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Product Catalogue

SOUTHERN ALBERTA



Heidelberg
Materials

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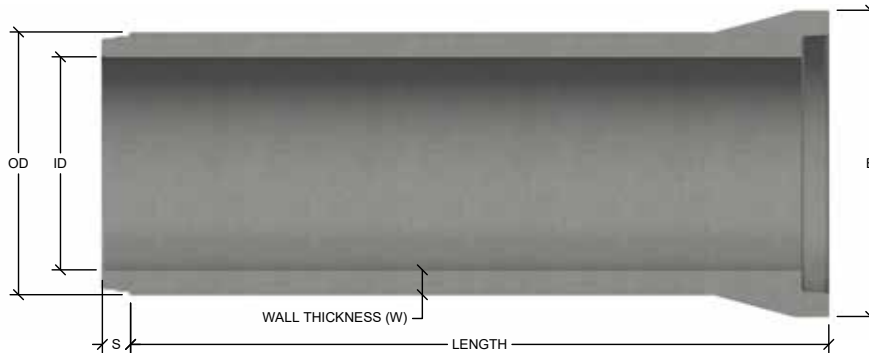


CONCRETE PIPE

ASTM C76/CSA A257.2

						PRICES PER METER (\$/m)								
NOMINAL INSIDE DIAMETER		LENGTH	WEIGHT	VOLUME	LIFT PINS	REINFORCED PIPE ASTM C76 / CSA 257.2				ACTUAL DIMENSIONS (mm)				
(mm)	(in)	(m)	(kg/m)	(l/m)		CLV (140 D)				ID	OD	B	W	S
300	12"	2.50	193	73	NONE					305	445	508	70	90
375	15"	2.50	260	114	NONE					381	533	606	76	90
450	18"	2.50	330	164	NONE					457	622	702	83	95
525	21"	2.50	408	223	NONE					533	711	803	89	95
NOMINAL INSIDE DIAMETER		LENGTH	WEIGHT	VOLUME	LIFT PINS	CLII	CLIII	CLIV	CLV	ACTUAL DIMENSIONS (mm)				
(mm)	(in)	(m)	(kg/m)	(l/m)		50 D	65 D	100 D	140 D	ID	OD	B	W	S
600	24"	2.50	500	292	NONE					610	800	905	95	98
675	27"	2.50	616	370	NONE					686	889	1006	102	98
750	30"	2.50	695	456	NONE					762	978	1038	108	98
900	36"	2.50	927	656	NONE					914	1156	1229	121	98
1050	42"	2.50	1192	894	(2x) 4T					1067	1334	1461	133	108
1200	48"	2.50	1489	1167	(2x) 4T					1219	1511	-	146	108
1350	54"	2.50	1805	1478	(2x) 4T					1372	1689	-	159	108
1500	60"	2.50	2165	1824	(2x) 4T					1524	1867	-	171	121
1650	66"	2.50	2557	2206	(2x) 8T					1676	2045	-	184	127
1800	72"	2.50	2965	2627	(2x) 8T					1829	2223	-	197	127
1950	78"	2.50	3420	3082	(2x) 8T					1981	2400	-	210	127
2100	84"	2.50	3908	3577	(2x) 8T					2134	2578	-	222	127
2400	96"	2.50	4954	4668	(2x) 8T					2438	2934	-	248	127
2700	108"	2.44	6302	5909	(2x) 8T					2743	3289	-	273	149
3000	120"	2.50	6934	7297	(2x) 8T					3048	3607	-	279	152

- NOTES
- 300mm to 2100mm single offset joint design comes with self lubricating (RFS) gasket
 - 2400mm to 3000mm single offset joint design comes with manually lubricated (Wedge) gasket
 - Nitrile (oil resistant) RFS and Wedge gaskets available for additional cost
 - Radius (beveled) pipe and available in most sizes. Contact your local Sales Representative for pricing.



CONCRETE PIPE

TRENCHLESS - ASCE 27

Jacking Pipe

Jacking pipe is a straight wall pipe with single offset joint, steel band, grout ports

INSIDE DIAMETER	STANDARD LENGTH
750	1.22m or 1.83m
900	1.22m or 1.83m
1050	2.44m
1200	2.5m
1350	2.5m
1500	2.5m
1650	2.5m
1800	2.5m
1950	2.5m
2100	2.5m
2400	2.5m
2700	2.44m



Microtunneling Pipe

Microtunneling (MT) pipe is a straight wall pipe with steel bell joint and grout ports

INSIDE DIAMETER	STANDARD LENGTH
900mm to 3600mm	3m or 4m

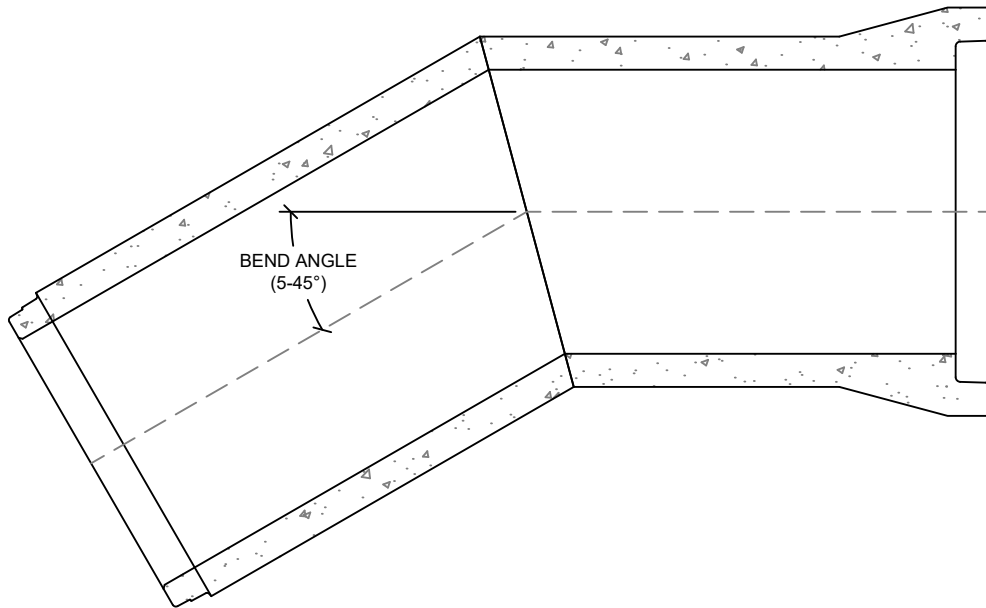
- NOTES
1. HDPE liner available for both jacking and MT pipe
 2. Designed to ASCE 27
 3. Contact your local Sales Representative for pricing



CONCRETE PIPE

PREFABRICATED BENDS

NOMINAL DIAMETER (mm)	WEIGHT (kg)	PRICE CLIV (\$/ea)	PRICE CLV (\$/ea)
300	494		
375	664		
450	844		
525	1047		
600	1296		
675	1593		
750	1800		
900	2410		
1050	3106		
1200	3888		
1350	4740		
1500	5691		
1650	6778		
1800	7804		
1950	8990		
2100	10330		

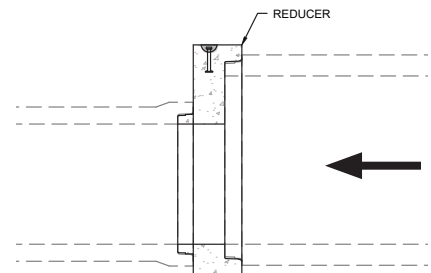
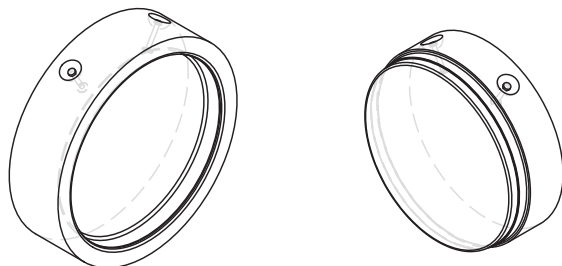
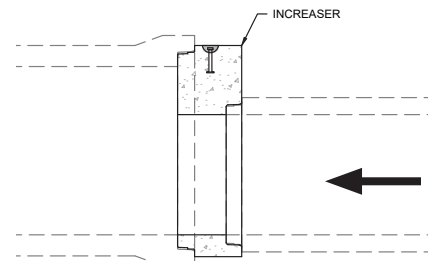


CONCRETE PIPE

PLUGS, CAPS & ADAPTORS

NOMINAL PIPE DIAMETER (mm)	WEIGHT (kg)	PRICE (\$/ea)
300	76	
375	110	
450	150	
525	195	
600	248	
675	304	
750	369	
900	516	
1050	688	
1200	884	
1350	1102	
1500	1480	
1650	1780	
1800	2103	
1950	2450	
2100	2821	
2400	3645	
2700	4650	
3000	5561	

NOTES 1. Contact your local Sales Representative for pricing on 2400-3000mm

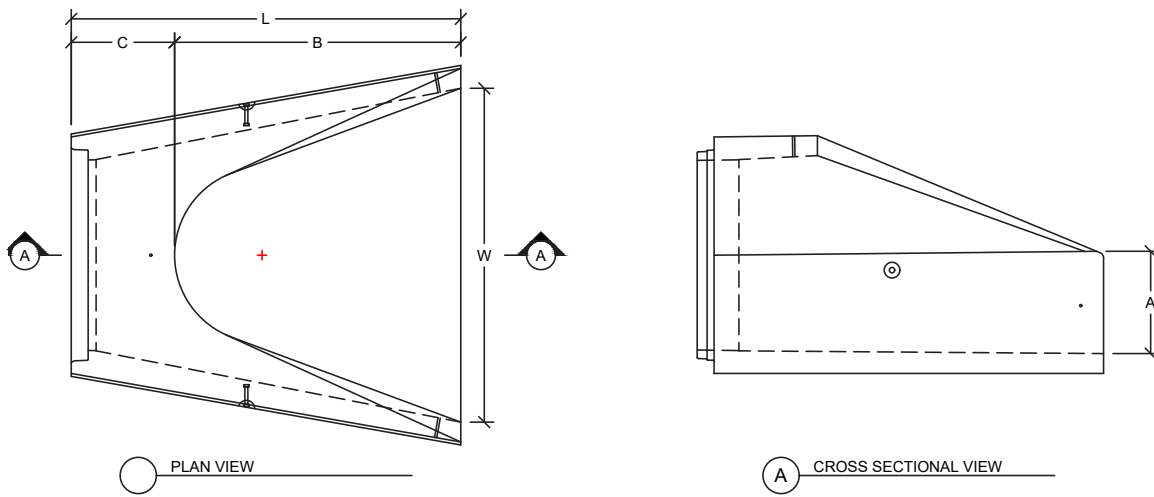


CONCRETE PIPE

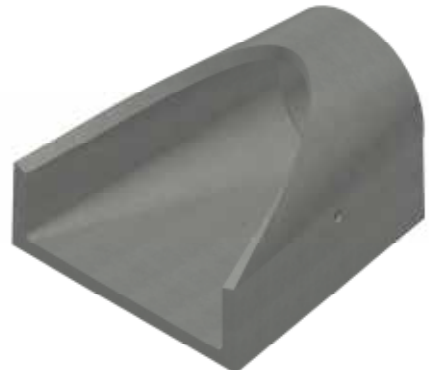
FLARED ENDS

NOMINAL DIAMETER	L	W	A	B	C	WEIGHT	PRICE	GALVANIZED BAR SCREEN PRICE	GALVANIZED ROUND GRATE PRICE
(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)	(\$/ea)	(\$/ea)	(\$/ea)
300	1854	610	105	610	1245	570			
375	1854	762	161	686	1168	780			
450	1854	914	247	686	1168	1010			
525	1854	1067	229	889	965	1238			
600	1867	1219	265	1105	762	1465			
750	1873	1524	341	1372	502	1800			
900	2438	1829	429	1600	838	3390			
1050	2489	1981	580	1600	889	4660			
1200	2489	2134	654	1829	660	4490			
1350	2540	2286	706	1651	889	3665			
1500	2515	2490	763	1524	991	3980			

- NOTES
- 300mm to 900mm Flared Ends are synthetic fiber reinforced with strength verified to conform to ASTM C14 CL3
 - End treatments for pipe larger than 1500mm are available; call for estimates



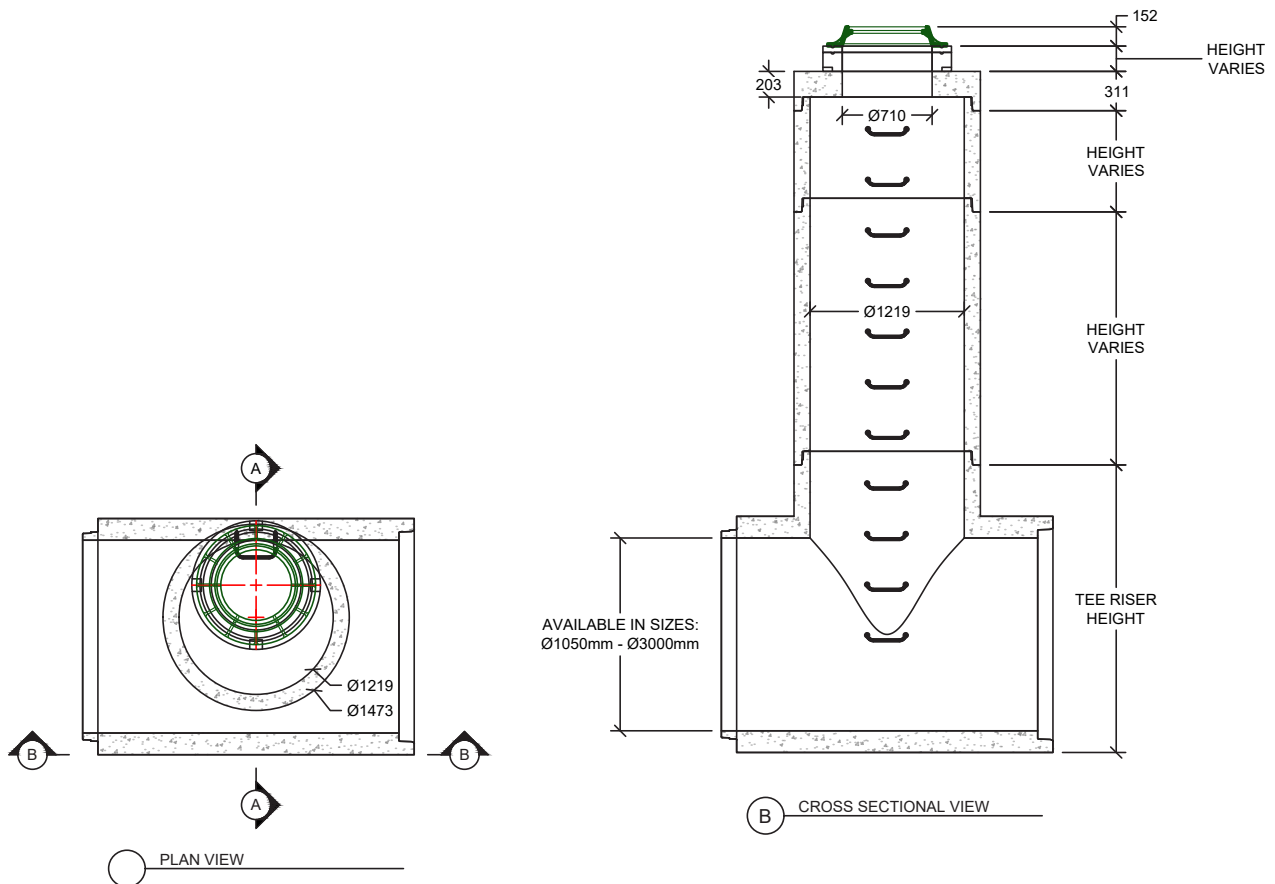
FLARED END AVAILABLE WITH EITHER BELL OR SPIGOT JOINT



MANHOLE TEE RISERS

NOMINAL DIAMETER (mm) x LENGTH (m)	HEIGHT (mm)	WEIGHT (kg)	PRICE CL IV (50D - 100D)	PRICE CL V (101D - 140D)
1050 x 2.5	1633	4325		
1200 x 2.5	1786	4500		
1350 x 2.5	2098	5848		
1500 x 2.5	2273	5950		
1650 x 2.5	2451	6930		
1800 x 2.5	2628	7990		
1950 x 2.5	2806	9130		
2100 x 2.5	2984	10360		
2400 x 2.5	3340	13080		
2700 x 2.44	3441	15270		
3000 x 2.5	3759	19910		

NOTES 1. Contact your local Sales Representative for pricing on 2400-3000mm



MANHOLE MATERIAL

STANDARD 1200mm TYPE 5A - ASTM C478/CSA A257.4

DESIGNATION	DESCRIPTION & DIMENSIONS	LIFT PINS	WEIGHT (kg)	PRICE (\$/ea)
1200 Base	1200mm Flat Base	(2x) 4T	995	
2m L Barrel	1200mm I.D. X 2000mm High c/w 5 Steps	(2x) 4T	2609	
1.2m L Barrel	1200mm I.D. X 1200mm High c/w 3 Steps	(2x) 4T	1566	
800 K Barrel	1200mm I.D. X 800mm High c/w 2 Steps	(2x) 4T	1043	
400 K Barrel	1200mm I.D. X 410mm High c/w 1 Step	(2x) 4T	520	
300 K Barrel	1200mm I.D. X 300mm High c/w 1 Step	(2x) 4T	390	
1200 Slab Top	1200mm I.D. X 203mm Thick c/w 710mm Opening	(2x) 4T	725	
2" Collar	710mm I.D. X 50mm Thick	none	50	
3" Collar	710mm I.D. X 75mm Thick	none	74	
4" Collar	710mm I.D. X 100mm Thick	none	102	
6" Collar	710mm I.D. X 150mm Thick	none	153	
1200 Adaptor	1200mm Bell-Bell or Spigot-Spigot Adaptor Barrel	(2x) 4T	525	

- NOTES
1. Self lubricating gaskets are provided with the above barrels
 2. Approximate volume capacity of barrels is 1167 L / VM



QUICK REFERENCE ESTIMATING TABLE FOR 1200mm (5a) MANHOLES

DEPTH (m)	FLAT BASE	HEIGHT OF MANHOLE BARRELS (m)					SLAB TOP 200mm	GRADE RINGS (mm)				FRAME & Cover	AVG. TOTAL PRICE
		2.00	1.20	0.80	0.41	0.30		150	100	75	50		
1.50	1					1	1			1	1	1	
1.60	1				1		1		1			1	
1.70	1				1		1		2			1	
1.80	1					2	1			1	1	1	
2.00	1			1			1			1	1	1	
2.10	1			1			1	1		1		1	
2.20	1				2		1	2				1	
2.30	1			1		1	1			1	1	1	
2.50	1			1	1		1		2			1	
2.60	1			1	1		1	2				1	
2.70	1		1			1	1			1	1	1	
2.80	1		1		1		1		1			1	
3.00	1		1			2	1			1	1	1	
3.10	1		1		1	1	1		1			1	
3.20	1		1	1			1			1	1	1	
3.30	1		1	1			1	1		1		1	
3.50	1	1				1	1			1	1	1	
3.60	1	1			1		1		1			1	
3.70	1	1			1		1		2			1	
3.80	1	1			1		1	2				1	
4.00	1	1		1			1			1	1	1	
4.10	1	1		1			1	1		1		1	
4.20	1	1			2		1	2				1	
4.30	1	1		1		1	1			1	1	1	
4.50	1	1		1	1		1		2			1	
4.60	1	1		1	1		1	2				1	
4.70	1	1	1			1	1			1	1	1	
4.80	1	1	1		1		1		1			1	
5.00	1	1	1			2	1			1	1	1	
5.10	1	1	1		1	1	1		1			1	
5.20	1	1	1	1			1			1	1	1	
5.30	1	1	1	1			1	1		1		1	
5.50	1	2				1	1			1	1	1	
5.60	1	2			1		1		1			1	
5.70	1	2			1		1		2			1	
5.80	1	2				2	1			1	1	1	
6.00	1	2		1			1			1	1	1	

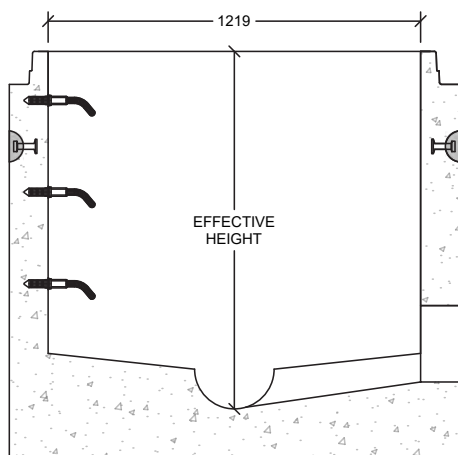
- NOTES
1. Depth is the difference between rim elevation and the lowest pipe invert elevation
 2. Standard solid frame & cover height of 150mm inclusive
 3. Based upon City of Calgary Standard Specifications for 2022

PREBENCH BASES

ASTM C478/CSA A257.4

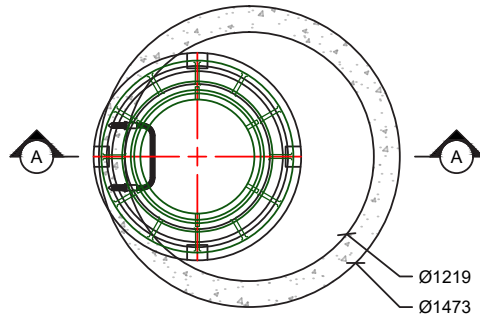
LARGEST NOMINAL PIPE DIAMETER (mm)	EFFECTIVE HEIGHT ABOVE LOW INVERT (mm)	WEIGHT (kg)	STANDARD (\$/ea)
150	660	2230	
200	690	2230	
250	710	2230	
300	730	2360	
375	770	2360	
450	920	3325	
525	970	3325	
600	1035	3400	
Monolithic Flat Base	973	1840	

- NOTES
1. Prebenched bases are custom order and require approved drawings before manufacturing
 2. 600mm Prebenched base only available for straight through configurations
 3. Includes cast in gasket for PVC pipes, for all other pipes a formed hole will be supplied.
 4. Monobases are available and come without any pipe openings.

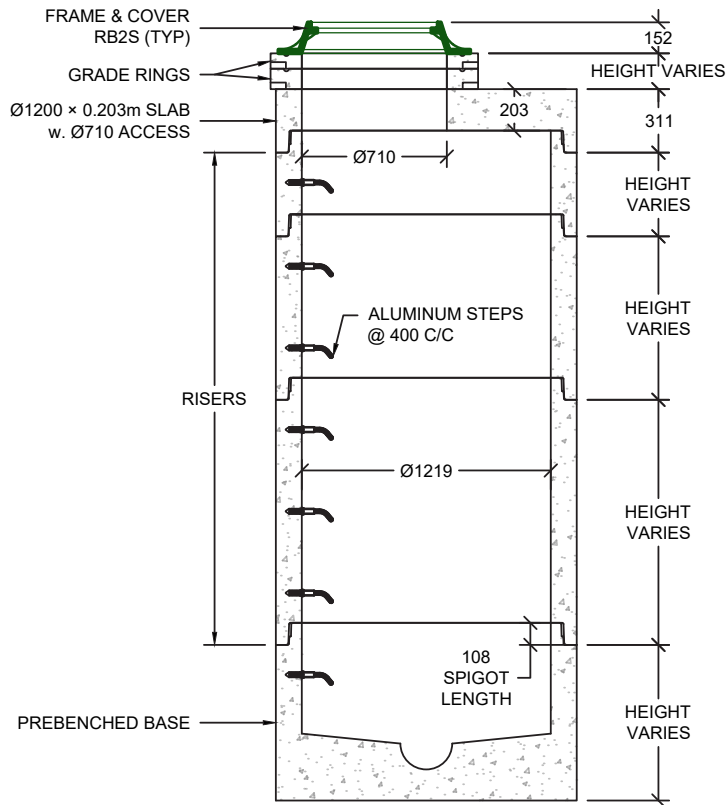


MANHOLE MATERIAL

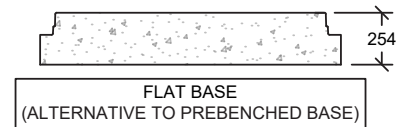
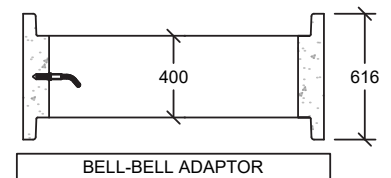
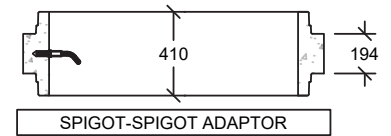
STANDARD TYPE 5A MANHOLE



PLAN VIEW



CROSS SECTIONAL VIEW



LARGE DIAMETER MANHOLE MATERIAL

ASTM C478/CSA A257.4

DESCRIPTION & DIMENSIONS	VOLUME (L/barrel)	WEIGHT (kg)	LIFT PINS	PRICE (\$/ea)
1500mm Diameter Material				
1500mm x 2.5m Barrel	4560	5617	(3x) 4T	
1500mm x 2.0m Barrel	3648	4493	(3x) 4T	
1500mm x 1.8m Barrel	3283	4044	(3x) 4T	
1500mm x 1.5m Barrel	2736	3370	(3x) 4T	
1500mm x 1.2m Barrel	2189	2677	(3x) 4T	
1500mm x 0.6m Barrel	1094	1348	(3x) 4T	
1500mm Slab Top	-	1380	(3x) 4T	
1500mm Slab Base	-	1685	(3x) 4T	
1800mm Diameter Material				
1800mm x 2.5m Barrel	6568	7676	(3x) 8T	
1800mm x 2.0m Barrel	5255	6140	(3x) 8T	
1800mm x 1.8m Barrel	4729	5527	(3x) 8T	
1800mm x 1.5m Barrel	3941	4605	(3x) 8T	
1800mm x 1.2m Barrel	3153	3684	(3x) 8T	
1800mm x 0.6m Barrel	1576	1843	(3x) 8T	
1800mm Slab Top	-	2270	(3x) 8T	
1800mm Slab Base	-	2405	(3x) 8T	
2100mm Diameter Material				
2100mm x 2.5m M.H. Barrel	8942	10055	(3x) 8T	
2100mm x 2.0m M.H. Barrel	7153	8044	(3x) 8T	
2100mm x 1.8m M.H. Barrel	6438	7239	(3x) 8T	
2100mm x 1.5m M.H. Barrel	5365	6033	(3x) 8T	
2100mm x 1.2m M.H. Barrel	4292	4827	(3x) 8T	
2100mm x 0.6m M.H. Barrel	2146	2413	(3x) 8T	
2100mm Slab Top	-	3365	(3x) 8T	
2100mm Base	-	3225	(3x) 8T	

- NOTES
1. Large diameter manholes are custom order and require approved drawings before manufacturing
 2. Cored pipe openings can be provided at additional cost
 3. Non standard barrel lengths available at additional cost
 4. Slabtops come with 710mm, 914mm & 1200mm openings

LARGE DIAMETER MANHOLE MATERIAL

ASTM C478/CSA A257.4

DESCRIPTION & DIMENSIONS	VOLUME (L/barrel)	WEIGHT (kg)	LIFT PINS	PRICE (\$/ea)
2400mm Diameter Material				
2400mm x 2.5m Barrel	11671	12747	(3x) 8T	
2400mm x 2.0m Barrel	9337	10197	(3x) 8T	
2400mm x 1.8m Barrel	8403	9177	(3x) 8T	
2400mm x 1.5m Barrel	7002	7648	(3x) 8T	
2400mm x 1.2m Barrel	5602	6118	(3x) 8T	
2400mm x 0.6m Barrel	2801	3059	(3x) 8T	
2400mm Slab Top	-	4580	(3x) 8T	
2400mm Slab Base	-	4185	(3x) 8T	
2700mm Diameter Material				
2700mm x 2.5m Barrel	14773	15758	(3x) 8T	
2700mm x 2.0m Barrel	11819	12606	(3x) 8T	
2700mm x 1.8m Barrel	10637	11346	(3x) 8T	
2700mm x 1.5m Barrel	8864	9455	(3x) 8T	
2700mm x 1.2m Barrel	7091	7564	(3x) 8T	
2700mm x 0.6m Barrel	3546	3782	(3x) 8T	
2700mm Slab Top	-	6030	(3x) 8T	
2700mm Slab Base	-	5270	(3x) 8T	
3000mm Diameter Material				
3000mm x 2.5m Barrel	18241	17797	(3x) 8T	
3000mm x 2.0m Barrel	14593	14238	(3x) 8T	
3000mm x 1.8m Barrel	13134	12814	(3x) 8T	
3000mm x 1.5m Barrel	10945	10678	(3x) 8T	
3000mm x 1.2m Barrel	8756	8543	(3x) 8T	
3000mm x 0.6m Barrel	4378	4271	(3x) 8T	
3000mm Slab Top	-	7380	(3x) 8T	
3000mm Slab Base	-	6480	(3x) 8T	

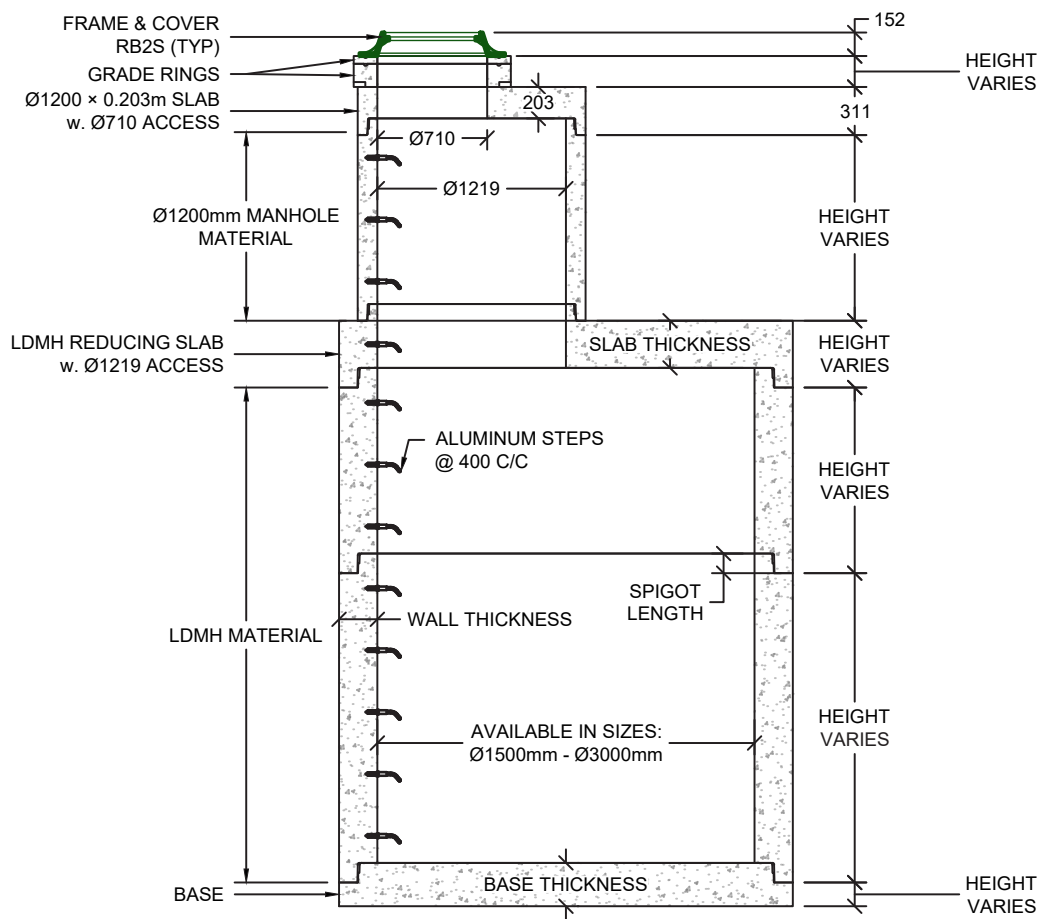
- NOTES
1. Large diameter manholes are custom order and require approved drawings before manufacturing
 2. Cored pipe openings can be provided at additional cost
 3. Non standard barrel lengths available at additional cost
 4. Slabtops come with 710mm, 914mm & 1200mm openings

LARGE DIAMETER MANHOLE MATERIAL

ASTM C478/CSA A257.4

NOMINAL INSIDE DIAMETER (mm)	INSIDE DIAMETER (mm)	OUTSIDE DIAMETER (mm)	WALL THICKNESS (mm)	SPIGOT LENGTH (mm)	SLABTOP THICKNESS (mm)	BASE THICKNESS (mm)
1500	1524	1867	171	121	305	280
1800	1829	2223	197	127	305	280
2100	2134	2578	203	127	305	280
2400	2438	2934	248	127	305	280
2700	2743	3289	273	149	305	280
3000	3048	3607	279	152	305	280

LARGE DIAMETER MANHOLES

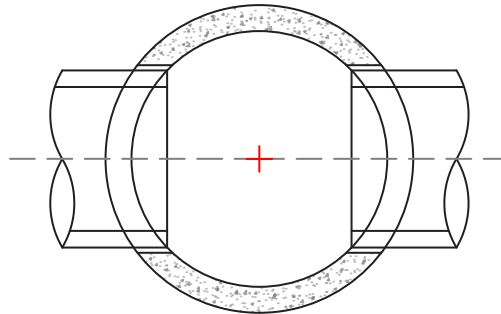


MANHOLE SIZING

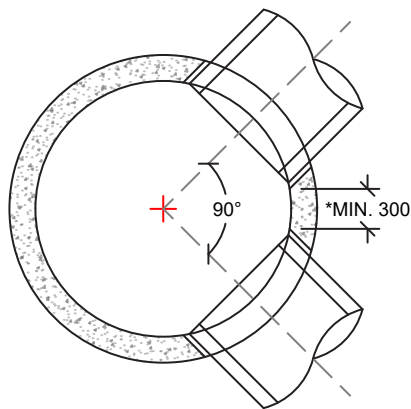
MANHOLE SIZE	MAX PIPE SIZE FOR STRAIGHT THROUGH INSTALLATION	MAX PIPE SIZE FOR RIGHT ANGLE INSTALLATION	MAX PIPE SIZE FOR 120° ANGLE INSTALLATION
Ø1200	Ø600	Ø375	Ø525
Ø1350	Ø750	Ø450	Ø675
Ø1500	Ø750	Ø525	Ø750
Ø1650	Ø900	Ø600	Ø900
Ø1800	Ø1050	Ø675	Ø900
Ø2100	Ø1200	Ø900	Ø1200
Ø2400	Ø1350	Ø1050	Ø1350
Ø2700	Ø1500	Ø1200	Ø1650
Ø3000	Ø1650	Ø1350	Ø1800

- NOTES
1. Manhole Sizing to be used as a guideline
 2. Exemptions can be made, contact Heidelberg Materials

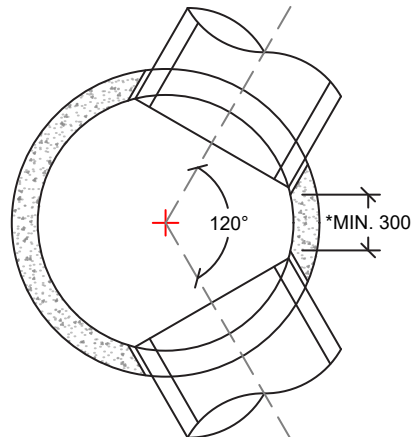
STRAIGHT THROUGH INSTALLATION



RIGHT ANGLE INSTALLATION



120° ANGLE INSTALLATION



MANHOLE VAULTS

TYPE 1-S

DESCRIPTION & DIMENSIONS (Inside Dimension x Inside Dimension x Inside Height)	WEIGHT (kg)	PRICE (\$/ea)	MAX PIPE SIZE (mm)
1220mm X 1220mm x 2007mm High Complete Vault	8257		900 I.D.
1220mm X 1220mm x 991mm Riser	2860		
1525mm X 1525mm x 2007mm High Complete Vault	10599		1050 I.D.
1525mm X 1525mm x 991mm Riser	3480		
1830mm X 1830mm x 2134mm High Complete Vault	13656		1350 I.D.
1830mm X 1830mm x 1067mm Riser	4272		
1980mm X 1980mm x 2134mm High Complete Vault	15036		1500 I.D.
1980mm X 1980mm x 991mm Riser	4572		
2440mm X 2440mm x 2439mm High Complete Vault	21100		1800 I.D.
2440mm X 2440mm x 940mm Riser	5040		
2800mm X 2800mm x 2916mm High Complete Vault	38058		2100 I.D.
2800mm X 2800mm x 1400mm Riser	11153		

- NOTES
1. Complete Vault is inclusive of top and bottom halves
 2. The above prices reflect fill heights of 1.2 to 6m over roof of vault. Call for pricing and availability for deeper and shallower burials.
 3. 1S Vaults are not prebenched and are not stock material. Call to place an order.
 4. Butyl joint sealant is provided with 1S manholes. Additional measures by contractor may be necessary to achieve water tightness in the joint
 5. Skimming manholes and check valve vaults are available; call for details and pricing
 6. 1S vaults include a formed 1200mm (5A) opening in the roof, but can be made with 710 openings upon request.
 7. Vaults include formed pipe holes in the walls. Cored holes are available at extra cost.
 8. Max pipe size is for straight through applications. These sizes may not fit with angled pipe installations.
 9. Max Pipe Size is based on Concrete Pipe. Flexible pipe may require larger manholes due to lack of structure provided by flexible pipe.
 10. Where design rim to invert height is less than the height of the vault shown above, short top vaults may be available to meet City of Calgary requirements. (These are subject to approval by design engineer. Call for availability and pricing.)

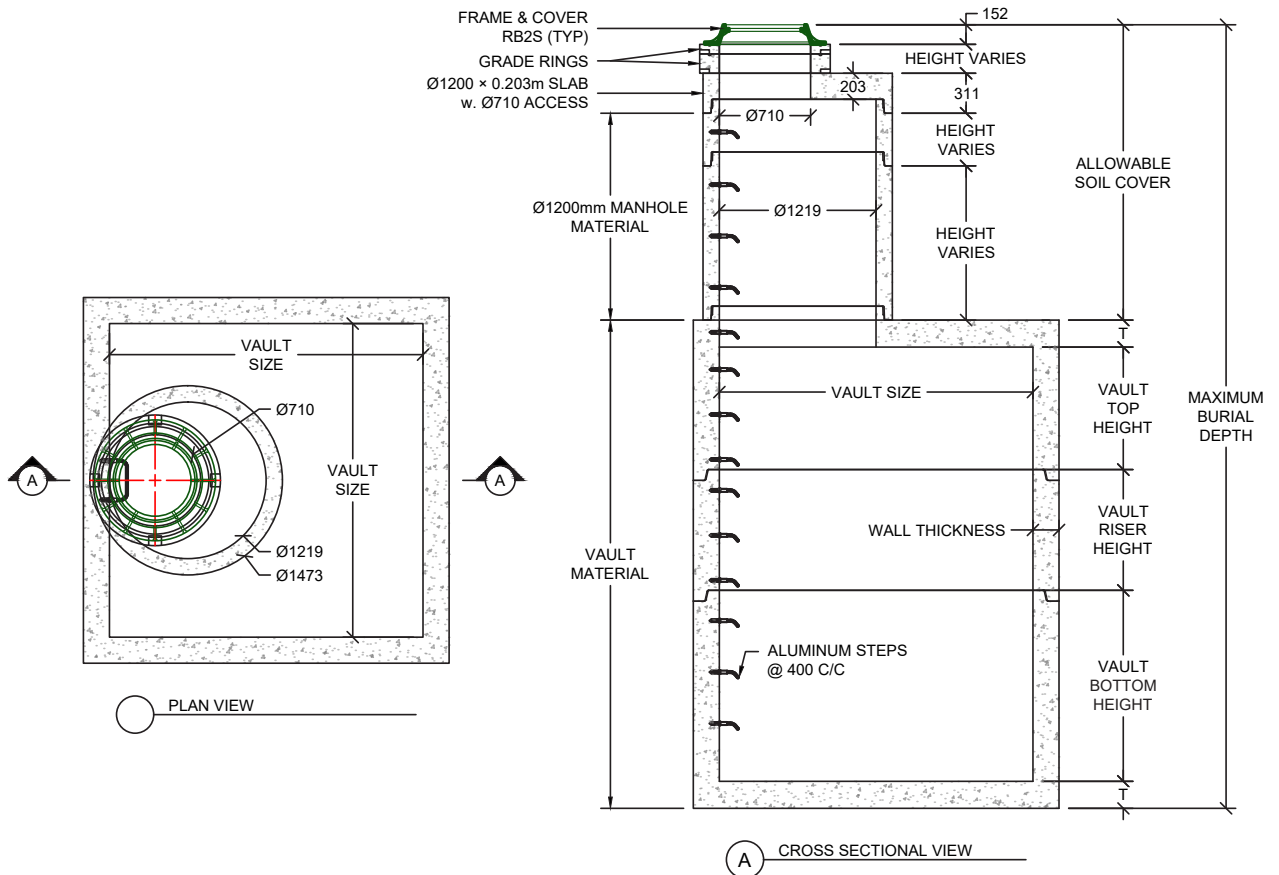


MANHOLE VAULTS

TYPE 1-S DIMENSIONS

VAULT SIZE	WALL THICKNESS (mm)	VAULT TOP HEIGHT	VAULT RISER HEIGHT	VAULT BOTTOM HEIGHT	T (mm)	ALLOWABLE SOIL COVER	MAXIMUM BURIAL DEPTH	
1.2m 1-S	1220	203	1016	991	991	210	0-6m	14.4m
1.2m 1-S (Tall)	1220	203	1537	1524	1621	210	0-6m	14.4m
1.5m 1-S	1525	203	1016	991	991	210	0-6m	12.4m
1.8m 1-S	1830	203	1067	1067	1067	210	0-6m	12.4m
1.9m 1-S	1980	203	991	991	1143	210	0-6m	10.5m
2.4m 1-S	2440	203	953	940	1486	210	0-4m	8.8m
2.8m 1-S	2800	254	1413	1000/1400	1502	305	0-4m	9.5m

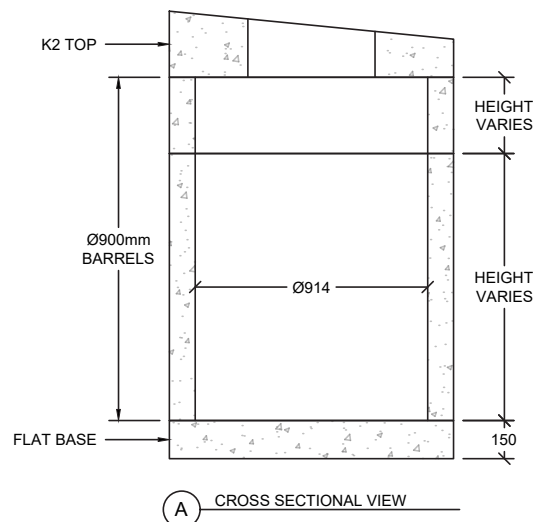
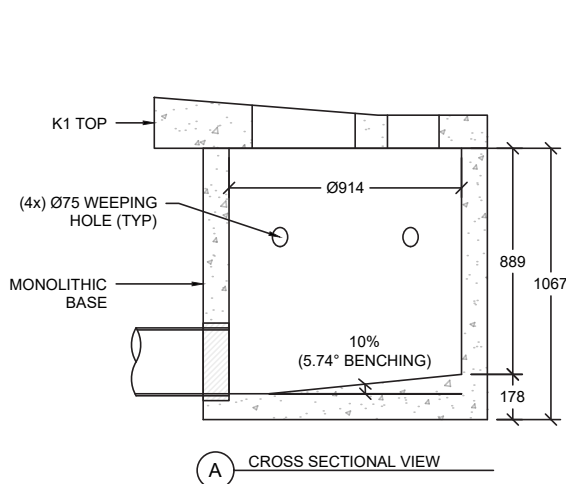
- NOTES
1. Inside height of bottom piece measured from floor to top of spigot
 2. Inside height of top piece measured from inside top of bell to underside of roof
 3. All Dimensions are nominal. Please call for actual dimensions if you are ordering fixtures that require exact dimensions to fit.



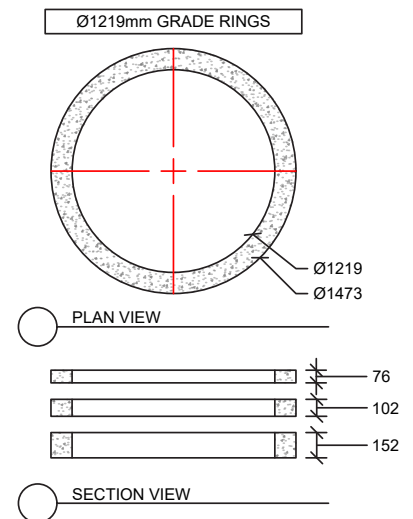
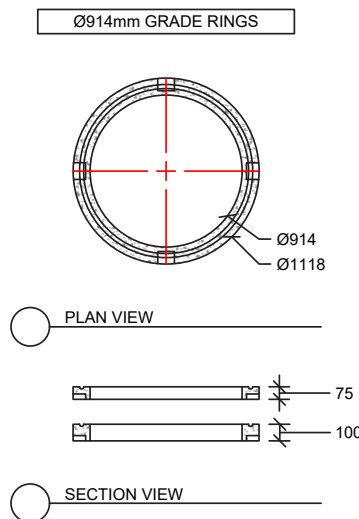
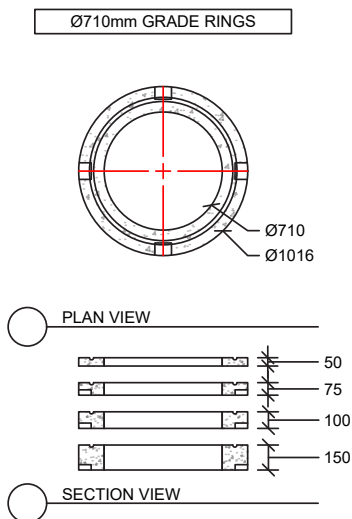
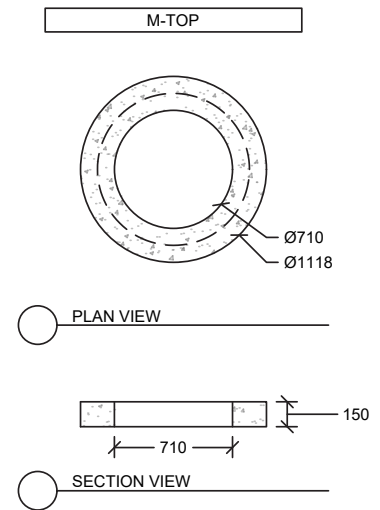
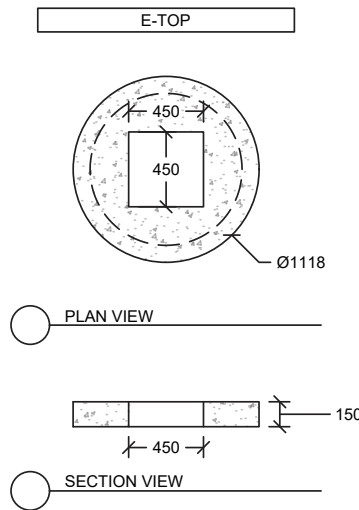
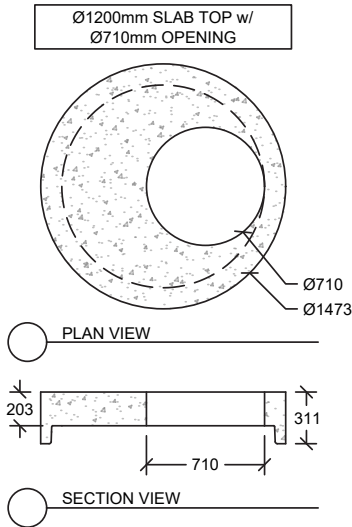
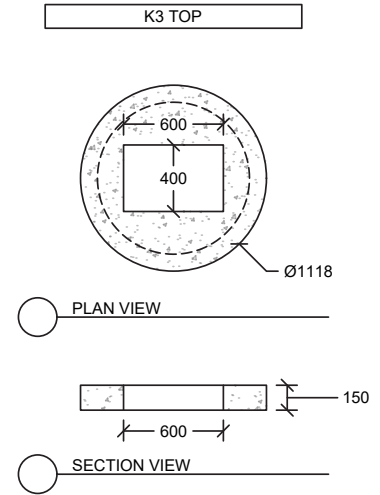
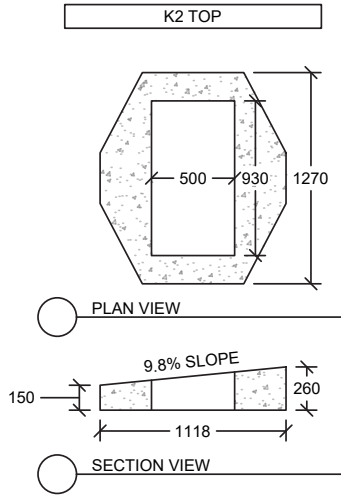
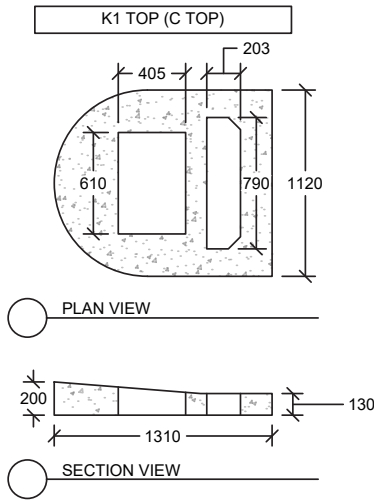
CATCH BASIN

ASTM – C478/CSA A257.4

DESCRIPTION	DIMENSIONS	WEIGHT	PRICE (\$/ea)
Monolithic CB	914mm ID x 1067mm High c/w Base	1135	
A Barrel	914mm ID x 1050mm High	865	
B Barrel	914mm ID x 600mm High	480	
C Barrel	914mm ID x 450mm High	360	
D Barrel	914mm ID x 300mm High	240	
E Barrel	914mm ID x 150mm High	120	
E Top	914mm ID x 150mm Thick c/w 450mm Square Opening (AREA DRAIN)	300	
K1 Top (C Top)	914mm ID c/w 600 x 400mm Opening & Side Inlet (SQUARE CURB)	280	
K2 Top	914mm ID c/w 930mm x 500mm Opening (ROLLED CURB)	430	
K3 Top	914mm ID X 150mm THICK c/w 600mm x 400mm Opening (AREA DRAIN)	280	
M Top	914mm ID x 150mm THICK c/w 710mm Centered Opening (AREA DRAIN)	215	
CB Base	914mm ID x 150mm Thick Slab Base	360	
3" CB Collar	914mm ID x 75mm Thick Collar (16 Collars/Pallet)	59	
4" CB Collar	914mm ID x 100mm Thick Collar (8 Collars/Pallet)	78	
K3 Extension Ring	67mm High-Rectangular	30	



CATCH BASINS – SLABTOPS



CATCH BASINS

BOX SECTIONS

ASTM C1433

BOX SECTIONS

DESCRIPTION & DIMENSIONS	VOL (L/box)	WEIGHT (kg)	LIFT PINS	COVER RANGE 1	COVER RANGE 2	COVER RANGE 3
				1.0m – 3.5m (HORIZONTAL INSTALL)	3.5m – 6.0m (HORIZONTAL INSTALL)	6.0m – 9.0m (HORIZONTAL INSTALL & MANHOLES)
1829mm x 914mm (6'x3') - Call for Pricing						
2.5m Box Length	4021	7291	(4x) 4T			
2.0m Box Length	3217	5833	(4x) 4T			
1.8m Box Length	2895	5250	(4x) 4T			
1.5m Box Length	2413	4375	(4x) 4T			
1.2m Box Length	1930	3500	(4x) 4T			
0.6m Box Length	965	1750	(4x) 4T			
Base / Slab Top	-	1585 / 1625	(4x) 4T			
1829mm x 1219mm (6'x4')						
2.5m Box Length	5415	7970	(4x) 4T			
2.0m Box Length	4332	6376	(4x) 4T			
1.8m Box Length	3899	5738	(4x) 4T			
1.5m Box Length	3249	4782	(4x) 4T			
1.2m Box Length	2599	3826	(4x) 4T			
0.6m Box Length	1300	1913	(4x) 4T			
Base / Slab Top	-	1985 / 1640	(4x) 4T			
2439mm x 914mm (8'x3')						
2.5m Box Length	5367	10054	(4x) 8T			
2.0m Box Length	4294	8043	(4x) 8T			
1.8m Box Length	3864	7239	(4x) 8T			
1.5m Box Length	3220	6032	(4x) 8T			
1.2m Box Length	2576	4826	(4x) 8T			
0.6m Box Length	1288	2413	(4x) 8T			
Base / Slab Top	-	2560 / 2820	(4x) 8T			
2439mm x 1219mm (8'x4')						
2.5m Box Length	7227	10828	(4x) 8T			
2.0m Box Length	5781	8662	(4x) 8T			
1.8m Box Length	5203	7796	(4x) 8T			
1.5m Box Length	4336	6497	(4x) 8T			
1.2m Box Length	3469	5197	(4x) 8T			
0.6m Box Length	1734	2599	(4x) 8T			
Base / Slab Top	-	3190 / 2915	(4x) 8T			

- NOTES
- Boxes are designed to CSA S6 but manufactured to ASTM 1433
 - Cover ranges indicate height between the top of the box and the ground surface (rim elevation)
 - Box material is all custom, call for availability

BOX SECTIONS

ASTM C1433

DESCRIPTION & DIMENSIONS	VOL (L/box)	WEIGHT (kg)	LIFT PINS	COVER RANGE 1	COVER RANGE 2	COVER RANGE 3
				1.0m – 3.5m (HORIZONTAL INSTALL)	3.5m – 6.0m (HORIZONTAL INSTALL)	6.0m – 9.0m (HORIZONTAL INSTALL & MANHOLES)
2439mm x 1524mm (8'x5') – Call for Pricing						
2.5m Box Length	9087	11601	(4x) 8T			
2.0m Box Length	7269	9281	(4x) 8T			
1.8m Box Length	6542	8353	(4x) 8T			
1.5m Box Length	5452	6961	(4x) 8T			
1.2m Box Length	4362	5569	(4x) 8T			
0.6m Box Length	2181	2784	(4x) 8T			
Base / Slab Top	-	4235 / 4780	(4x) 8T			
2439mm x 1829mm (8'x6')						
2.5m Box Length	10946	12375	(4x) 8T			
2.0m Box Length	8757	9900	(4x) 8T			
1.8m Box Length	7881	8910	(4x) 8T			
1.5m Box Length	6568	7425	(4x) 8T			
1.2m Box Length	5254	5940	(4x) 8T			
0.6m Box Length	2627	2940	(4x) 8T			
Base / Slab Top	-	4450 / 4250	(4x) 8T			
2439mm x 2439mm (8'x8')						
2.5m Box Length	14666	13923	(4x) 8T			
2.0m Box Length	11733	11139	(4x) 8T			
1.8m Box Length	10559	10025	(4x) 8T			
1.5m Box Length	8799	8354	(4x) 8T			
1.2m Box Length	7040	6683	(4x) 8T			
0.6m Box Length	3520	3342	(4x) 8T			
Base / Slab Top	-	5710 / 5280	(4x) 8T			
3049mm x 1524mm (10'x5') – Call for Pricing						
2.5m Box Length	11294	16939	(4x) 8T			
2.0m Box Length	9035	13551	(4x) 8T			
1.8m Box Length	8132	12196	(4x) 8T			
1.5m Box Length	6776	10163	(4x) 8T			
1.2m Box Length	5421	8131	(4x) 8T			
0.6m Box Length	2711	4065	(4x) 8T			
Base / Slab Top	-	5935 / 5690	(4x) 8T			

- NOTES
- Boxes are designed to CSA S6 but manufactured to ASTM 1433
 - Cover ranges indicate height between the top of the box and the ground surface (rim elevation)
 - Box material is all custom, call for availability

BOX SECTIONS

ASTM C1433

DESCRIPTION & DIMENSIONS	VOL (L/box)	WEIGHT (kg)	LIFT PINS	COVER RANGE 1	COVER RANGE 2	COVER RANGE 3
				1.0m – 3.5m (HORIZONTAL INSTALL)	3.5m – 6.0m (HORIZONTAL INSTALL)	6.0m – 9.0m (HORIZONTAL INSTALL & MANHOLES)
3049mm x 2439mm (10'x8')						
2.5m Box Length	18269	19844	(4x) 8T			
2.0m Box Length	14615	15875	(4x) 8T			
1.8m Box Length	13153	14288	(4x) 8T			
1.5m Box Length	10961	11906	(4x) 8T			
1.2m Box Length	8769	9525	(4x) 8T			
0.6m Box Length	4384	4763	(4x) 8T			
Base / Slab Top	-	8650	(4x) 8T			

3658mm x 3049mm (12' x 10') – Call for Pricing						
2.0m Box Length	21934	23247	(4x) 8T			
1.8m Box Length	19741	20922	(4x) 8T			
1.5m Box Length	16451	17435	(4x) 8T			
1.2m Box Length	13161	13948	(4x) 8T			
0.6m Box Length	6580	6974	(4x) 8T			
Base / Slab Top	-	14820 / 15145	(4x) 8T			

3658mm x 3658mm (12' x 12') – Call for Pricing						
1.8m Box Length	23751	22594	(4x) 8T			
1.5m Box Length	19792	18828	(4x) 8T			
1.2m Box Length	15834	15063	(4x) 8T			
0.6m Box Length	7917	7531	(4x) 8T			
Base / Slab Top	-	17355 / 17745	(4x) 8T			

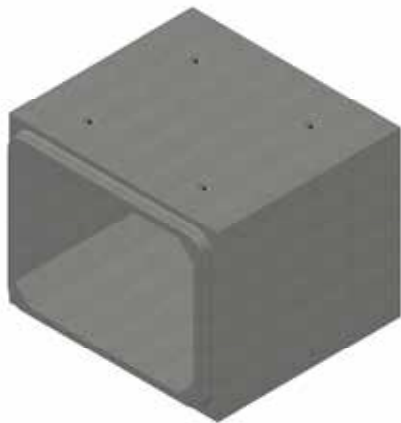
- NOTES
- Boxes are designed to CSA S6 but manufactured to ASTM 1433
 - Cover ranges indicate height between the top of the box and the ground surface (rim elevation)
 - Box material is all custom, call for availability



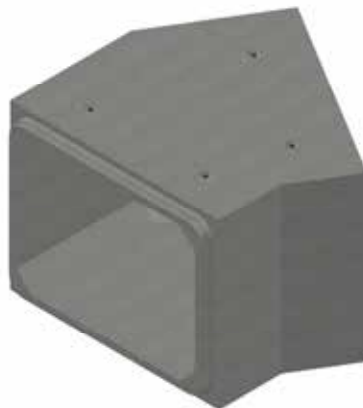
BOX SECTIONS

ASTM C1433

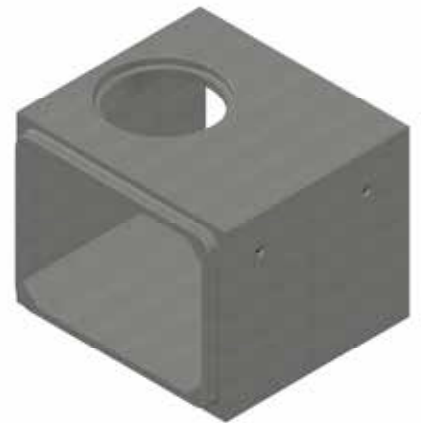
ACTUAL INSIDE DIMENSIONS SPAN X RISE	OUTSIDE DIMENSIONS	WALL THICKNESS (mm)	SLAB TOP THICKNESS (mm)	BASE THICKNESS (mm)	SPIGOT LENGTH (mm)	JOINT TYPE
1829mm x 914mm	2184mm x 1270mm	178	254	254	127	Single Offset
1829mm x 1219mm	2184mm x 1575mm	178	254	254	127	Single Offset
2439mm x 914mm	2845mm x 1321mm	203	305	305	127	Single Offset
2439mm x 1219mm	2845mm x 1626mm	203	305	305	127	Single Offset
2439mm x 1524mm	2845mm x 1930mm	203	305	305	108	Tongue & Groove
2439mm x 1829mm	2845mm x 2235mm	203	305	305	127	Single Offset
2439mm x 2439mm	2845mm x 2845mm	203	305	305	127	Single Offset
3049mm x 1524mm	3556mm x 2032mm	254	355	355	108	Tongue & Groove
3049mm x 2439mm	3556mm x 2946mm	254	355	355	127	Single Offset
3658mm x 3049mm	4267mm x 3658mm	305	406	406	127	Single Offset
3658mm x 3658mm	4267mm x 4267mm	305	406	406	127	Single Offset



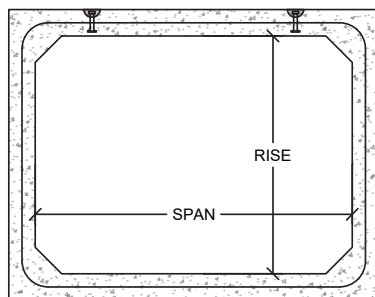
Box Culvert



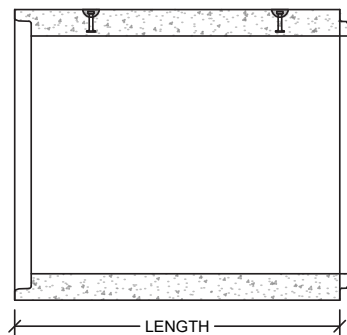
Box Bend



Box Culvert with manhole opening



○ FRONT VIEW



○ SIDE VIEW

MISCELLANEOUS

DESCRIPTION OF ITEMS	WEIGHT or QUANTITY	PRICE (\$/ea.)
Frames, Covers & Grates		
K1 Frame - 400mm X 600mm Catchbasin Frame (K1 TOP)	86 kg	
K1 Grate - 400mm X 600mm Catchbasin Grate (K1 TOP)	57 kg	
K1 Side Inlet Frame c/w Grate - Catchbasin Curb Side Inlet (K1 TOP)	24 kg	
K2 Frame - 930mm X 500mm Catchbasin Frame (K2 TOP)	186 kg	
K2 Grate - 480mm X 550mm Catchbasin Grate (NOTE: 2 GRATES REQUIRED)	23 kg	
K3 Frame - 400mm X 600mm Catchbasin Frame (K3 TOP)	57 kg	
K3 Grate - 400mm X 600mm Catchbasin Grate (K3 TOP)	24 kg	
150mm (6") Standard Manhole Frame (710mm OPENING)	88 kg	
250mm (10") Manhole Deep Frame (710mm OPENING)	122 kg	
Manhole Standard Solid Cover (710mm OPENING)	70 kg	
Manhole Grated Cover (710mm OPENING)	70 kg	
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, Seal & Lubricant		
Type HS Cement - High Sulfate Resistance (72 BAGS/PALLET)	20 kg BAGS	
3/4" (19mm) Wide Kent Seal (8 COILS/BOX)	18.0' COILS	
1200mm Manhole Gasket (SUPERSEAL)	each	
WL-8 Lubricant	3.6 kg PAIL	
Lifting Devices - Swift Lift		
4 Ton Clutch (LIFTING EYE)	each	
8 Ton Clutch (LIFTING EYE)	each	
4 Ton Pipe Chain Sling for 1050mm DIAMETER to 1650mm PIPE	per SET	
8 Ton Pipe Chain Sling for 1800mm DIAMETER & LARGER PIPE	per SET	
4 Ton Manhole Chain Sling for 1200mm DIAMETER to 1800mm MANHOLES	per SET	
8 Ton Manhole Chain Sling for 2100mm DIAMETER & LARGER MANHOLES	per SET	

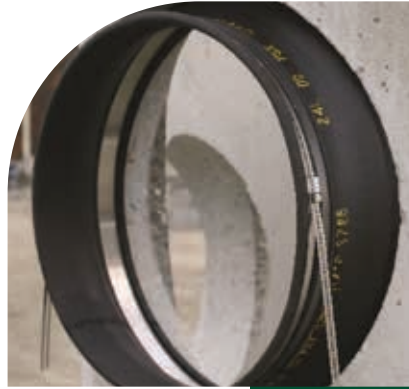
- NOTES
1. MSU access hatches, safety platforms, safety grab handles and other products can be ordered. Contact your local Sales Representative for pricing
 2. Contact your local Sales Representative for pricing on slings

GASKET & CONNECTIONS INFORMATION

At Heidelberg Materials, we provide pipe gaskets and a variety of manhole boot connectors alongside our concrete products to ensure a water-tight seal. For tailored solutions that best meet the unique requirements of your project, we invite you to connect with your local Sales Representative. They will be pleased to assist you in determining the optimal products for your specific needs.

PSX: Direct Drive

PSX: Direct Drive is a high-performance watertight pipe to manhole connector. It is the premier manhole connector in the industry for providing watertight connections to manholes and other sanitary and storm sewer structures.



Kwik Seal

Kwik Seal is a precisely sized compression connector (pipe to manhole connector) made to fit in a cored or cast opening.



RFS Gasket

The RFS pre-lubricated pipe and manhole gasket is an encapsulated all rubber gasket that is filled with an internal lubricant.

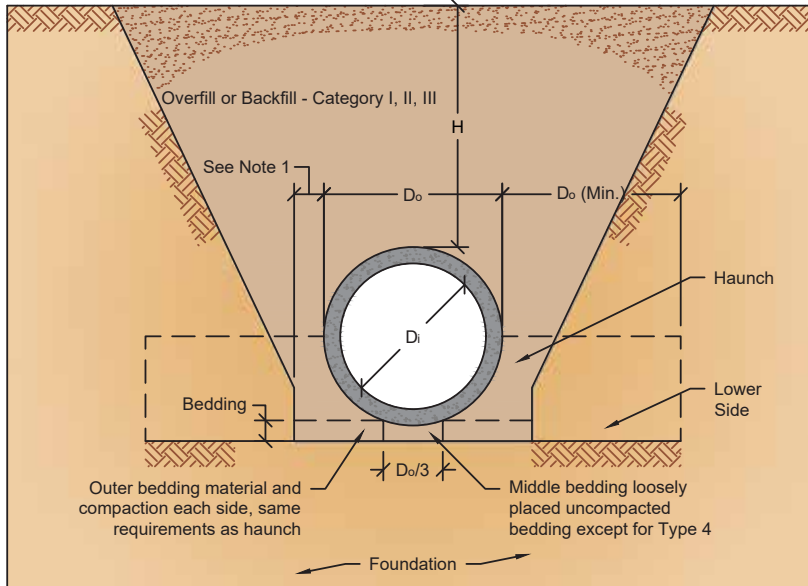


For more information on Press-Seal products, visit their website:



STANDARD INSTALLATION

STANDARD TRENCH INSTALLATION



Note 1: Clearance between pipe and trench wall shall be adequate to enable specific compaction, but not less than $D_o/6$

To learn more about Standard Installations, check out the American Concrete Pipe Association (ACPA) website:



STANDARD INSTALLATION

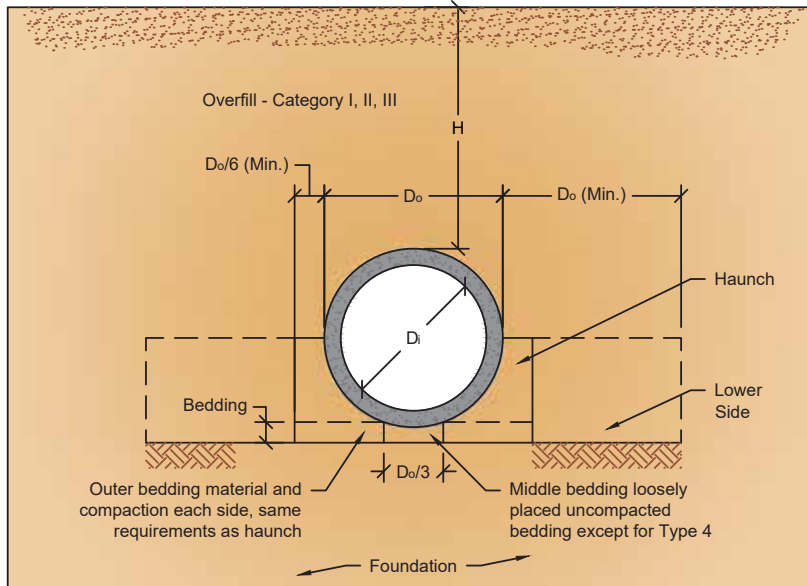
SOIL AND MINIMUM COMPACTION REQUIREMENTS			
Installation Type	Bedding Thickness	Haunch and Outer Bedding	Lower Side
Type 1	$D_o/24$ minimum; not less than 75 mm. If rock foundation, use $D_o/12$ minimum; not less than 150 mm.	95% Category I	Undisturbed natural soil with firmness equivalent to the following placed soils: 90% Category I, 95% Category II, or 100% Category III, or embankment to the same requirements
Type 2	$D_o/24$ minimum; not less than 75 mm. If rock foundation, use $D_o/12$ minimum; not less than 150 mm.	90% Category I or 95% Category II	Undisturbed natural soil with firmness equivalent to the following placed soils: 85% Category I, 90% Category II, or 95% Category III, or embankment to the same requirements
Type 3	$D_o/24$ minimum; not less than 75 mm. If rock foundation, use $D_o/12$ minimum; not less than 150 mm.	85% Category I, 90% Category II, or 95% Category III	Undisturbed natural soil with firmness equivalent to the following placed soils: 85% Category I, 90% Category II, or 95% Category III, or embankment to the same requirements
Type 4	No bedding required, except if rock foundation, use $D_o/12$ minimum; not less than 150 mm.	No compaction required, except if Category III, use 85% Category III	No compaction required, except if Category III, use 85% Category III

Notes:

- 1) Compaction and soil symbols (that is, 95% Category I), refer to a soil material category with a minimum standard proctor density. See ASTM C1479M Table 3 for equivalent modified proctor values and soil types.
- 2) Type 1 installations require greater soil stiffness from the surrounding soils than the Type 2, 3, and 4 installations. Proper field verification of soil properties and compaction levels must be performed to ensure compliance with the design requirements. See ASTM C1479M Appendix X2 for more information and guidance.
- 3) For Type 1 installation, crushed rock is not an appropriate material for bedding under the pipe. An uncompacted, non-crushed material must be used under the middle third of the pipe outside diameter. While crushed rock meeting the requirements of this specification may self compact vertically, it will not flow laterally to provide support for the haunches of the pipe. To achieve a 90 to 95% compaction with crushed rock, work material under the haunch and compact it to achieve the specified density. Otherwise, the specified installation is not achieved.
- 4) When the trench width specified must be exceeded, the owner shall be notified.
- 5) The trench width shall be wider than shown if required for adequate space to attain the specified compaction in the haunch and bedding zones.
- 6) Embankment loading shall be used when trench walls consist of embankment unless a geotechnical analysis is made and the soil in the trench walls is compacted to a higher level than the soil in the backfill zone.
- 7) Required bedding thickness is the thickness of the bedding prior to placement of the pipe.
- 8) "Dumped" material without additional compactive effort will not provide the design haunch support required for Type 1 and 2 installations and it should be checked for Type 3 installations.

STANDARD INSTALLATION

STANDARD EMBANKMENT INSTALLATION



To learn more about Standard Installations, check out the American Concrete Pipe Association (ACPA) website:



SOIL AND MINIMUM COMPACTION REQUIREMENTS			
Installation Type	Bedding Thickness	Haunch and Outer Bedding	Lower Side
Type 1	$D_o/24$ minimum; not less than 75 mm. If rock foundation, use $D_o/12$ minimum; not less than 150 in.	95% Category I	90% Category I, 95% Category II, or 100% Category III
Type 2	$D_o/24$ minimum; not less than 75 mm. If rock foundation, use $D_o/12$ minimum; not less than 150 mm.	90% Category I or 95% Category II	85% Category I, 90% Category II, or 95% Category III
Type 3	$D_o/24$ minimum; not less than 75 mm. If rock foundation, use $D_o/12$ minimum; not less than 150 mm.	85% Category I, 90% Category II, or 95% Category III	85% Category I, 90% Category II, or 95% Category III
Type 4	No bedding required, except if rock foundation, use $D_o/12$ minimum; not less than 150 mm.	No compaction required, except if Category III, use 85% Category III	No compaction required, except if Category III, use 85% Category III

Notes:

- 1) Compaction and soil symbols (that is, 95% Category I), refer to a soil material category with a minimum standard proctor density. See ASTM C1479M Table 3 for equivalent modified proctor values and soil types.
- 2) Type 1 installations require greater soil stiffness from the surrounding soils than the Type 2, 3, and 4 installations. Proper field verification of soil properties and compaction levels must be performed to ensure compliance with the design requirements. See ASTM C1479M Appendix X2 for more information and guidance.
- 3) For Type 1 installation, crushed rock is not an appropriate material for bedding under the pipe. An uncompacted, non-crushed material must be used under the middle third of the pipe outside diameter. While crushed rock meeting the requirements of this specification may self compact vertically, it will not flow laterally to provide support for the haunches of the pipe. To achieve a 90 to 95% compaction with crushed rock, work material under the haunch and compact it to achieve the specified density. Otherwise, the specified installation is not achieved.
- 4) Soil in the outer bedding, haunch, and lower side zones, except within $D_o/3$ from the pipe springline, shall be compacted to at least the same compaction as the majority of soil in the overfill zone.
- 5) Required bedding thickness is the thickness of the bedding prior to placement of the pipe.
- 6) A subtrench is defined as a trench with its top below finished grade by more than 0.1H or, for roadways, its top is at an elevation lower than 0.3 m below the bottom of the pavement base material.
The minimum width of a subtrench shall be $1.33 D_o$ or wider, if required for adequate space to attain the specified compaction in the haunch and bedding zones. For subtrenches, except within $D_o/3$ from the springline, any portion of the lower side zone in the subtrench wall shall be at least as firm as an equivalent soil placed to the compaction requirements specified for the lower side zone and as firm as the majority of soil in the overfill zone, or it shall be removed and replaced with soil compacted to the specified level.
- 7) "Dumped" material without additional compactive effort will not provided the design haunch support required for Type 1 and 2 installations and it should be checked for Type 3 installations.

PIPE FILL HEIGHT TABLES

PIPE DIAMETER (mm)	WALL	MAXIMUM DEPTH (m) TO PIPE INVERT FOR: STANDARD INSTALLATION TYPE				PIPE CLASS	PIPE DIAMETER (mm)	WALL	MAXIMUM DEPTH (m) TO PIPE INVERT FOR: STANDARD INSTALLATION TYPE			
		1	2	3	4				1	2	3	4
300	C WALL	5.4	3.8	2.8	-	II	1350	C WALL	6.5	4.7	3.9	2.7
		7.2	5.0	3.8	2.4	III			8.3	6.1	4.9	3.7
		11.0	7.8	6.0	4.0	IV			12.3	8.9	7.3	5.5
		15.4	10.8	8.4	5.6	V			16.9	12.1	9.7	7.3
375	C WALL	5.7	3.9	3.1	-	II	1500	C WALL	6.7	4.9	4.1	2.9
		7.5	5.3	4.1	2.5	III			8.3	6.1	5.1	3.9
		11.5	8.1	6.3	4.3	IV			12.5	9.1	7.3	5.7
		15.9	11.3	8.9	5.9	V			16.9	12.3	9.9	7.5
450	C WALL	5.7	3.9	3.1	-	II	1650	C WALL	6.7	5.1	4.1	3.1
		7.5	5.3	4.1	2.7	III			8.5	6.3	5.1	4.1
		11.7	8.1	6.5	4.3	IV			12.5	9.3	7.5	5.7
		16.3	11.3	8.9	6.1	V			17.1	12.5	10.1	7.7
525	C WALL	6.0	4.0	3.2	-	II	1800	C WALL	6.8	5.0	4.2	3.0
		7.8	5.4	4.2	2.8	III			8.6	6.4	5.2	4.0
		11.8	8.2	6.6	4.4	IV			12.4	9.2	7.4	5.8
		16.4	11.4	9.2	6.2	V			17.0	12.4	10.0	7.8
600	C WALL	6.1	4.1	3.3	1.9	II	1950	C WALL	6.8	5.2	4.4	3.2
		7.9	5.5	4.3	2.9	III			8.6	6.6	5.4	4.2
		11.9	8.3	6.7	4.7	IV			12.6	9.4	7.6	6.0
		16.5	11.5	9.3	6.5	V			17.2	12.6	10.2	8.0
675	C WALL	6.2	4.2	3.4	2.2	II	2100	C WALL	7.0	5.4	4.4	3.4
		8.0	5.6	4.4	3.0	III			8.8	6.6	5.6	4.4
		12.0	8.4	6.8	4.8	IV			12.8	9.6	7.8	6.2
		16.6	11.6	9.4	6.6	V			17.2	12.8	10.4	8.2
750	C WALL	6.1	4.3	3.5	2.3	II	2400	C WALL	7.1	5.7	4.7	3.7
		7.9	5.7	4.5	3.1	III			8.9	6.9	5.7	4.7
		12.1	8.5	6.9	4.9	IV			12.9	9.7	8.1	6.5
		16.7	11.7	9.5	6.7	V			17.3	13.1	10.7	8.3
900	C WALL	6.2	4.4	3.6	2.4	II	2700	C WALL	7.4	5.8	4.8	3.8
		8.0	5.6	4.6	3.2	III			9.0	7.2	6.0	4.8
		12.0	8.6	6.8	5.0	IV			13.0	10.0	8.2	6.6
		16.6	11.8	9.4	6.8	V			17.4	13.2	10.8	8.6
1050	C WALL	6.4	4.6	3.6	2.6	II	3000	B WALL	7.5	6.1	5.1	4.1
		8.0	5.8	4.8	3.4	III			9.3	7.3	6.1	5.1
		12.2	8.8	7.0	5.2	IV			13.3	10.3	8.5	6.9
		16.8	12.0	9.6	7.0	V			17.7	13.7	11.1	8.9
1200	C WALL	6.4	4.8	3.8	2.6	II						
		8.2	6.0	4.8	3.6	III						
		12.2	8.8	7.2	5.4	IV						
		16.8	12.2	9.8	7.2	V						

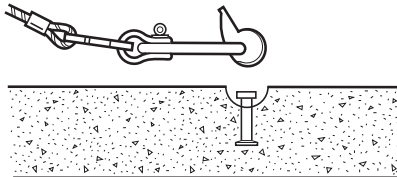
PIPE FILL HEIGHT TABLES

- NOTES
1. This Fill Height Table has been developed using the indirect design method.
 2. Pipe invert maximum depth values are intended as an estimating guide only. This table is not intended to replace engineered designs or to be used with unusual loading or soil conditions.
 3. Calculations are derived based on following parameters:
 - Soil density of 2100 kg/m³
 - Truck live load as per the CHBDC CSA S6; CL-800 TRUCK
 - Traffic direction across pipe
 - Positive projection embankment conditions
 - Pipes are completely full with fluid
 - Bedding types are defined by ASTM C1479 4. Minimum of 1m soil fill above crown of pipe to surface (RIM elevation).
 4. Minimum of 1m soil fill above crown of pipe to surface (RIM elevation).
 5. Type 2 standard Installation is a common practice for pipe installation.
 6. Under certain conditions shallow cover installations may require a higher class of pipe.
 7. All class pipes conform to CSA A257.2 & ASTM C76.
 8. For depths greater than those shown for Class V, a direct design (SIDD) pipe should be used.

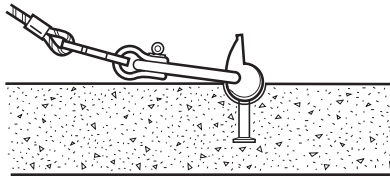


SWIFT LIFT PIN PROCEDURE

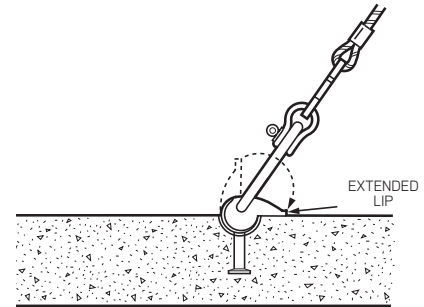
How to Guide



To install the P50 SL 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.



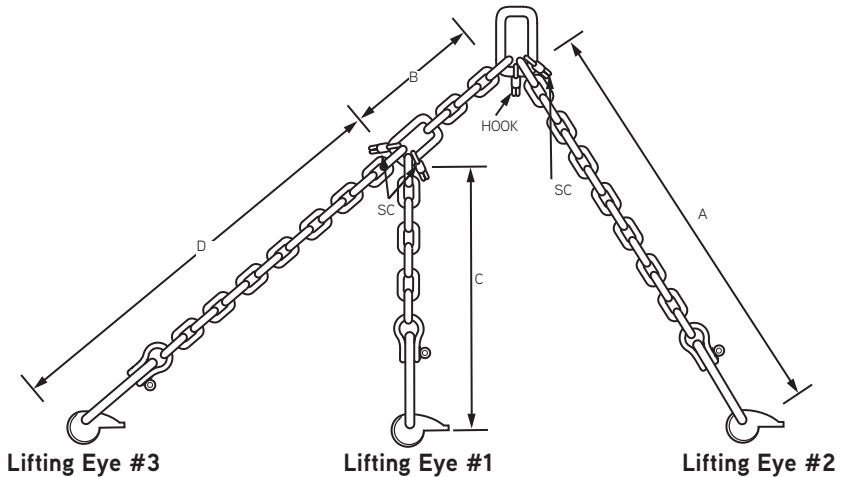
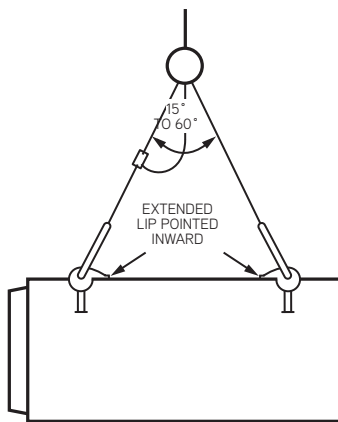
Lower the body of the lifting eye until the T-shaped slot engages the head of the anchor



Rotate the body until the extended lip rests on the concrete surface.

Correction Method for Lifting and Placing Pipe

Note: Load must be applied simultaneous to all Swift Lift anchors in order to safely lift product.



A three-legged chain sling with three P50 SL Universal Lifting Eyes and three shortening clutches (SC) for altering the chain lengths: so constructed that as required, a symmetrical or asymmetrical lifting sling can be made.

Pipe Lengths		A	B	C	D
From	To				
60" (1.5M)	96" (2.5M)	57" (144cm)	16" (40cm)	41" (104cm)	76" (194cm)
96" (2.5M)	138" (3.5M)	75" (190cm)	24" (60cm)	51" (130cm)	110" (280cm)

To learn more about Swift Lift Pin procedures, check out the Dayton Superior Precast Handbook



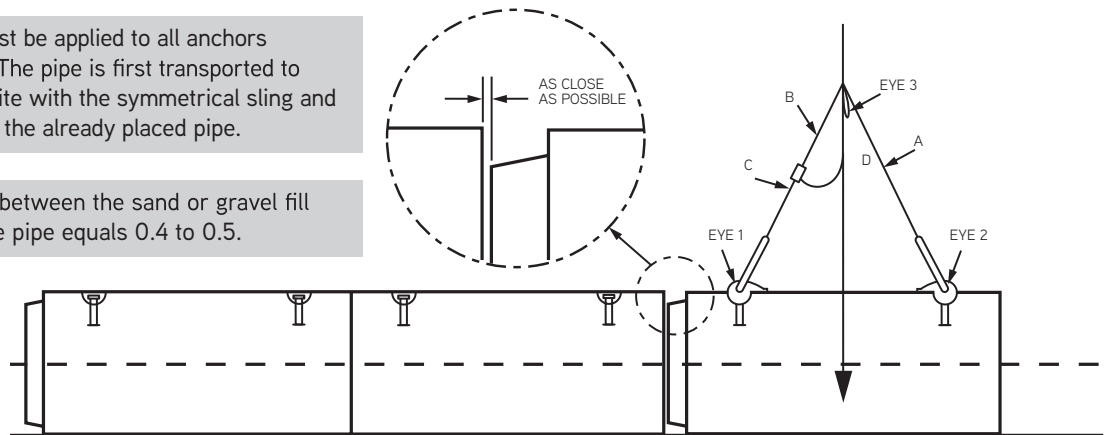
SWIFT LIFT PIN PROCEDURE

How to Use SL Universal Lifting Eye for Setting Concrete Pipe

Note: As with lifting any concrete element, special care should be taken by the driver of the placement vehicle to ensure that the impact or dynamic loads are reduced to a minimum. Impact of dynamic loads can greatly overload the anchors and cause failure.

Note: Load must be applied to all anchors simultaneously. The pipe is first transported to the installation site with the symmetrical sling and lowered close to the already placed pipe.

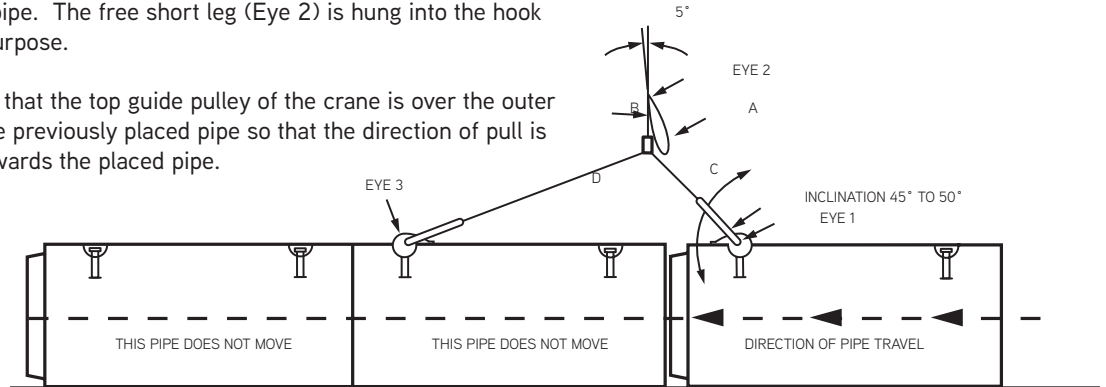
Note: Friction between the sand or gravel fill and the concrete pipe equals 0.4 to 0.5.



Correct Method for Pulling Pipe Together

To pull the pipe into position, the long leg of the lift sling is coupled to the previously placed pipe. The free short leg (Eye 2) is hung into the hook provided for this purpose.

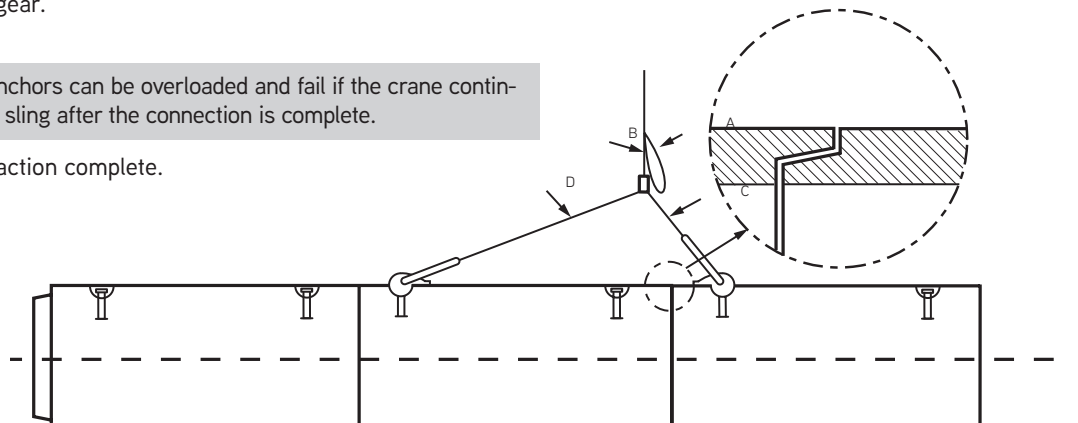
It must be ensured that the top guide pulley of the crane is over the outer lifting anchor of the previously placed pipe so that the direction of pull is slightly inclined towards the placed pipe.



Without moving the jib, the pipe is now pulled into position using the precision hoisting gear.

Warning: The anchors can be overloaded and fail if the crane continues to pull on the sling after the connection is complete.

Stop — release — action complete.

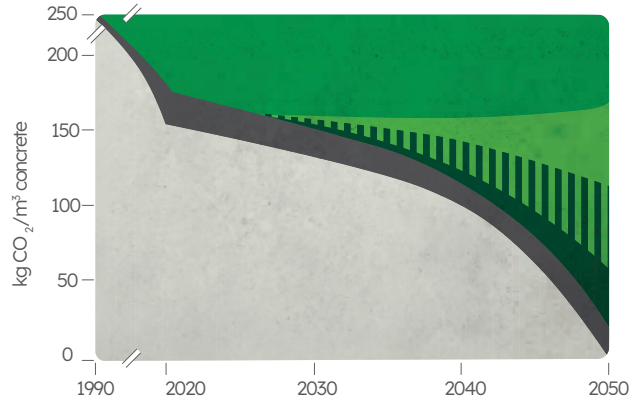
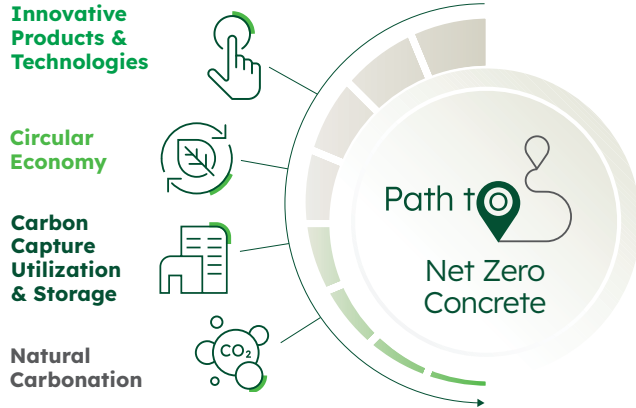


SUSTAINABILITY

Leading the way to net zero concrete

At Heidelberg Materials, we aim to be the industry leader on the path to net zero concrete. Our CO₂ reduction targets are grounded in science and underpinned by a clear roadmap. We are committed to achieving net zero concrete by 2050 using a multidimensional approach, focusing on four key strategies: Innovative Products & Technologies, Circular Economy, Carbon Capture Utilization & Storage and Natural Carbonation.

A multidimensional approach



Heidelberg Materials recognizes that there is no silver bullet to achieving net zero concrete. Our multidimensional approach—which includes innovative products & technologies, circular economy, CCUS, and natural carbonation—is an effective strategy in making net zero concrete a reality.

Innovative products & technologies

Portland-Limestone Cement (PLC)



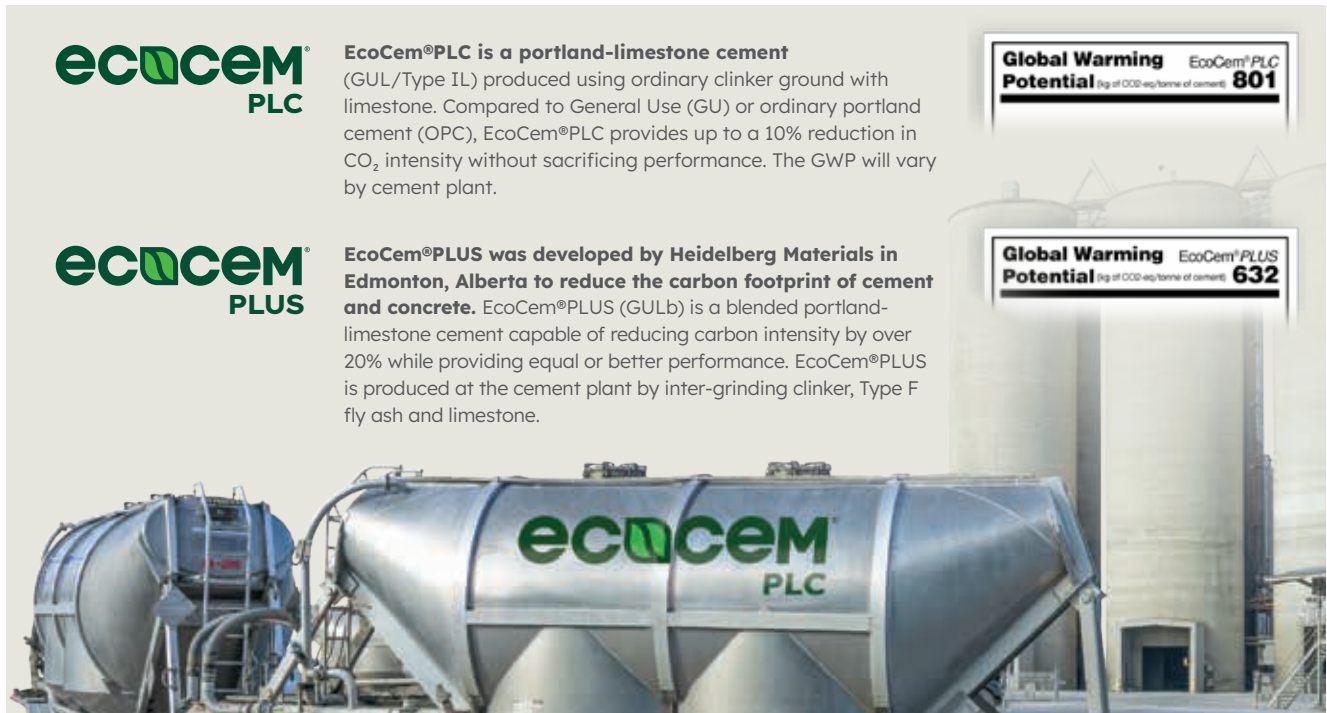
EcoCem®PLC is a portland-limestone cement (GUL/Type IL) produced using ordinary clinker ground with limestone. Compared to General Use (GU) or ordinary portland cement (OPC), EcoCem®PLC provides up to a 10% reduction in CO₂ intensity without sacrificing performance. The GWP will vary by cement plant.

Global Warming Potential EcoCem®PLC **801** (kg of CO₂-eq/tonne of cement)



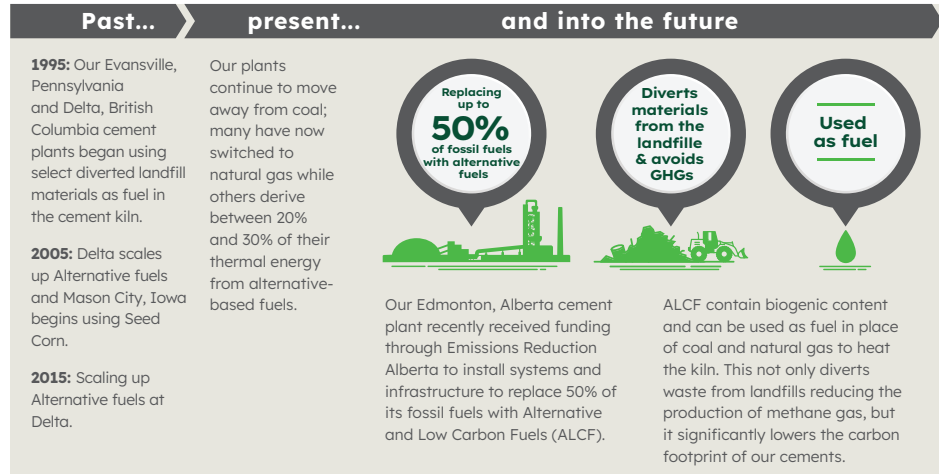
EcoCem®PLUS was developed by Heidelberg Materials in Edmonton, Alberta to reduce the carbon footprint of cement and concrete. EcoCem®PLUS (GULb) is a blended portland-limestone cement capable of reducing carbon intensity by over 20% while providing equal or better performance. EcoCem®PLUS is produced at the cement plant by inter-grinding clinker, Type F fly ash and limestone.

Global Warming Potential EcoCem®PLUS **632** (kg of CO₂-eq/tonne of cement)



Alternative fuels

Low carbon alternative fuels are predominantly comprised of materials that are typically sent to landfills like construction and demolition debris, wood, biosolids and others. This offsets the use of carbon-intense fuels like coal and petroleum coke in the cement production process. The timeline below details the progression of alternative fuel use in several of our plants:



Circular economy

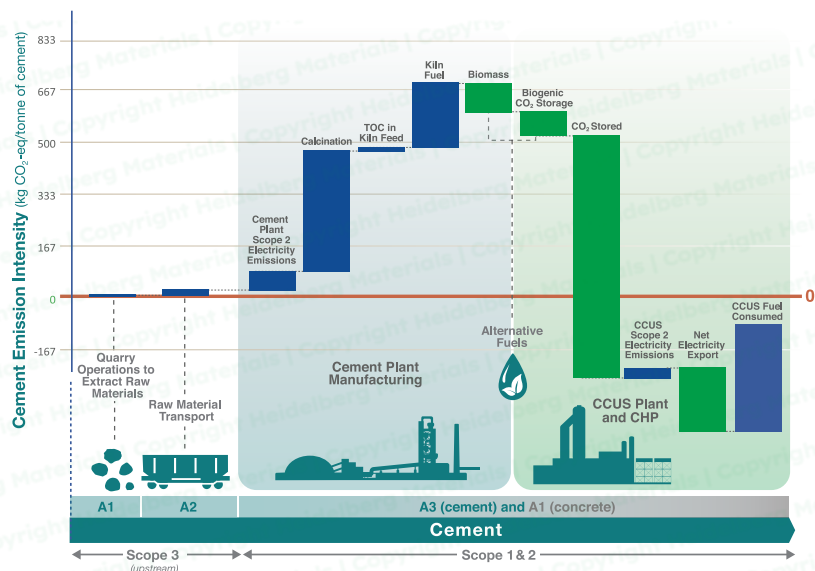
Beyond being a sustainable, resilient, and versatile building product, concrete is also 100% recyclable at end of life, in addition to its ability to incorporate and entrap other material constituents that may otherwise be considered waste. The added benefits of using byproducts in our value chain to further support the circular economy allows us to manufacture building products with recycled materials for your projects. A large part of our investments and research efforts are directed towards achieving this goal, exploring solutions that include the use of materials historically destined for landfills, such as granulated blast furnace slag, landfilled ash, contaminated clays, as well as demolition concrete and excavation spoils.



CCUS

We recognize that cement is responsible for 5-7% of global emissions, and that cement contributes a significant portion of the carbon footprint of concrete. Therefore, Heidelberg Materials is focused on developing carbon capture technologies that enable CO₂ reductions on a large scale, capturing CO₂ in its purest form for downstream use or permanent/safe storage.

Heidelberg Materials is developing North America's first full-scale carbon capture, utilization and storage (CCUS) solution for the cement industry at its Edmonton plant, with the goal of capturing up to one million tonnes of carbon dioxide (CO₂) annually. Captured emissions would be transported via pipeline and permanently sequestered by a third party.



This graphic is a representation of the multi-dimensional approach we use to reduce carbon. Copyright © 2022 Heidelberg Materials. All rights reserved.

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.

- a) 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) Quotation.

- a) Quotation quantities are approximate only, unit prices govern in all cases.
- b) Unit pricing contained in Quotation is contingent on the order of the entire quantity contained in Quotation.
- c) Material quoted is an estimate based on information provided by Purchaser at time of quotation. If revised plans or drawings are submitted after winning bid, job repricing may be required.
- d) Contractor to review all items to ensure completeness. Seller is not responsible for missed items.
- e) Any additional items or change in quantity will need to be requested by Seller.
- f) Non-inventory or custom/special items are subject to approval of shop drawings, which may result in price changes.
- g) Frames, covers, hatches and other internal/external hardware to be supplied by others unless specifically quoted herein.
- h) Lifting clutches are not included in quote unless specifically quoted herein.
- i) Production and delivery schedule will be determined upon receipt of purchase order.
- j) Quotation does not include Federal or Provincial taxes.
- k) Seller reserves the right to reprice in the event of partial orders.

4) Quotation Validity.

- a) Unless otherwise agreed to by the parties in writing, the prices in the Quotation are valid for 14 days 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.
- b) Acceptance of the Quotation by the Purchaser does not obligate the Seller until Purchaser's credit has been approved by our Credit Department.

5) Cartage Rates and Additional Surcharges.

- a) Cartage rates are based on a minimum truck load of 27,000 kilograms and do not apply during periods of road restrictions/bans. Delivery charges for truckloads of less than 27,000 kilograms shall be calculated at an hourly rate and shall include loading, traveling, and unloading time.
- b) Cartage is quoted as an approximate and may change due to size of load, the delivery location and/or other special delivery requests by the Purchaser.
- c) A surcharge will be added for a delivery requiring a wide load permit and/or pilot vehicles.
- d) 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.
- e) A surcharge will be added if the Purchaser does not unload a delivery in its entirety at the destination specified.
- f) Fuel surcharges may be added to each delivery depending on fuel prices. Fuel surcharge amount will be determined solely by Seller and based on fuel prices on the Kalibrate website (charting.kalibrate.com) on the day of delivery.

- g) Dunnage charged at \$75 per truck load if dunnage requested by the customer.
- h) \$25 deposit on all pallets used for grade rings and prebenchs. Deposit money to be refunded if pallets are returned in reusable condition as determined solely by the Seller.

6) Delivery Conditions.

- a) Purchaser shall schedule all deliveries directly with the Seller. Purchaser shall provide a minimum of 24 hours' notice. More notice may be required due to truck availability during peak times.
- b) Delivered prices are for delivery to the destination specified by the Purchaser (FOB Jobsite).
- c) 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.
- d) 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.
- e) Purchaser shall be responsible to provide suitable access roads to destination specified and will be responsible for all unloading and all equipment needed for such unloading.

7) 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 12 months from fabrication. Products NOT taken prior to the due date shall be subject to per diem storage charges.



- 8) 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 9).
- 9) 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.
- 10) Products Specifications and Warranty.** Products shall conform to their respective ASTM and/or CSA specifications as declared in the manufacturer's certificate of compliance, submittal documents or shop drawings. The seller does not warrant compliance with any other codes and/or specifications that are not explicitly declared. 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.
- 11) 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.
- 12) 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.
- 13) 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.
- 14) 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.
- 15) 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.
- 16) 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.
- 17) 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
- 18) 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 is delivered.
- 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:
- such Product is in good and resalable condition.
 - Purchaser pays Seller a restocking fee of 15% of the price of the Product. Restocking fee may be increased based on condition of the returned product.
 - 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 non- standard Products returned will not receive credit and be subject to a disposal fee of \$55.00 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 \$55.00 per tonne.
 - Any surcharges charged will not be refunded on returned items.

QUALITY PROGRAM

Heidelberg Materials Northwest Pipe is certified to produce precast circular concrete pipe, circular manholes, catch basins and box sections under the Canadian Precast Concrete Quality Assurance (CPCQA) Certification Program.

The purpose of the CPCQA is to provide assurance to owners, specifiers, and contractors that participating CPCA certified plants are capable of producing precast products in accordance with recognized national standards and other best practices. The program audits a plant’s quality management system, personnel, equipment, and finished products to ensure they conform to the required standards. The program requires manufacturers to supply products only from a production facility that has been prequalified to produce a range of products that have passed CPCQA’s rigorous certification process. This range of products is updated in real time, and can be seen by anyone concerned on the CPCQA website. The program involves no additional cost to anyone except the CPCQA certified manufacturers who pay all certification fees. Overall, this certification program ensures that only established producers who have earned a reputation for their superior workmanship and systems are supplying products to the public. The program helps to ensure that the job will get done right the first time – saving time, money, and headaches for everyone.

In addition to the CPCQA plant certifications, our Calgary plant is certified under:

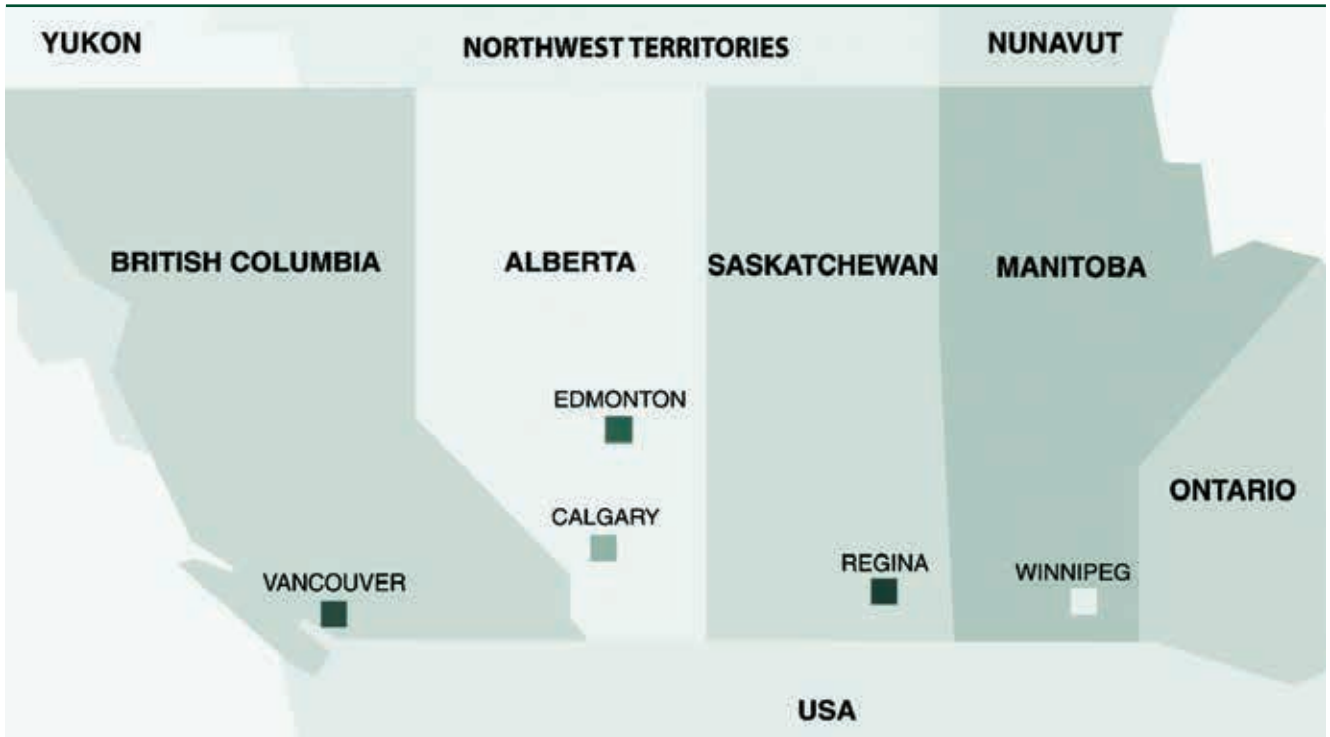
- CSA Standard W186 “Welding of Reinforcing Bars in Reinforced Concrete Construction” in DIVISION – 2, Tack Welding of rebar (CWB certificate)
- CSA A23.4 Group D, Category D1

To identify if products are produced in a CPCQA certified plant, look for the following stamp.



For more information about the CPCQA program please visit:





BRITISH COLUMBIA

9265 Oak Street
 Vancouver, BC V6P 4B8
Main Line 604-269-6700

SOUTHERN ALBERTA

7336 112th Avenue NW
 Calgary, AB T3R 1R8
Main Line 403-279-5531

NORTHERN ALBERTA

SALES OFFICE
 16503 - 121A Avenue
 Edmonton, AB T5V 1J1

PIPE YARD

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Main Line 780-448-1351

SASKATCHEWAN

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MANITOBA

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