than 150 mm (6 in).	85% SW, SP, GW, GP 90% GM, SM, ML, GC, SC* 95% CL, MH, GC, SC	85% SW, SP, GW, GP 90% GM, SM, ML, GC, SC* 95% CL, MH, GC, SC
TYPE 4	No bedding required, except if rock foundation, use $D_o/12$ minimum, not less than 150 mm (6 in).	No compaction required, except when CL, MH, GC, or SC soil types are used to compact to 85%	No Compaction required, except when CL, MH, GC, or SC soil types are used compact to 85%

- The percentages listed above refer to standard proctor compaction levels
- The soil types above (ie. SW, GM) are taken from the Unified Soil Classification System (USCS)
- SC* indicates SC type soil with less than 20% passing the #200 sieve

1200mmØ M.H. TAKE OFF WORKSHEET

PROJECT #:		CUSTOMER:	
PROJECT NAME:			
CONSULTANT:		DRAWN BY:	
DATE REQUESTED:		DATE:	

FROM:	PIPE LGTH: _____ m	PIPE Ø: _____ mm	PIPE TYPE: CONC(C76-____) SDR U/R			
M/H #	INVERT ELEV.	MANUF. ELEV.	PIPE SIZE & TYPE			
	1.	1.	1.	mmØ	CONC	SDR U/R
	2.	2.	2.	mmØ	CONC	SDR U/R
	3.	3.	3.	mmØ	CONC	SDR U/R
	4.	4.	4.	mmØ	CONC	SDR U/R
	5.	5.	5.	mmØ	CONC	SDR U/R
	6.	6.	6.	mmØ	CONC	SDR U/R
	RIM:	NOTES:				
TOTAL HEIGHT:						
TO:	PIPE LGTH: _____ m	PIPE Ø: _____ mm	PIPE TYPE: CONC(C76-____) SDR U/R			
M/H #	INVERT ELEV.	MANUF. ELEV.	PIPE SIZE & TYPE			
	1.	1.	1.	mmØ	CONC	SDR U/R
	2.	2.	2.	mmØ	CONC	SDR U/R
	3.	3.	3.	mmØ	CONC	SDR U/R
	4.	4.	4.	mmØ	CONC	SDR U/R
	5.	5.	5.	mmØ	CONC	SDR U/R
	6.	6.	6.	mmØ	CONC	SDR U/R
	RIM:	NOTES:				
TOTAL HEIGHT:						
TO:	PIPE LGTH: _____ m	PIPE Ø: _____ mm	PIPE TYPE: CONC(C76-____) SDR U/R			
M/H #	INVERT ELEV.	MANUF. ELEV.	PIPE SIZE & TYPE			
	1.	1.	1.	mmØ	CONC	SDR U/R
	2.	2.	2.	mmØ	CONC	SDR U/R
	3.	3.	3.	mmØ	CONC	SDR U/R
	4.	4.	4.	mmØ	CONC	SDR U/R
	5.	5.	5.	mmØ	CONC	SDR U/R
	6.	6.	6.	mmØ	CONC	SDR U/R
	RIM:	NOTES:				
TOTAL HEIGHT:						
TO:	PIPE LGTH: _____ m	PIPE Ø: _____ mm	PIPE TYPE: CONC(C76-____) SDR U/R			

INLAND PIPE Spyhill Facility

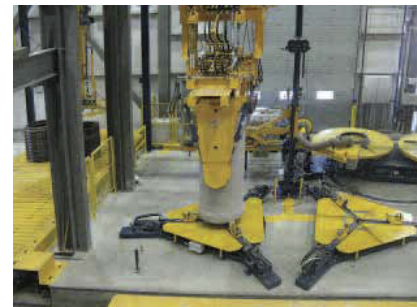


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The plant features:

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- High capacity pipe and manhole production equipment
- State of the art robotic pipe handling equipment
- Advanced concrete mixing systems
- Flying bucket concrete delivery system
- Large wetcast area
- Moving floor kiln system
- Capable of producing pipe, boxes and manholes up to 3600 mm



State of the art robotic pipe handling



High capacity automated production

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