

ROCLA

OUR DIFFERENCE IS CONCRETE

Product Catalogue



Roodepoort Pipe's manufacturing and storage facility.



ROCLA

PRODUCT CATALOGUE

Rocla (Pty) Ltd is Southern Africa's leading manufacturer of precast concrete products for infrastructure, including pipes, culverts, manholes, poles and various other related products.

In this catalogue, we list the products currently manufactured within an extensive network of factories throughout South Africa, Namibia and Botswana. We also illustrate a portion of the special products we are able to design and

manufacture at customer request. This is made possible through the technical expertise and quality controls we have in place after 100 years of experience in the Precast Concrete field.

For any comments you may have concerning this catalogue, or for any further information, please refer to the contact details on the back cover.

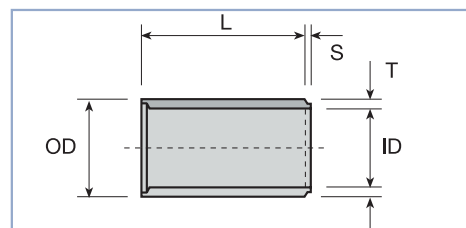
CONTENTS

	Stormwater (Interlocking Joint Pipes)	SANS 677	1
	Stormwater (Spigot & Socket Pipes)	SANS 677	2
	Sewer Pipes with Sacrificial Layers (Spigot & Socket Pipes)	SANS 677	4
	Pressure Pipes (Spigot & Socket Pipes)	SANS 676	5
	Jacking Pipes (In-The-Wall Joint)		6
	Rectangular Portals (Road Application Stormwater Culverts)	SANS 986	7
	SATS SAR Rectangular Portals (Rail Application Stormwater Culverts)	Class 1 Loading	8
	Culvert Base Slabs		10
	Half Round Channels		10
	Manholes, Chambers, Shaft Sections & Slabs	SANS 1294	11
	Airport Manholes		12
	Enlarger Slabs		12
	Spun Concrete Poles		13
	I-Section Concrete Poles		14
	Toilet Systems		15
	Roadside Furniture		16
	Bus Shelters		17
	Secure Signal Houses		17
	Roadside Dustbins		17
	Penstock Rings		19
	Retaining Walls		19
	Wash Troughs & Stock Troughs		20

STORMWATER (INTERLOCKING JOINT) - SANS 677

Notes:

1. The 100mm & 150mm diameter pipes are not made at all Rocla factories. If they are required, special arrangements can be made to make them to the length and wall thickness required.
2. For pipes of 450mm diameter and less the pipelengths available may differ from those in the tabulation. Please enquire about this dimension before placing an order.
3. The 1 950 mm ND Pipes are not made at all Rocla factories, please enquire before placing an order.



Pipe Class	Nominal Diameter (ND) mm	Inside Diameter (ID) mm	Outside Diameter (OD) mm	Wall Thickness (T) mm	Nominal Length (L) m	Inside Socket (S) mm	Approximate Mass per pipe kg/pipe
50D	300	292	362	35	1.83/2.44	16	170/226
	375	369	445	38	1.83/2.44	16	229/306
	450	445	533	44	1.83/2.44	20	319/426
	525	534	616	41	2.44	20	466
	600	611	699	44	2.44	15	570
	675	685	787	51	2.44	17	742
	750	762	870	54	2.44	18	871
	825	830	946	58	2.44	18	1019
	900	903	1029	63	2.44	18	1204
	1050	1034	1194	80	2.44	22	1763
	1200	1181	1359	89	2.44	22	2235
	1350	1328	1524	98	2.44	25	2764
	1500	1461	1689	114	2.44	25	3551
	1650	1608	1854	123	2.44	25	4211
	1800	1755	2019	132	2.44	30	4926
	1950	1898	2184	143	2.44	30	5772
75D	300	292	362	35	1.83/2.44	16	170/226
	375	369	445	38	1.83/2.44	16	229/306
	450	445	533	44	1.83/2.44	20	319/426
	525	514	616	51	2.44	20	570
	600	585	699	57	2.44	15	724
	675	647	787	70	2.44	17	993
	750	718	870	76	2.44	18	1193
	825	788	946	79	2.44	18	1355
	900	853	1029	88	2.44	18	1638
	1050	986	1194	104	2.44	22	2242
	1200	1151	1359	104	2.44	22	2581
	1350	1292	1524	116	2.44	25	3230
	1500	1419	1689	135	2.44	25	4149
	1650	1566	1854	144	2.44	25	4870
	1800	1707	2019	156	2.44	30	5748
	1950	1846	2184	169	2.44	30	6735
100D	150	153	197	22	1.83	10	57
	225	229	279	25	1.83	10	94
	300	292	362	35	1.83/2.44	16	170/226
	375	369	445	38	1.83/2.44	16	229/306
	450	445	533	44	1.83/2.44	20	319/426
	525	514	616	51	2.44	20	570
	600	585	699	57	2.44	15	724
	675	647	787	70	2.44	17	993
	750	718	870	76	2.44	18	1193
	825	788	946	79	2.44	18	1355
	900	853	1029	88	2.44	18	1638
	1050	986	1194	104	2.44	22	2242
	1200	1127	1359	116	2.44	22	2852
	1350	1262	1524	131	2.44	25	3609
	1500	1383	1689	153	2.44	25	4648
	1650	1524	1854	165	2.44	25	5512
	1800	1665	2019	177	2.44	30	6448
	1950	1800	2184	192	2.44	30	7564

Please note: Mass is an approximation only. Rocla cannot guarantee the exact mass as listed on this table.

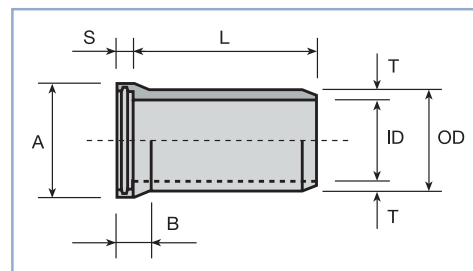
STORMWATER OR SEWER PIPES (SPIGOT & SOCKET JOINT) - SANS 677

Notes:

- For satisfactory performance the allowable joint deflections given below should not be exceeded.

Nominal Diameters	Maximum Deflection	Nominal Diameters	Maximum Deflection
300 - 375	2,0°	1050 - 1200	0,75°
450 - 600	1,5°	1350 - 1800	0,5°
675 - 900	1,0°		

- The joint uses the rolling rubber ring principal and no lubricant is required.
- For pipes of 450mm diameter and less the pipe lengths available may differ from those in the tabulation. Please enquire before placing an order on a factory.
- Pipes within this category may be ordered as both stormwater culvert (SC) or sewer and irrigation (SI) pipes. SI pipes are hydrostatically tested after manufacturing.



Pipe Class	Nominal Diameter (ND) mm	Inside Diameter (ID) mm	Outside Diameter (OD) mm	Wall Thickness (T) mm	Nominal Length (L) m	Outside Diameter (A) mm	Outside Socket (B) mm	Inside Socket Socket (S) mm	Approximate Mass per pipe kg/pipe
50D	300	298	368	35	1.83/2.44	464	225	114	200/258
	375	369	445	38	1.83/2.44	540	235	127	263/340
	450	445	533	44	1.83/2.44	641	260	127	369/476
	525	534	616	41	2.44	730	265	121	527
	600	611	699	44	2.44	825	300	139	658
	675	685	787	51	2.44	920	315	139	850
	750	762	870	54	2.44	1016	330	139	1007
	825	830	946	58	2.44	1086	330	139	1156
	900	913	1041	64	2.44	1194	360	139	1417
	1050	1034	1194	80	2.44	1353	390	162	1998
	1200	1187	1365	89	2.44	1543	425	168	2568
	1350	1328	1524	98	2.44	1708	445	175	3149
	1500	1461	1689	114	2.44	1886	490	190	4056
75D	1650	1640	1878	119	2.44	2088	510	190	4744
	1800	1755	2019	132	2.44	2250	525	190	5646
	300	298	368	35	1.83/2.44	464	225	114	200/258
	375	300	445	38	1.83/2.44	540	235	127	263/340
	450	445	533	44	1.83/2.44	641	260	127	369/476
	525	514	616	51	2.44	730	265	121	631
	600	585	699	57	2.44	825	300	139	812
	675	659	787	64	2.44	920	315	139	1023
	750	730	870	70	2.44	1016	330	139	1243
	825	788	946	79	2.44	1086	330	139	1492
	900	869	1041	86	2.44	1194	360	139	1805
	1050	986	1194	104	2.44	1353	390	162	2478
	1200	1157	1365	104	2.44	1543	425	168	2915
100D	1350	1292	1524	116	2.44	1708	445	175	3616
	1500	1419	1689	135	2.44	1886	490	190	4654
	1650	1600	1878	139	2.44	2088	510	190	5385
	1800	1707	2019	156	2.44	2250	525	190	6468
	150	150	210	30	1.83	305	200	103	90
	225	230	290	30	1.83	390	200	103	131
	300	298	368	35	1.83/2.44	464	225	114	200/258
	375	369	445	38	1.83/2.44	540	235	127	263/340
	450	445	533	44	1.83/2.44	641	260	127	369/476
	525	514	616	51	2.44	730	265	121	631
	600	585	699	57	2.44	825	300	139	812
	675	659	787	64	2.44	920	315	139	1023
	750	730	870	70	2.44	1016	330	139	1243
	825	788	946	79	2.44	1086	330	139	1492
	900	869	1041	86	2.44	1194	360	139	1805
	1050	986	1194	104	2.44	1353	390	162	2478
	1200	1127	1365	119	2.44	1543	425	168	3254
	1350	1262	1524	131	2.44	1708	445	175	3995
	1500	1383	1689	153	2.44	1886	490	190	5153
	1650	1548	1878	165	2.44	2088	510	190	6926
	1800	1665	2019	177	2.44	2250	525	190	7168

Please note: Mass is an approximation only. Rocla cannot guarantee the exact mass as listed on this table.

Examples of Rocla Concrete Pipes being installed.



SEWER PIPES WITH SACRIFICIAL LAYERS (SPIGOT & SOCKET JOINT) - SANS 677

Notes:

- For satisfactory performance the allowable joint deflections given below should not be exceeded.

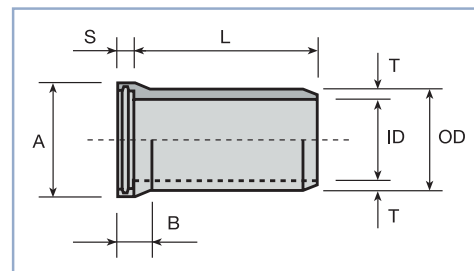
Nominal Diameters	Maximum Deflection	Nominal Diameters	Maximum Deflection
300 - 375	2,0°	1050 - 1200	0,75°
450 - 600	1,5°	1350 - 1800	0,5°
675 - 900	1,0°		

- The Sacrificial layer thickness on standard Rocla sewer pipes are:

300 - 1050 ND - 13mm 1200 - 1800 ND - 19mm

If required pipes with thicker sacrificial layers can be supplied.

- The joint uses the rolling rubber ring principal and no lubricant is required.



Pipe Class	Nominal Diameter (ND) mm	Inside Diameter (ID) mm	Outside Diameter (OD) mm	Wall Thickness (T) mm	Nominal Length (L) m	Outside Diameter (A) mm	Outside Socket (B) mm	Inside Socket (S) mm	Approximate Mass per pipe kg/pipe
50D	300	272	368	48	1.83/2.44	464	225	114	254/331
	375	343	445	51	1.83/2.44	540	235	127	332/432
	450	419	533	57	1.83/2.44	641	260	127	448/587
	525	508	616	54	2.44	730	265	121	661
	600	585	699	57	2.44	825	300	139	812
	675	659	787	64	2.44	920	315	139	1023
	750	736	870	67	2.44	1016	330	139	1200
	825	804	946	71	2.44	1086	330	139	1366
	900	887	1041	77	2.44	1194	360	139	1648
	1050	1008	1194	93	2.44	1353	390	162	2261
	1200	1149	1365	108	2.44	1543	425	168	3007
	1350	1290	1524	117	2.44	1708	445	175	3641
	1500	1423	1689	133	2.44	1886	490	190	4598
	1650	1602	1878	138	2.44	2088	510	190	5353
75D	1800	1717	2019	151	2.44	2250	525	190	6299
	300	272	368	48	1.83/2.44	464	225	114	254/331
	375	343	445	51	1.83/2.44	540	235	127	332/432
	450	419	533	57	1.83/2.44	641	260	127	448/587
	525	488	616	64	2.44	730	265	121	760
	600	559	699	70	2.44	825	300	139	959
	675	633	787	77	2.44	920	315	139	1189
	750	704	870	83	2.44	1016	330	139	1427
	825	762	946	92	2.44	1086	330	139	1691
	900	843	1041	99	2.44	1194	360	139	2025
	1050	960	1194	117	2.44	1353	390	162	2728
	1200	1119	1365	123	2.44	1543	425	168	3343
	1350	1254	1524	135	2.44	1708	445	175	4094
	1500	1381	1689	154	2.44	1886	490	190	5180
100D	1650	1562	1878	158	2.44	2088	510	190	5979
	1800	1669	2019	175	2.44	2250	525	190	7102
	300	272	368	48	1.83/2.44	464	225	114	254/331
	375	343	445	51	1.83/2.44	540	235	127	332/432
	450	419	533	57	1.83/2.44	641	260	127	448/587
	525	488	616	64	2.44	730	265	121	760
	600	559	699	70	2.44	825	300	139	959
	675	621	787	77	2.44	920	315	139	1189
	750	704	870	83	2.44	1016	330	139	1427
	825	762	946	92	2.44	1086	330	139	1691
	900	843	1041	99	2.44	1194	360	139	2025
	1050	960	1194	117	2.44	1353	390	162	2728
	1200	1089	1365	138	2.44	1543	425	168	3671
	1350	1224	1524	150	2.44	1708	445	175	4462
	1500	1345	1689	172	2.44	1886	490	190	5665
	1650	1510	1878	184	2.44	2088	510	190	6769
	1800	1627	2019	196	2.44	2250	525	190	7787

Please note: Mass is an approximation only. Rocla cannot guarantee the exact mass as listed on this table.

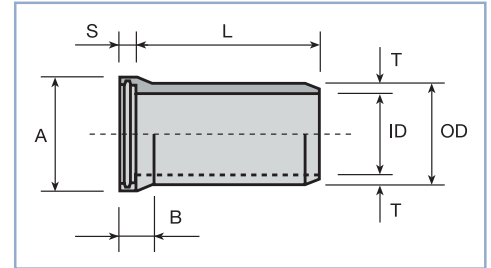
PRESSURE PIPES (SPIGOT & SOCKET JOINT) - SANS 676

Notes:

- For satisfactory performance the allowable joint deflections given below should not be exceeded.

Nominal Diameters	Maximum Deflection	Nominal Diameters	Maximum Deflection
300 - 375	2,0°	1050 - 1200	0,75°
450 - 600	1,5°	1350 - 1800	0,5°
675 - 900	1,0°		

- The joint uses the rolling ring principal and no lubricant is required.
- For pipes of 450mm diameter and less the pipe lengths available may differ from those in the tabulation. Please enquire before placing an order on a factory.



Pipe Class	Nominal Diameter (ND) mm	Inside Diameter (ID) mm	Outside Diameter (OD) mm	Wall Thickness (T) mm	Nominal Length (L) m	Outside Diameter (A) mm	Outside Socket (B) mm	Inside Socket (S) mm	Approximate Mass per pipe kg/pipe
T2	300	284	368	42	1.83/2.44	464	225	114	230/298
	375	361	445	42	1.83/2.44	540	235	127	283/369
	450	437	533	48	1.83/2.44	641	260	127	396/511
	525	514	616	51	2.44	730	265	121	631
	600	591	699	54	2.44	825	300	139	777
	675	673	787	57	2.44	920	315	139	931
	750	750	870	60	2.44	1016	330	139	1097
	825	818	946	64	2.44	1086	330	139	1254
	900	913	1041	64	2.44	1194	360	139	1417
	1050	1066	1194	64	2.44	1353	390	162	1666
	1200	1219	1365	73	2.44	1543	425	168	2187
T4	1350	1352	1524	86	2.44	1708	445	175	2831
	1500	1503	1689	93	2.44	1886	490	190	3440
	300	284	368	42	1.83/2.44	464	225	114	230/298
	375	361	445	42	1.83/2.44	540	235	127	283/369
	450	437	533	48	1.83/2.44	641	260	127	396/511
	525	514	616	51	2.44	730	265	121	631
	600	591	699	54	2.44	825	300	139	777
	675	673	787	57	2.44	920	315	139	931
	750	750	870	60	2.44	1016	330	139	1097
	825	818	946	64	2.44	1086	330	139	1254
	900	901	1041	70	2.44	1194	360	139	1525
T6	1050	1028	1194	83	2.44	1353	390	162	2059
	1200	1181	1365	92	2.44	1543	425	168	2638
	300	284	368	42	1.83/2.44	464	225	114	230/298
	375	361	445	42	1.83/2.44	540	235	127	83/369
	450	431	533	51	1.83/2.44	641	260	127	415/536
	525	496	616	60	2.44	730	265	121	721
	600	567	699	66	2.44	825	300	139	914
	675	641	787	73	2.44	920	315	139	1138
	750	706	870	82	2.44	1016	330	139	1413
	825	770	946	88	2.44	1086	330	139	1631
	900	845	1041	98	2.44	1194	360	139	2008
T8	300	284	368	42	1.83/2.44	464	225	114	230/298
	375	343	445	51	1.83/2.44	540	235	127	333/432
	450	413	533	60	1.83/2.44	641	260	127	471/611
	525	472	616	72	2.44	730	265	121	835
	600	531	699	84	2.44	825	300	139	1110

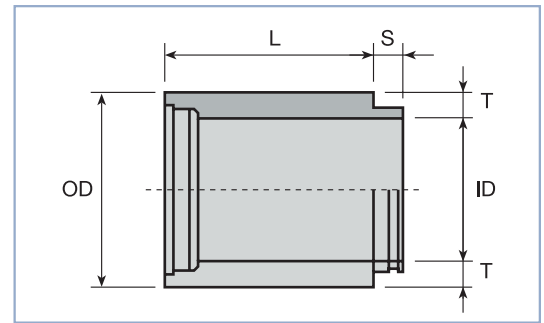
Please note: Mass is an approximation only. Rocla cannot guarantee the exact mass as listed on this table.



JACKING PIPES (IN-THE-WALL JOINT)

Notes:

1. Allowed deflection is 0,5 for all sizes.
2. The joint uses the sliding rubber ring principle and a lubricant is required.
3. These pipes are suitable for jacking.



Class	Nominal Diameter (ND) mm	Outside Diameter (OD) mm	Inside Diameter (ID) mm	Wall Thickness (T) mm	Nominal Length (L) m	Inside Socket (S) mm	Approximate Mass per pipe kg/pipe	Proof Load		
								50D kN/m	75D kN/m	100D kN/m
100D	900	1090	900	95	2.44	120	1915	45	67	90
	1117	1371	1117	127	2.44	133	3125	60	90	120
	1473	1778	1473	152	1.22	154	2451	75	113	150
	1678	2032	1678	177	1.22/2.44	164	3247/6493	90	135	180
	1800	2160	1800	180	1.22/2.44	165	3524/7049	90	135	180
	2000	2400	2000	200	2.44	170	8702	100	150	200
	2250	2700	2250	225	1.22	175	5507	113	169	225
	2340	2800	2340	230	2.44	175	11690	120	180	240
	2500	3000	2500	250	1.22/2.44	148	6798/13597	125	188	250

Please note: Mass is an approximation only. Rocla cannot guarantee the exact mass as listed on this table.



RECTANGULAR PORTALS

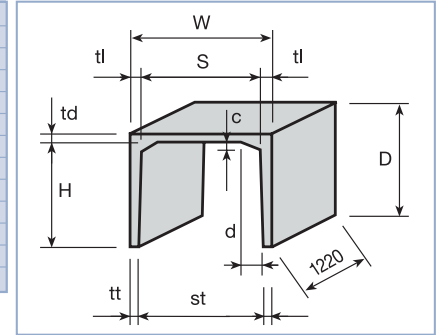
(ROAD APPLICATION STORMWATER CULVERT) - SANS 986

Notes:

1. Culverts to take greater loads than specified in SABS 986 can be manufactured. Please enquire from your nearest Rocla sales office.
2. Requirements for intermediate sizes can be discussed with branches directly.

NB: For lifting hole arrangements see page 9.

Span mm	Class				
	75S	100S	150S	175S	200
450					x
600					x
750				x	
900				x	
1200			x		
1500		x			
1800	x				
2100	x				
2400	x				
3000	x				
3600	x				



Nominal Size			Dimensions								Water Way	Approx. Mass
S	x	H	W	D	St	td	tl	tt	c	d	area	per unit
mm		mm	mm	mm	mm	mm	mm	mm	mm	mm	m ²	kg/unit
450	x	300	600	390	470	90	75	65	37	75	0.13	311
		375	600	465	475	90	75	63	37	75	0.17	342
		450	600	540	480	90	75	60	37	75	0.20	370
600	x	300	760	390	620	90	80	70	50	100	0.18	373
		450	760	540	630	90	80	65	50	100	0.27	436
		600	760	690	640	90	80	60	50	100	0.36	495
750	x	300	920	390	770	90	85	75	50	100	0.22	427
		450	920	540	780	90	85	70	50	100	0.34	496
		600	920	690	790	90	85	65	50	100	0.45	560
		750	920	840	800	90	85	60	50	100	0.57	619
900	x	300	1100	400	920	100	100	90	50	100	0.26	541
		450	1100	550	930	100	100	85	50	100	0.40	624
		600	1100	700	940	100	100	80	50	100	0.54	702
		750	1100	850	950	100	100	75	50	100	0.68	775
		900	1100	1000	960	100	100	70	50	100	0.83	844
1200	x	300	1440	420	1220	120	120	110	50	100	0.35	777
		450	1440	570	1230	120	120	105	50	100	0.53	878
		600	1440	720	1240	120	120	100	50	100	0.72	975
		900	1440	1020	1260	120	120	90	50	100	1.09	1155
		1200	1440	1320	1280	120	120	80	50	100	1.47	1315
1500	x	300	1750	425	1520	125	125	115	75	225	0.44	968
		450	1750	575	1530	125	125	110	75	225	0.67	1075
		600	1750	725	1540	125	125	105	75	225	0.90	1176
		900	1750	1025	1560	125	125	95	75	225	1.36	1365
		1200	1750	1325	1580	125	125	85	75	225	1.83	1535
		1500	1750	1625	1600	125	125	75	75	225	2.31	1686
1800	x	600	2100	750	1840	150	150	130	100	300	1.08	1615
		900	2100	1050	1860	150	150	120	100	300	1.63	1851
		1200	2100	1350	1880	150	150	110	100	300	2.19	2068
		1500	2100	1650	1900	150	150	100	100	300	2.76	2266
		1800	2100	1950	1920	150	150	90	100	300	3.33	2446
2100	x	600	2400	750	2140	150	150	130	100	300	1.26	1756
		900	2400	1050	2160	150	150	120	100	300	1.88	1992
		1200	2400	1350	2180	150	150	110	100	300	2.55	2210
		1500	2400	1650	2200	150	150	100	100	300	3.21	2408
		1800	2400	1950	2220	150	150	90	100	300	3.81	2587
		2100	2400	2250	2240	150	150	80	100	300	4.54	2748
2400	x	600	2720	760	2440	160	160	140	100	300	1.44	2031
		900	2720	1060	2460	160	160	130	100	300	2.17	2293
		1200	2720	1360	2480	160	160	120	100	300	2.91	2533
		1500	2720	1660	2500	160	160	110	100	300	3.66	2752
		1800	2720	1960	2520	160	160	100	100	300	4.41	2954
		2100	2720	2260	2540	160	160	90	100	300	5.19	3145
		2400	2720	2560	2560	160	160	80	100	300	5.94	3277
3000	x	600	3480	790	3040	190	230	210	150	300	1.76	2994
		900	3480	1090	3060	190	230	200	150	300	2.68	3381
		1200	3480	1390	3080	190	230	190	150	300	3.60	3885
		1500	3480	1690	3100	190	230	180	150	300	4.53	4099
		1800	3480	1990	3120	190	230	170	150	300	5.46	4430
		2100	3480	2290	3140	190	230	170	150	300	6.40	4741
		2400	3480	2590	3160	190	230	150	150	300	7.34	5034
		3000	3480	3190	3200	190	230	130	150	300	9.25	5562
3600	x	600	4060	850	3640	250	230	210	150	300	2.12	4167
		900	4060	1150	3660	250	230	200	150	300	3.22	4555
		1200	4060	1450	3680	250	230	190	150	300	4.32	4923
		1500	4060	1750	3700	250	230	180	150	300	5.43	5272
		1800	4060	2050	3720	250	230	170	150	300	6.54	5603
		2100	4060	2350	3740	250	230	160	150	300	7.66	5914
		2400	4060	2650	3760	250	230	150	150	300	8.78	6207
		3000	4060	3250	3800	250	230	130	150	300	11.05	6736
4000	x	1500	4500	1750	4100	250	250	200	300	600	5.89	6232
		3000	4500	3250	4200	250	250	150	300	600	12.12	7884

Please note: Mass is an approximation only. Rocla cannot guarantee the exact mass as listed on this table.

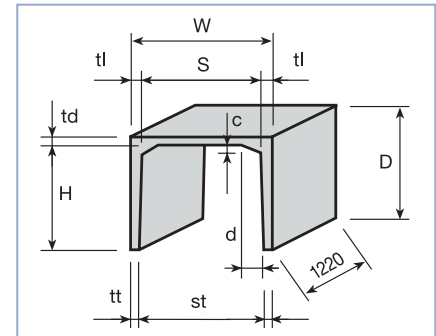
SATS SAR RECTANGULAR PORTALS

(RAIL APPLICATION STORMWATER CULVERT) - CLASS 1 LOADING

Notes:

- These culverts are available from a limited number of factories only. Please enquire about their availability from your nearest Rocla sales office.
- These culverts are designed to meet the requirements of SATS class 1 loading, where "Z" is the effective fill height above the culverts.

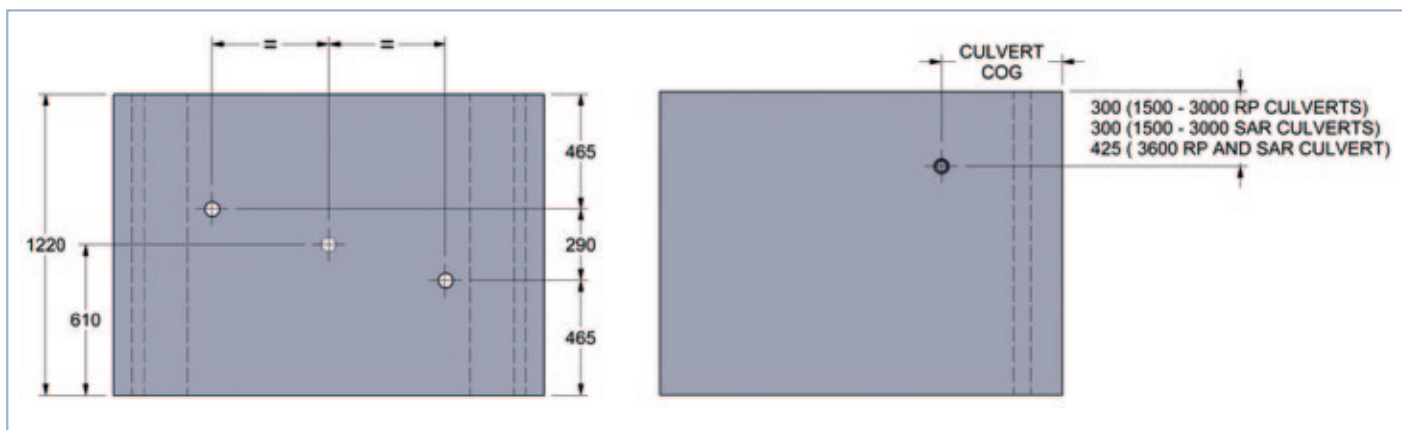
NB: For lifting hole arrangements see page 9.



Nominal Size			Dimensions								Water Way	Approx. Mass
S	x	H	Z	W	D	St	td	tl	tt	r	area	per unit
mm	mm	mm	m	mm	mm	mm	mm	mm	mm	mm	m ²	kg/unit
600	x	450	0 - 5	800	570	630	120	100	85	50/100	0.28	580
		600	0 - 5	800	720	640	120	100	80	50/100	0.37	658
750	x	450	0 - 5	950	600	780	150	100	85	50/100	0.34	726
		600	0 - 5	950	750	790	150	100	80	50/100	0.46	804
750		750	0 - 5	950	900	800	150	100	75	50/100	0.58	877
900	x	450	0 - 5	1100	570	930	120	100	85	50/100	0.41	696
		600	0 - 5	1100	730	940	130	100	80	50/100	0.55	809
		600	0 - 15	1100	790	990	190	100	80	50/100	0.57	998
		750	0 - 5	1100	900	950	150	100	75	50/100	0.69	948
		900	0 - 5	1100	1030	960	130	100	70	50/100	0.84	951
1200	x	450	0 - 5	1440	610	1240	160	120	100	50/100	0.55	1059
		600	0 - 7.5	1440	760	1240	160	120	100	50/100	0.73	1171
		1200	0 - 7.5	1440	1360	1280	160	120	80	50/100	1.49	1505
1500	x	600	0 - 5	1750	755	1540	155	125	105	75/225	1.14	1341
		750	0 - 5	1750	905	1550	155	125	100	75/225	1.14	1438
		900	0 - 5	1750	1055	1560	155	125	95	75/225	1.38	1540
		1000	0 - 5	1860	1175	1566	175	180	147	150	1.53	2085
		1000	5 - 10	1860	1225	1566	225	180	147	150	1.53	2380
		1200	0 - 5	1860	1355	1580	155	180	140	75/225	1.85	1710
		1500	0 - 5	1860	1675	1600	175	180	130	150	2.33	2520
		1500	5 - 10	1860	1725	1600	225	180	130	150	2.33	2815
1800	x	600	0 - 5	2100	750	1800	150	150	120	100/300	1.62	1614
		900	0 - 5	2100	1070	1880	170	140	100	100/300	2.21	1859
2000	x	1000	0 - 5	2420	1225	2066	225	210	177	200	2.03	2985
		1000	5 - 10	2420	1275	2066	275	210	177	200	2.03	3385
		1500	0 - 5	2420	1725	2100	225	210	160	200	3.08	3490
		1500	5 - 10	2420	1775	2100	275	210	160	200	3.08	3875
		1800	0 - 5	2420	2025	2120	225	210	150	200	3.45	4528
		1800	5 - 10	2420	2075	2120	275	210	150	200	4.16	4896
		2000	0 - 5	2420	2225	2134	225	210	143	200	4.13	3979
		2000	5 - 10	2420	2275	2134	275	210	143	200	4.13	4350
2500	x	1500	0 - 5	2960	1725	2600	225	230	180	250	3.83	4120
		1500	5 - 10	2960	1825	2600	325	230	180	250	3.83	5050
		2000	0 - 5	2960	2225	2632	225	230	164	250	5.13	4660
		2000	5 - 10	2960	2325	2632	325	230	164	250	5.13	5595
		2500	0 - 5	2960	2725	2666	225	230	147	250	6.46	5150
		2500	5 - 10	2960	2825	2666	325	230	147	250	6.46	6080
3000	x	1000	0 - 5	3570	1275	3128	275	285	252	300	3.06	4956
		1000	5 - 10	3570	1375	3128	375	285	252	300	3.06	6081
		1500	0 - 5	3570	1795	3096	275	285	237	300	4.63	5677
		1500	5 - 10	3570	1875	3096	375	285	237	300	4.57	6802
		2000	0 - 5	3570	2275	3130	275	285	220	300	6.09	6395
		2000	5 - 10	3570	2375	3130	375	285	220	300	6.09	7520
		2500	0 - 5	3570	2775	3166	275	285	202	300	7.66	7045
		2500	5 - 10	3570	2875	3166	375	285	202	300	7.66	8170
		3000	0 - 5	3570	3275	3200	275	285	185	300	9.26	7649
		3000	5 - 10	3570	3375	3200	375	285	185	300	9.26	8775

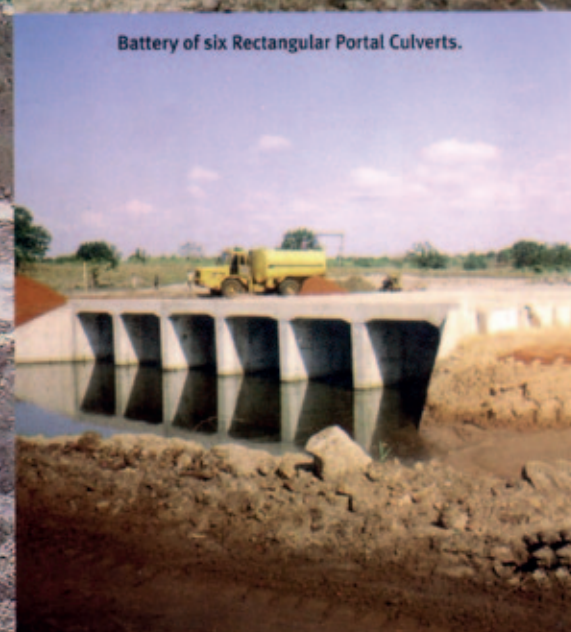
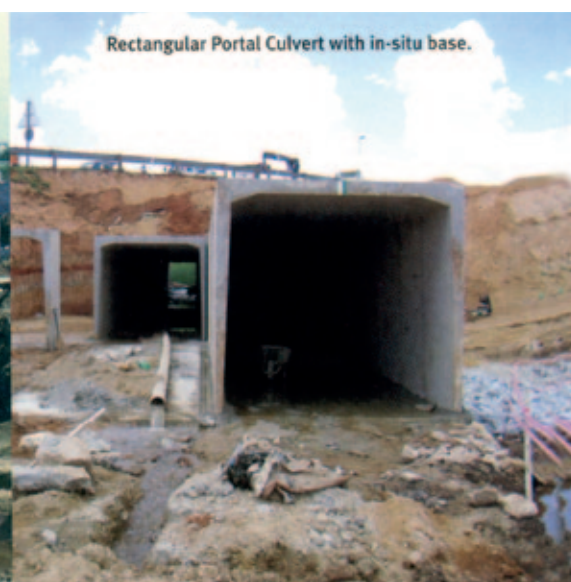
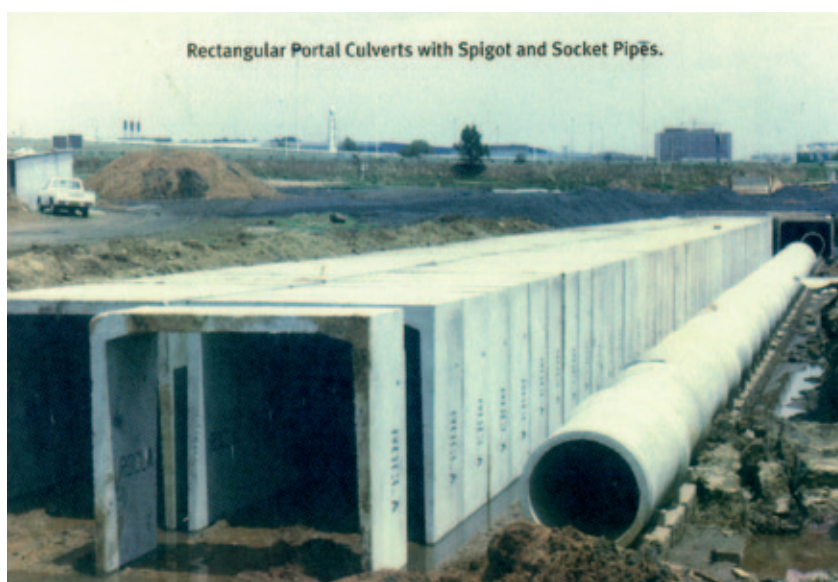
Special SAR Culverts												
Culvert Size			Dimensions									
S	x	H	Z	W	D	St	td	tl	tt	c	d	e
3600	x	2100	0 - 7	4200	2500	3740	400	300	230	SAR Adjustable Moulds		
		2400	0 - 15		2800	3760			220			
750	x	2500	0 - 15		2900	3766			217	300	600	2300
		3000	0 - 5		3400	3800			200			

Please note: Mass is an approximation only. Rocla cannot guarantee the exact mass as listed on this table.



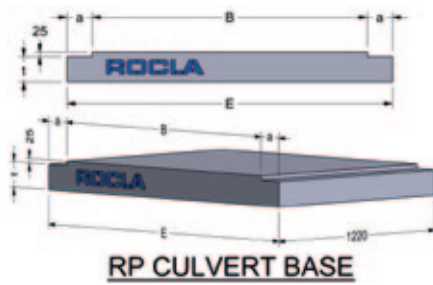
**PLAN & SIDE VIEW
SHOWING LIFTING HOLE ARRANGEMENTS**

Span	Hole arrangement (Ø 50mm MIN.)
450 - 750	Single hole in centre in deck
900 - 3600	Two lifting holes in deck
1500 - 3600	Single hole in each leg

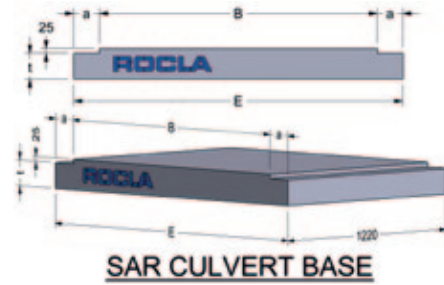


CULVERT BASE SLABS

SLABS FOR RECTANGULAR PORTAL CULVERT



SLABS FOR SATS RECTANGULAR PORTAL CULVERT

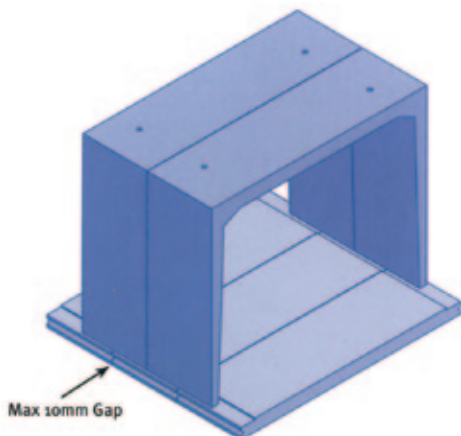


Culvert Span	Max Leg Height	Dimensions				Approx. Mass Per
S	H	E	t	a	B	base
mm	mm	mm	mm	mm	mm	kg/unit
450	450	640	65	95	450	166
600	600	800	85	95	610	262
750	750	960	100	100	760	362
900	900	1150	115	120	910	488
1200	1200	1480	130	135	1210	701
1500	1500	1800	140	140	1520	913
1800	1200	2150	150	165	1820	1158
1800	1800	2150	150	165	1880	1163
2100	1500	2470	160	165	2140	1412
2100	2100	2470	160	135	2200	1417
2400	1500	2770	170	165	2440	1674
2400	2400	2770	170	135	2500	1679
3000	1500	3510	190	245	3020	2337
3000	3000	3510	190	235	3040	2338
3600	3000	4150	200	265	3620	2897

Culvert Span	Fill	Dimensions				Approx. Mass per
S	Z	E	t	a	B	base
mm	m	mm	mm	mm	mm	kg/unit
750	0 - 5	1000	160	120	760	588
750	5 - 10	1000	160	120	760	588
900	0 - 5	1150	160	120	910	651
900	5 - 10	1150	160	120	910	651
1200	0 - 5	1500	160	140	1220	851
1200	5 - 10	1500	180	140	1220	946
1500	0 - 5	1900	180	175	1550	1198
1500	5 - 10	1900	220	175	1550	1438
1800	0 - 5	2150	200	165	1820	1497
1800	5 - 10	2150	250	165	1820	1835
2000	0 - 5	2450	220	200	2050	1858
2000	5 - 10	2450	280	200	2050	2321
2400	0 - 5	2800	240	175	2450	2308
2400	5 - 10	2800	320	175	2450	3013
2500	0 - 5	3000	250	225	2550	2561
2500	5 - 10	3000	330	225	2550	3317
3000	0 - 5	3600	270	275	3050	3299
3000	5 - 10	3600	370	275	3050	4433

Please note: Mass is an approximation only. Rocla cannot guarantee the exact mass as listed on this table.

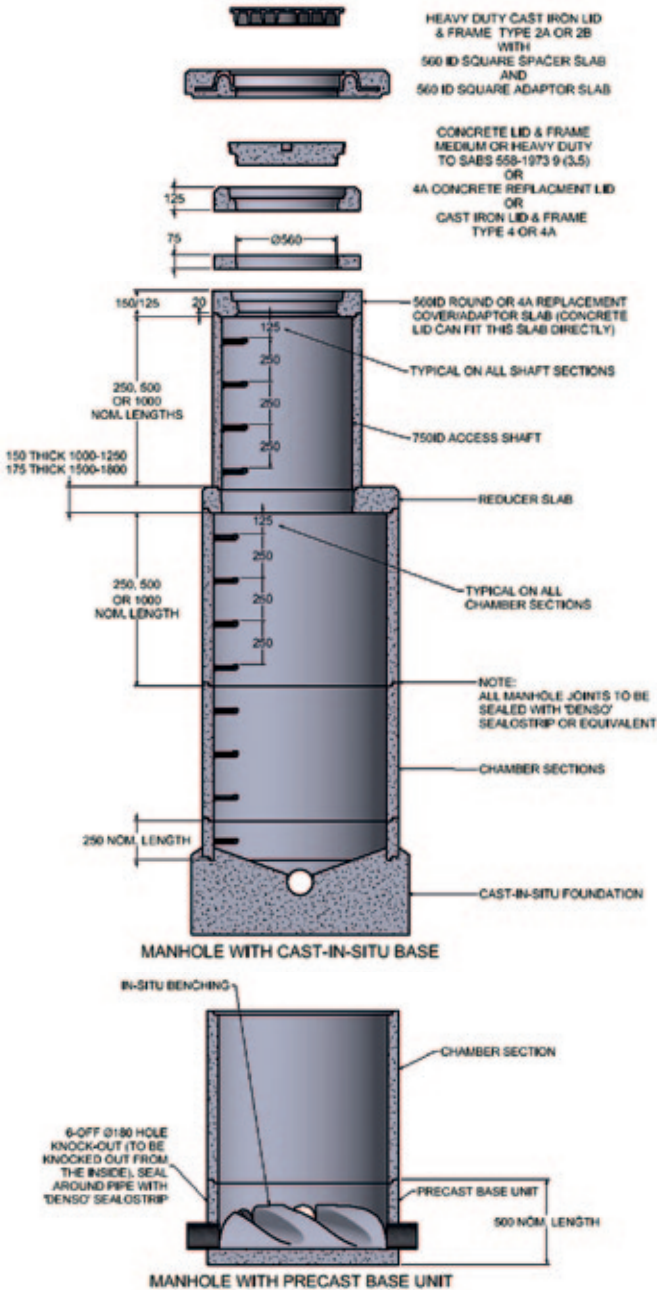
Rectangular Portal Culvert with precast base.



MANHOLES, CHAMBERS, SHAFT SECTIONS & SLABS - SANS 1294

Note:

- 1950 Manholes are not made at all Rocla factories, please enquire before placing an order.
- Manhole Components may be used at both stormwater and sewer applications, where sewer applications will require customers to specify the use of dolomitic aggregates.



Pipe Strength	Normal Diameter	Inside Diameter	Outside Diameter	Wall Thickness	Nominal Length	Inside Socket	Approx Mass	Proof Load
kN/m	ND mm	ID mm	OD mm	T mm	L mm	S mm	kg/unit	kN/m
15	750	750	860	55	250	18	90	15.0
	750	750	860	55	500	18	180	15.0
	750	750	860	55	1000	18	359	15.0
	1000	1000	1130	65	250	19	140	15.0
	1000	1000	1130	65	500	19	281	15.0
	1000	1000	1130	65	1000	19	561	15.0
	1250	1250	1400	75	250	22	202	15.0
	1250	1250	1400	75	500	22	403	15.0
	1250	1250	1400	75	1000	22	806	15.0
	1500	1523	1689	83	250	25	270	15.0
	1500	1523	1689	83	500	25	540	15.0
	1500	1523	1689	83	1000	25	1080	15.0
	1800	1829	2019	95	250	30	371	15.0
	1800	1829	2019	95	500	30	741	15.0
	1800	1829	2019	95	1000	30	1482	15.0
1950	1950	1980	2184	102	1000	32	1960	15.0

Reducer Slabs	Reduce To	Thickness mm	Mass kg
1000	750	150	204
1250	750	150	408
1500	750	175	793
1800	750	175	1218
1950	750	195	1662

Cover Slab	Reduce To	Thickness mm	Mass kg
1000	560	150	272
1250	560	150	476
1500	560	175	871
1800	560	175	1296
1950	560	195	1885

Adaptor Slabs		Mass kg
Round	750mm with 560 hole 150 THK	113
4A	860 OD with 560 hole 125 THK	84
Square	900 with 560 hole 125 THK	146

Spacer Slabs		Mass kg
Round Spacer	750mm with 560 hole 75 THK	51
	900 SQ with 560 hole 75 THK	108

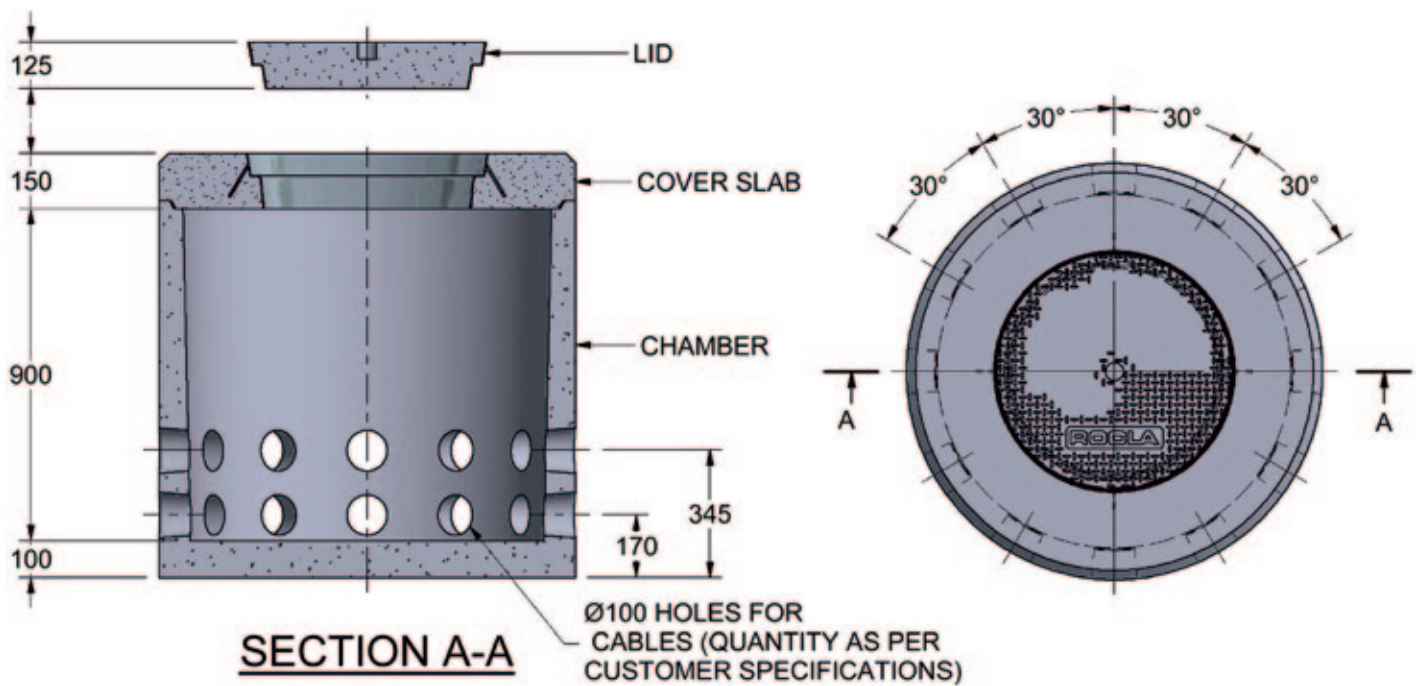
Concrete Lid		Mass kg
560 DIA	Medium Duty	95
560 DIA	Heavy Duty	95
560 DIA	Extra Heavy Duty	95

Section of Manhole Access Shaft and Precast Base Unit.
1000 Diameter, Mass 716kg, 6 outlets.

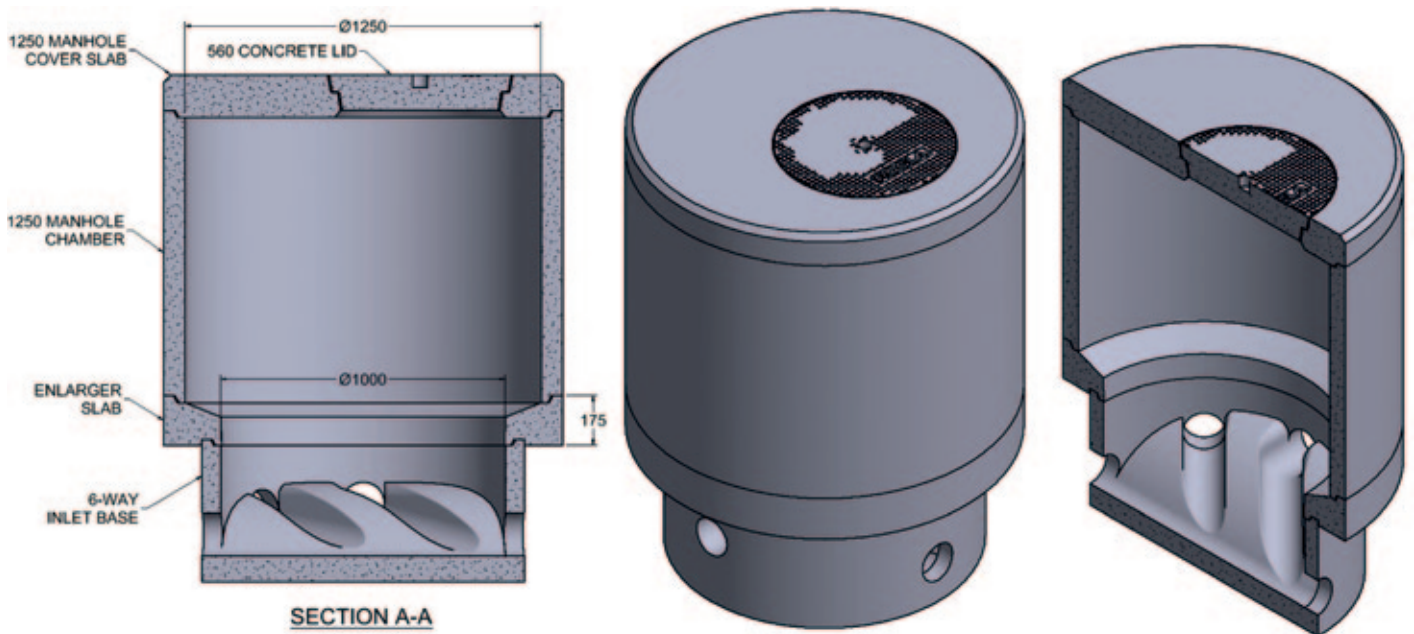


Please note: Mass is an approximation only. Rocla cannot guarantee the exact mass as listed on this table.

AIRPORT MANHOLE



ENLARGER SLAB



ENLARGER SLAB	ENLARGES TO	THICKNESS	MASS kg
1000	1250	175	270

Please note: Mass is an approximation only. Rocla cannot guarantee the exact mass as listed on this table.

SPUN CONCRETE POLES

Pole Size							
Length m	Tip Dia mm	Butt Dia mm	Mass t	Cable Entry mm	Inspection Box mm	Strength kN	Planting Depth m
4.5	115	183	0.210	150 x 75	465 x 145	2.5	1.00
4.5	130	198	0.237	150 x 75	465 x 145	2.5	1.00
6.0	115	205	0.307	150 x 75	465 x 145	2.5	1.20
6.0	130	220	0.346	150 x 75	465 x 145	2.5	1.20
7.5	115	228	0.419	150 x 75	465 x 145	2.5	1.35
7.5	130	243	0.473	150 x 75	465 x 145	2.5	1.35
8.0	130	250	0.522	150 x 75	465 x 145	2.5	1.40
9.0	130	265	0.617	150 x 75	465 x 145	2.5 or 5.5	1.50
10.0	130	280	0.720	150 x 75	465 x 145	5.5	1.60
11.0	130	295	0.828	150 x 75	465 x 145	5.5	1.70
12.0	130	310	0.967	150 x 75	465 x 145	5.5	1.80
13.0	130	325	1.066	150 x 75	465 x 145	5.5	1.90

RETICULATION

Dimensions					
Length m	Tip Dia mm	Butt Dia mm	Mass kg	Strength kN	Planting Depth m
7.0	130	235	434	3.5	1.3
9.0	160	295	646	5.5	1.5
9.0	160	295	807	8.5	1.5
9.0	190	325	950	12.0	1.5
10.0	160	310	866	5.5	1.6
10.0	190	340	1095	12.0	1.6
11.0	160	325	1074	8.5	1.7
11.0	190	355	1287	15.0	1.7
12.0	160	340	1051	8.5	1.8
13.0	160	355	1261	5.5	1.9
13.0	190	385	1449	8.0	1.9
14.0	192	402	1770	10.0	2.0

TRANSMISSION & DISTRIBUTION SINGLE SECTIONS

Dimensions					
Length m	Tip Dia mm	Butt Dia mm	Mass kg	Strength kN	Planting Depth m
15.6	264	498	2872	15.0	2.20
15.6	264	498	2954	25.0	2.20
15.6	264	498	2984	30.0	2.20
16.8	228	480	2825	18.0	2.30
16.8	228	480	3034	32.0	2.30
16.8	300	552	4140	50.0	2.30
16.8	300	552	4424	55.0	2.30
18.0	228	498	3076	15.0	2.40
18.0	228	498	3250	28.0	2.40
18.0	228	498	3328	36.0	2.40
18.0	300	570	4822	50.0	2.40
19.2	264	552	4242	25.0	2.50
19.2	300	588	4856	36.0	2.50
19.2	300	588	4989	50.0	2.50
19.2	372	660	6003	65.0	2.50
21.0	300	615	4960	21.0	2.70
21.0	300	615	5084	32.0	2.70
21.0	300	615	5343	50.0	2.70
24.0	300	660	6140	32.0	3.00
24.0	300	660	6510	40.0	3.00
24.0	300	660	6532	50.0	3.00

JOINTED SECTIONS

Dimensions					
Length m	Tip Dia mm	Butt Dia mm	Mass kg	Strength kN	Planting Depth m
26.4	300	696	9038	50.0	3.20
28.8	300	732	10413	50.0	3.50
31.2	300	768	11680	50.0	3.70
33.6	300	804	13347	50.0	4.00
36.0	300	804	15040	50.0	4.20

DOUBLE POLES

Dimensions					
Length m	Tip Dia mm	Butt Dia mm	Mass kg	Strength kN	Planting Depth m
19.2	372	660	12006	206	2.50
21.0	300	615	10686	156	2.70
24.0	300	660	13064	156	3.00

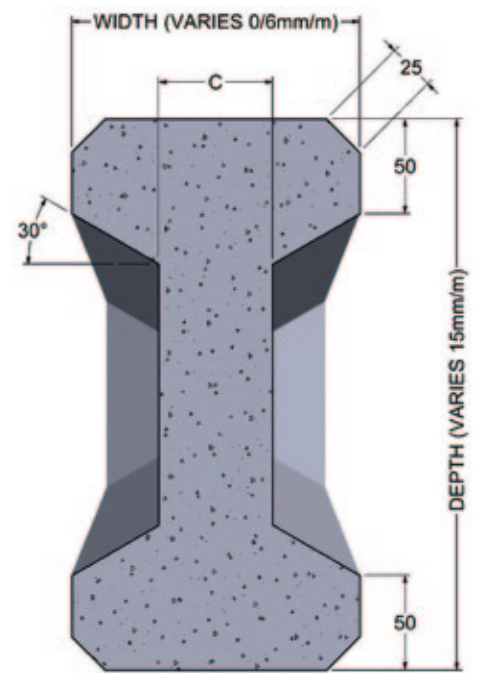
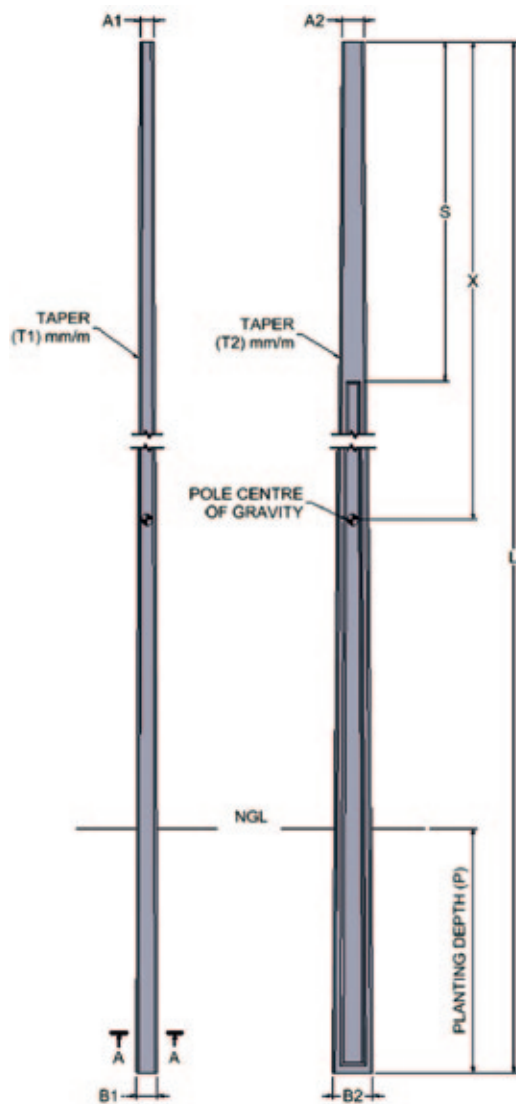
The mass of the connecting steel elements is not included in the pole mass as given in the table above.



Jointed Double Concrete Poles for overhead power lines utilised as an unstayed angle structure.

Please note: Mass is an approximation only. Rocla cannot guarantee the exact mass as listed on this table.

I-SECTION CAST CONCRETE POLES



TYPICAL SECTION A-A



L m	A1 mm	A2 mm	B1 mm	B2 mm	S mm	T1	T2	P mm	C mm	X mm	Approx. Mass (Kg)	Strength (kN)
7.0	100	120	100	255	2000	0	15	1300	55	3790	257	4.0
7.5	200	350	245	462.5	2500	6	15	1350	60	3170	1139	20.0
9.0	100	160	154	295	2500	6	15	1500	60	5140	515	6.0
9.3	165	275	220.8	414.5	2000	6	15	1500	60	5140	1017	17.5
11.0	130	180	196	345	1500	6	15	1700	60	6344	836	8.0
13.0	160	250	238	445	1500	6	15	1900	60	7303	1397	10.0

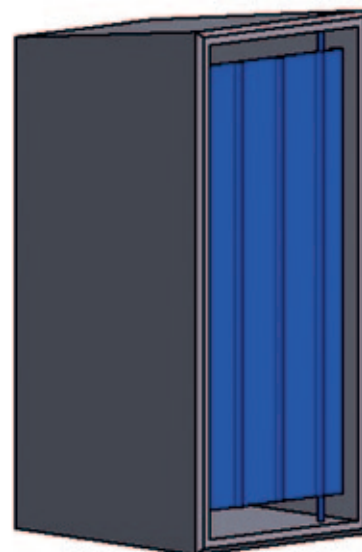
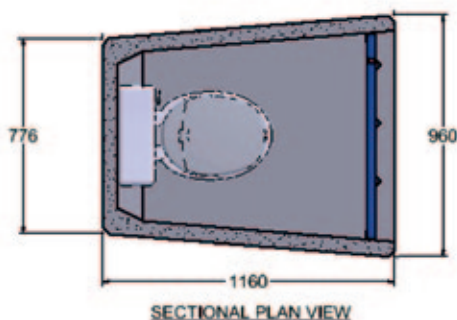
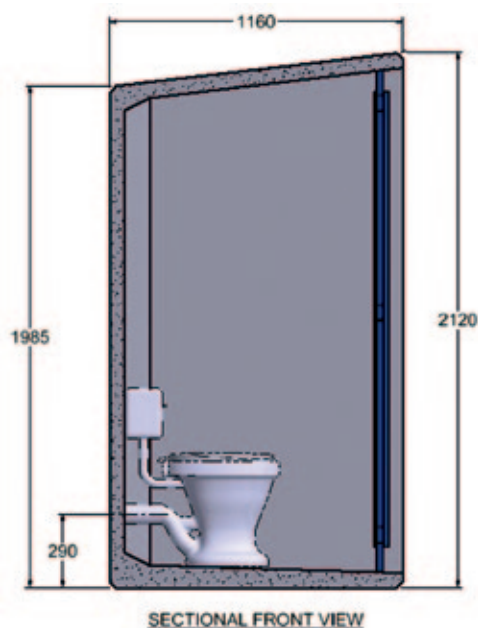


TOILET SYSTEMS

ONE-PIECE TOILET

Notes:

1. One piece, precast concrete toilet structure with water pipe above the cistern.



PANEL TOILET

Notes:

1. Rocla leads the way in providing mass employment in the provision of sanitation. Rocla has left no stone unturned in developing its new Lightweight Concrete Sanitation Unit.

Social Development Features:

- Labour intensive methods used.
- Community based labour.
- Up to 70% woman employed.
- Training and transfer of skills.
- On site training and employment.
- Toilet can be relocated by the household.
- Preferred product by communities.
- Most suited for Expanded Public Works Programme (EPWP).

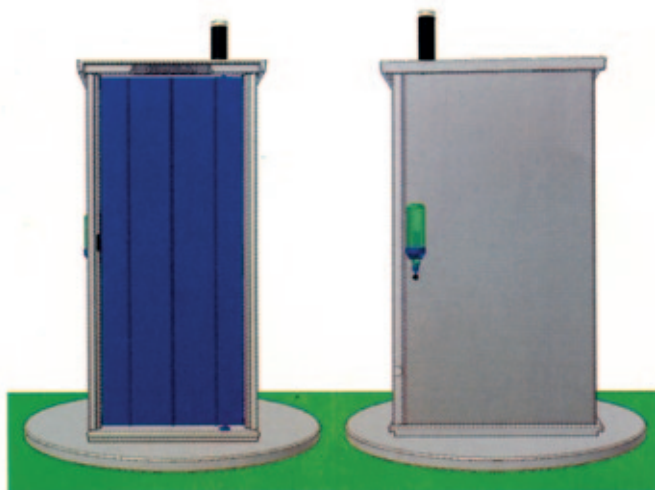
Technical Features:

- New Patented Concrete Technology.
- All concrete structure.
- All components have convenient "hand grips".
- One piece walls, roof, floor and spreader slab.
- No "styrofoam" or "metal bits and pieces".
- Panels are light and easy to handle.
- Top structure erected in 15 minutes.
- Very low breakage/damage factor.
- Available in VIP or Waterborne format.
- Designed to be in line with all Standards.
- Large interior (900mm Wide x 1100mm Deep x 2000mm High).
- All bolts internal (no studs).
- Easy relocation when required.

- Bolts tap into plastic sleeve, ensuring ease for later relocation.
- Strong textured galvanised steel pivot door.
- "Real door" mechanism that self latches.
- Door can be opened from inside when locked on the outside.
- Integral cross ventilation built in.
- VIP pit adaptable to all conditions.
- All types of pans bolt to the floor.

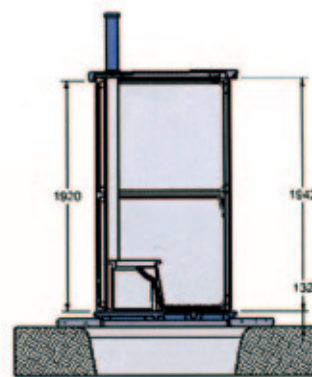
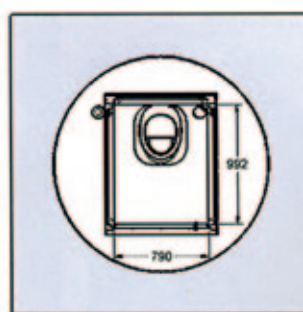
Logistical Facts:

- One manufacturing facility can produce a large quantity of units per month.
- Rocla is will partner with Municipalities/communities to erect factories for large projects.

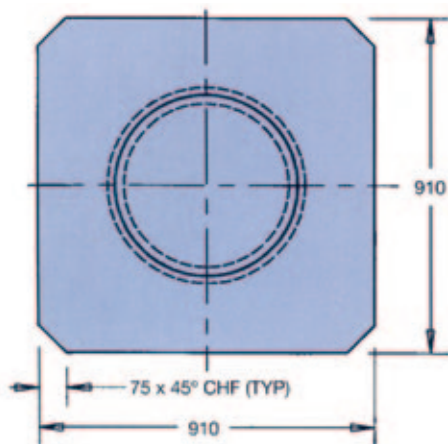


Panel Toilet
Front View

Panel Toilet
Side View

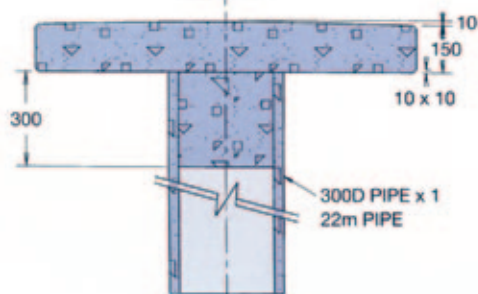
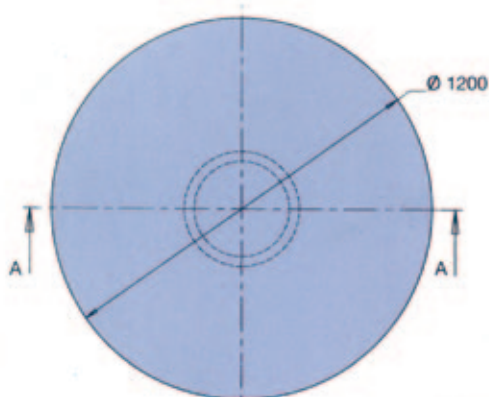
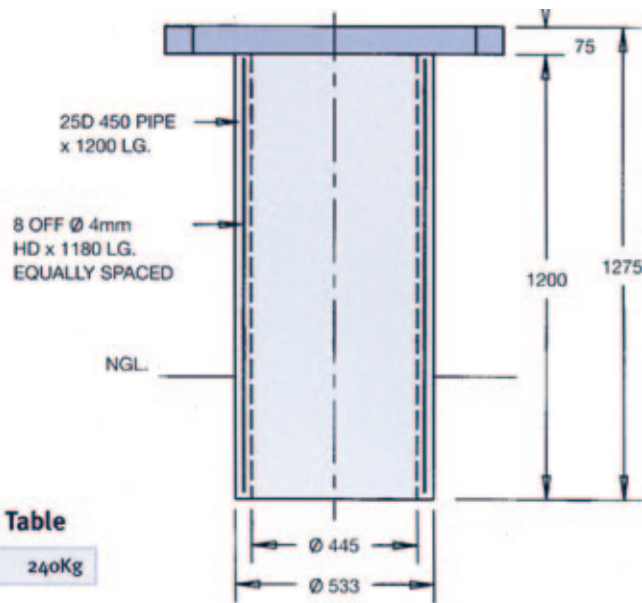


ROADSIDE FURNITURE



National Road Picnic Table

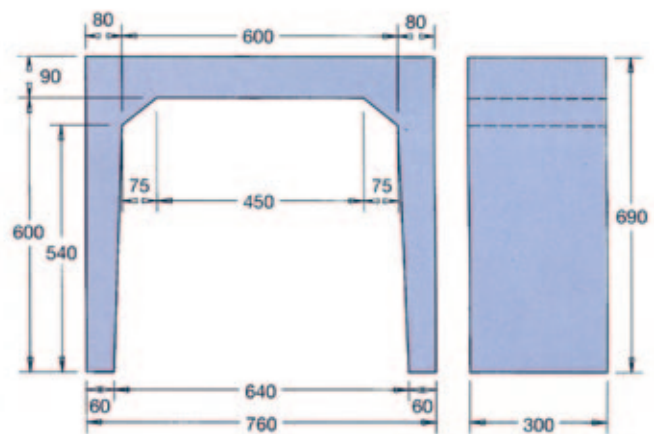
APPROX. CONCRETE MASS: 240Kg



SECTION A-A

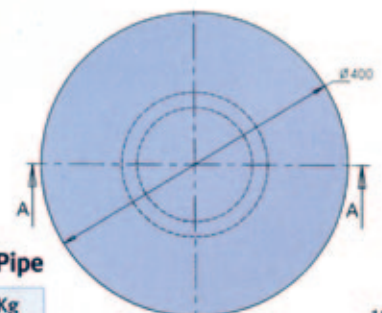
Table Top with Cast In Pipe

APPROX. CONCRETE MASS: 620Kg



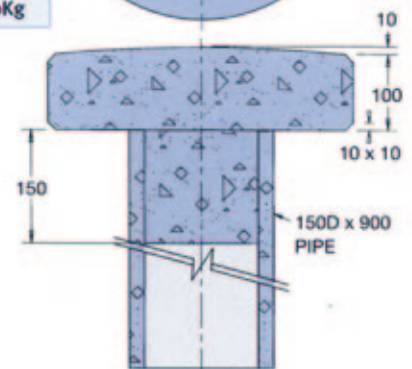
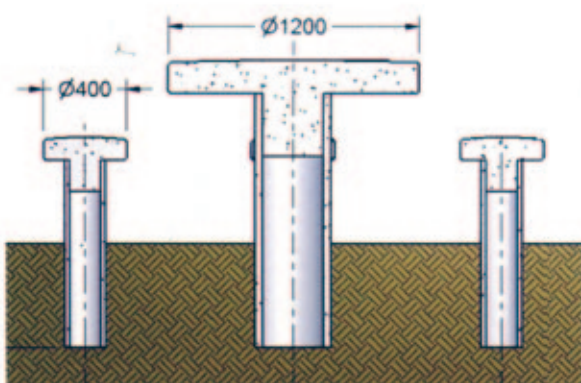
Square National Road Picnic Bench

APPROX. CONCRETE MASS: 123Kg



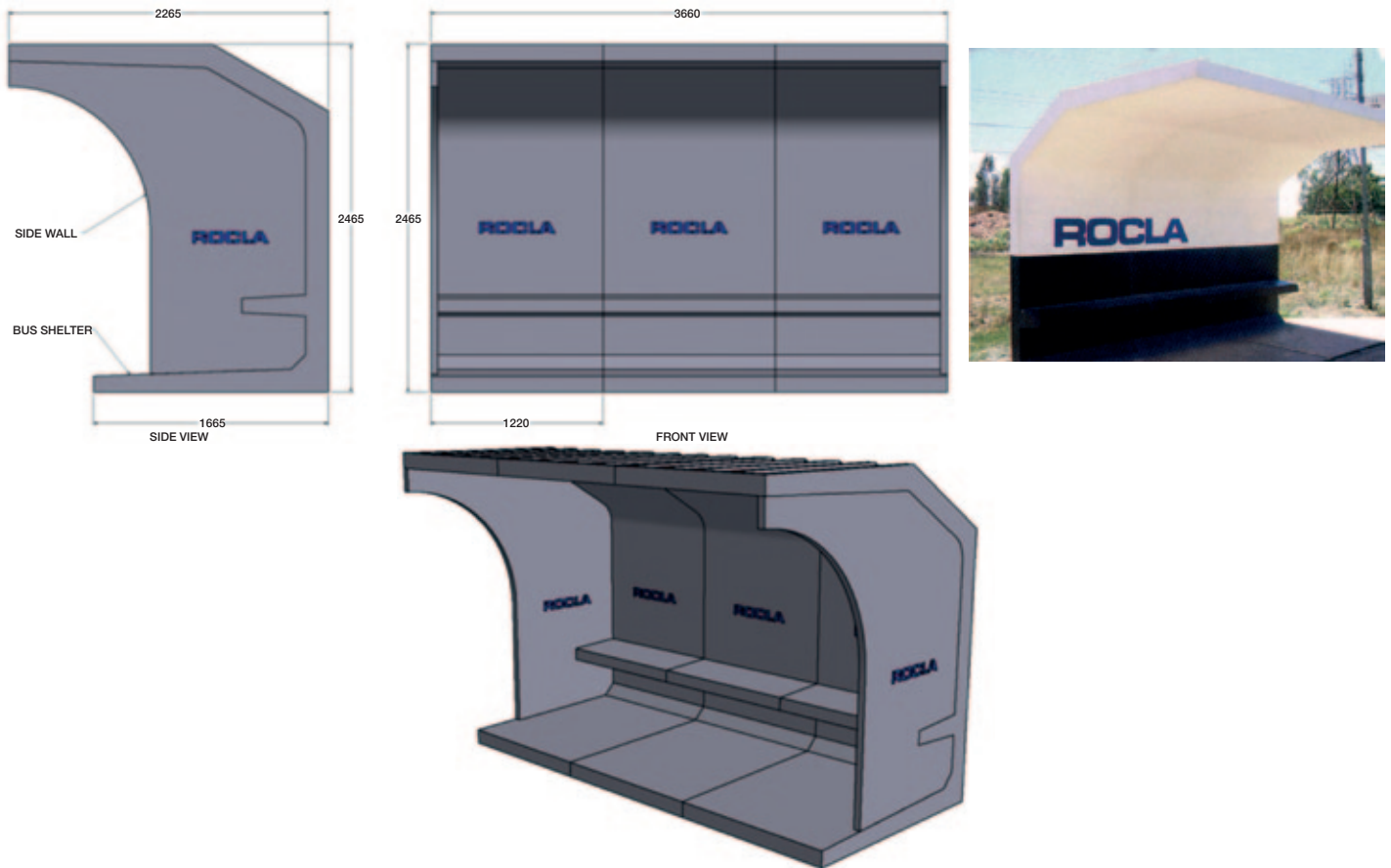
Round Chair Top with Cast In Pipe

APPROX. CONCRETE MASS: 70Kg



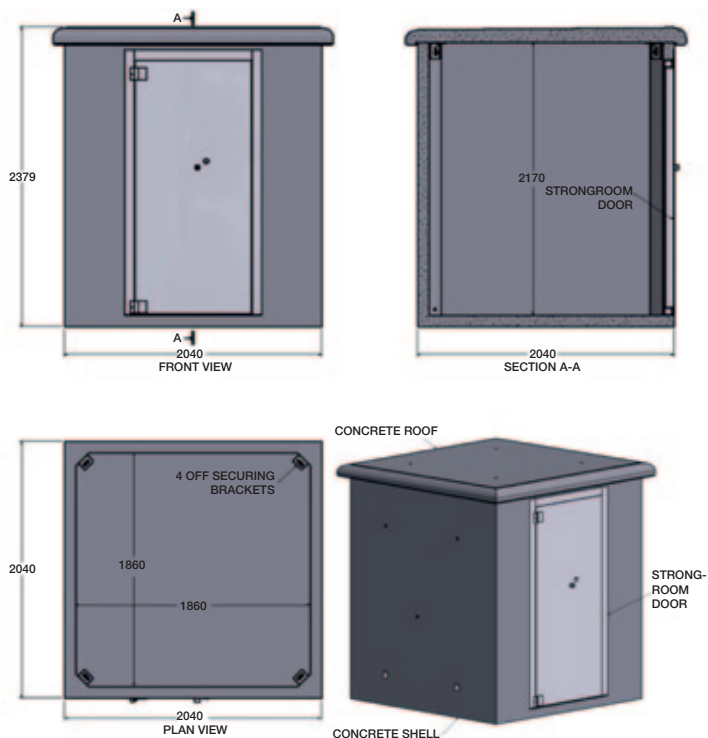
SECTION A-A

BUS SHELTERS



Please note: Mass is an approximation only. Rocla cannot guarantee the exact mass as listed on this table.

SECURE SIGNAL HOUSES

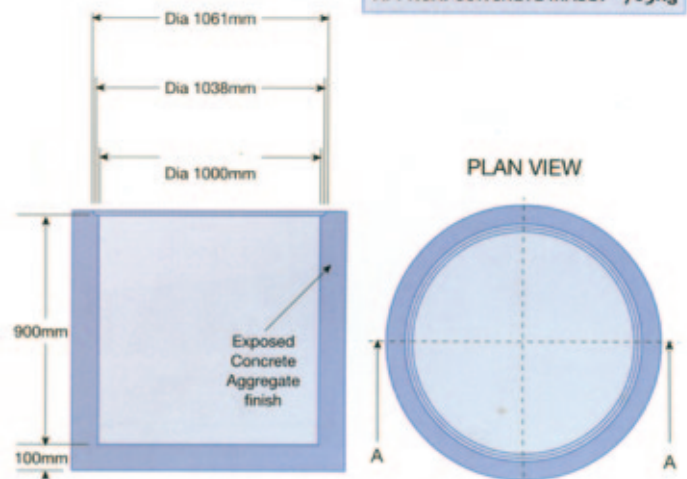


ROADSIDE DUSTBINS

Notes:

- The exposed aggregate Roadside Dustbin manufactured by Rocla has become the standard for use along major motorways and in picnic areas, effectively replacing the traditional metal dustbin.
- Special design features include:
 - Aesthetically pleasing
 - Resistant to vandalism and fire
 - Maintenance free and long life design
 - Termite free
 - No scrap value
 - Large capacity 1000 x 1000mm diameter
- The Roadside Dustbin tackles the challenges of litter control by offering a quality long term product that is cost effective.

APPROX. CONCRETE MASS: 763Kg





Security Box.



Concrete Toilet cross-section



Roadside Furniture.



Concrete Toilet with Wash Trough.

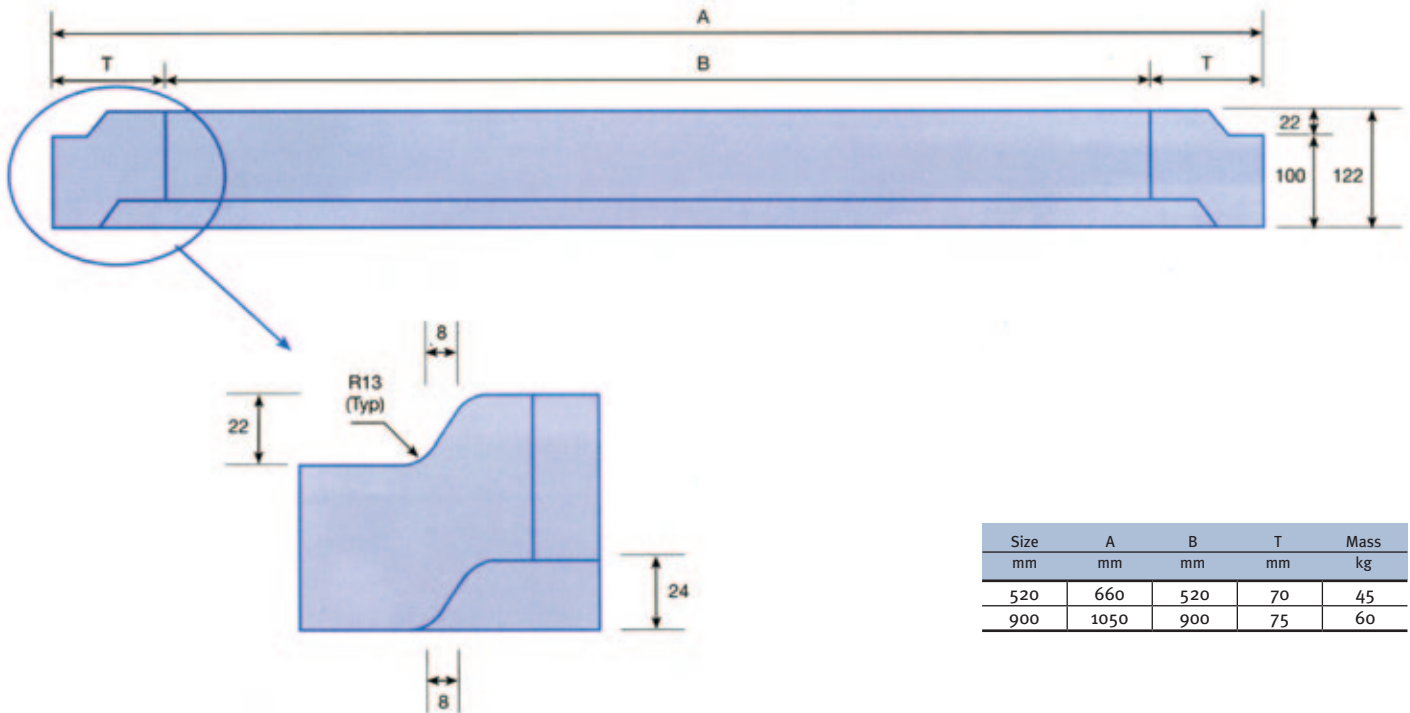


Concrete Bus Shelter.



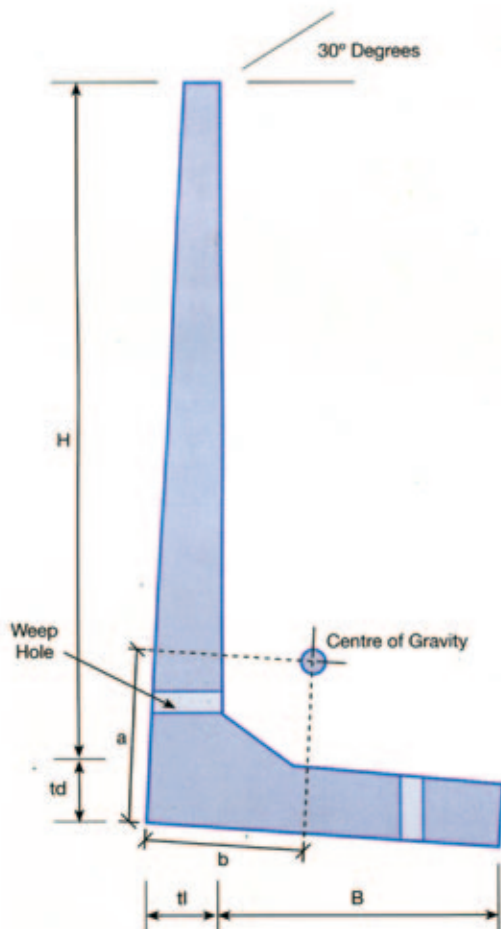
The Roadside Dustbin.

PENSTOCK RINGS



Please note: Mass is an approximation only. Rocla cannot guarantee the exact mass as listed on this table.

RETAINING WALLS



Notes:

Product length = 1,22 m.

Designed for a granular backfill with a surcharge angle equal to the angle of internal friction equal to 30 degrees and a compacted density of 1900 kg/m³.

All water pressure in the backfill is assumed to be relieved completely by weep holes.

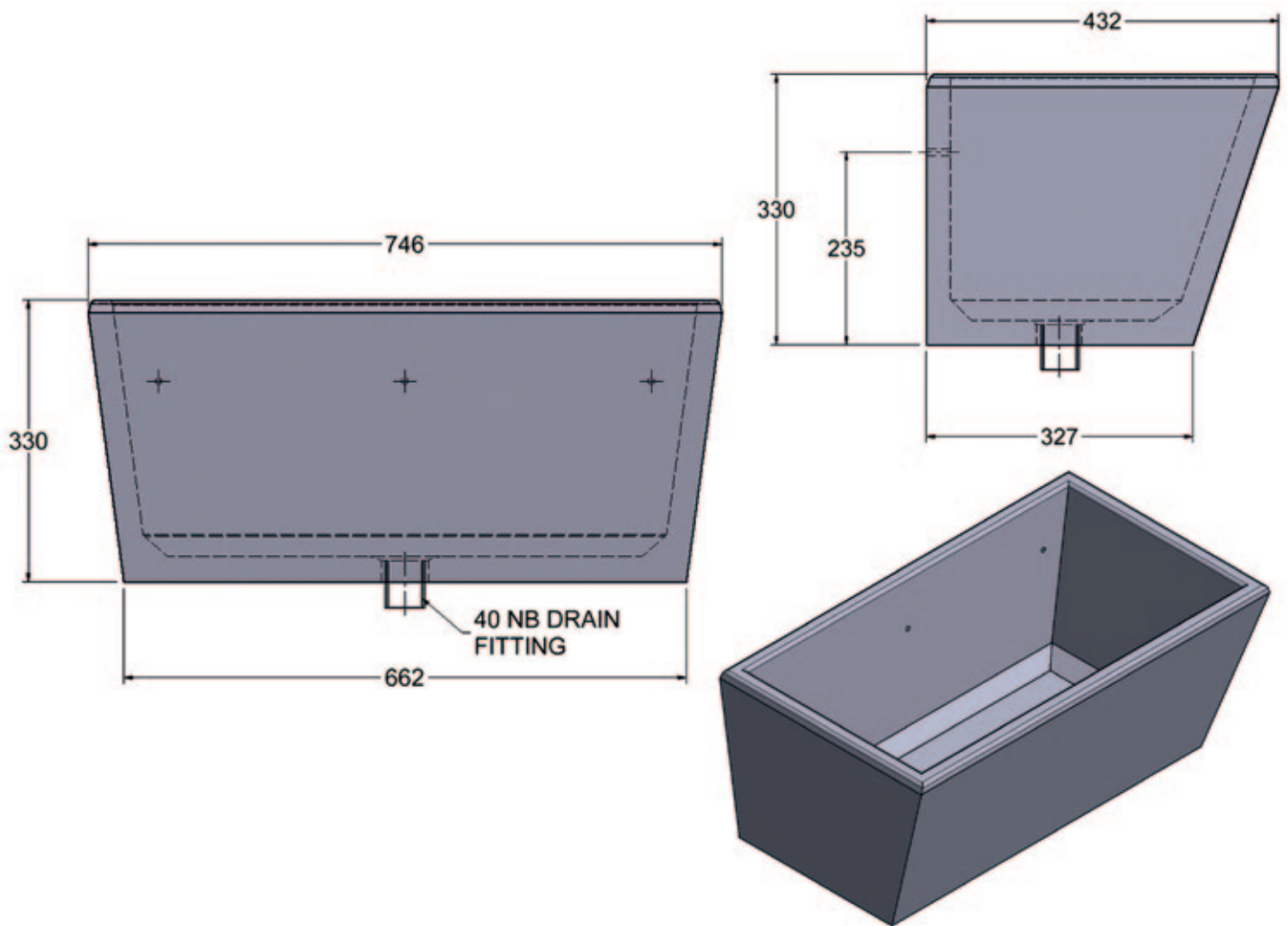
The stability against overturning, sliding settlement, etc must be estimated by a responsible Engineer.

The internal wall face to be vertical as indicated.

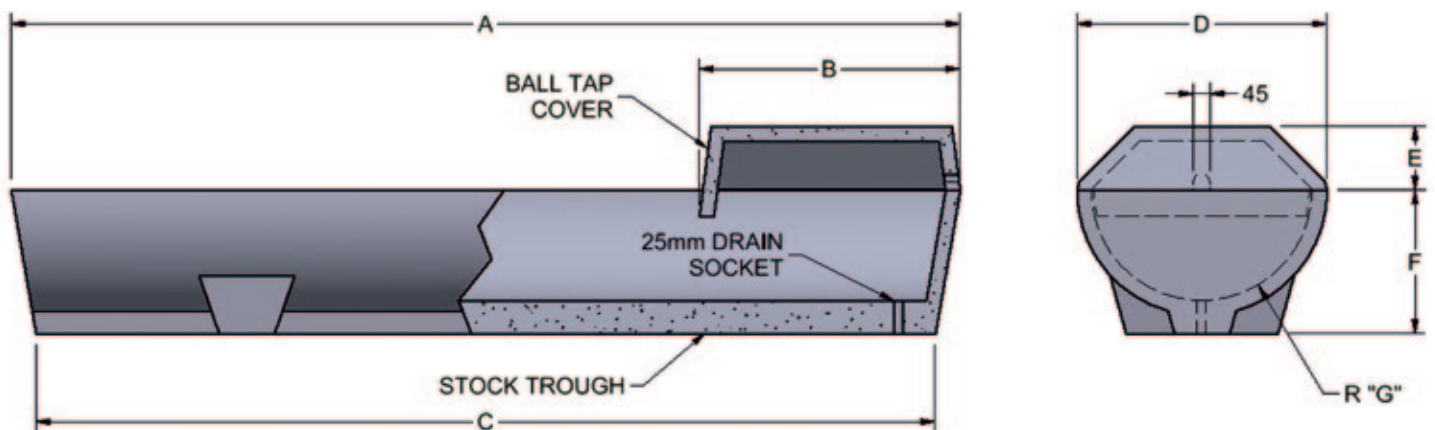
Size H & B	td mm	tl mm	a mm	b mm	kg/unit
600 x 300	90	80	225	100	248
900 x 450	100	100	320	140	422
1200 x 600	120	120	415	180	658
1500 x 750	125	125	485	215	843
1800 x 900	150	150	565	250	1223
2100 x 1050	150	150	640	290	1374
2400 x 1200	160	160	720	325	1638
3000 x 1500	190	230	900	390	2805

Please note: Mass is an approximation only. Rocla cannot guarantee the exact mass as listed on this table.

WASH TROUGHS



STOCK TROUGHS



STOCK TROUGH TYPES			
Mark	Type 1: 300mm diameter	Type 2: 450mm diameter	Type3: 600 diameter
A	2 580	2 580	2 580
B	640	710	710
C	2 445	2 445	2 445
D	362	533	680
E	155	155	175
F	235	315	390
G	R150	R225	R300
Mass:	194 kg	292 kg	371 kg
Volume:	90 Litres	200 Litres	350 Litres

Please note: Mass is an approximation only. Rocla cannot guarantee the exact mass as listed on this table.





ROCLA NATIONWIDE

Positioned to serve your needs, Rocla's 11 factories are strategically located throughout South Africa's nine provinces and in Namibia and Botswana.

South Africa and offshore markets are cost effectively supplied by road, rail and sea.

Made by modern processes, supervised in accordance with the ISO 9001 Quality Management System, Rocla's factories make products that proudly carry the CMACS Mark of Approval.

- **Head Office, Roodepoort:** Tel: (011) 670-7600, Fax: (086) 677-1510
- **Blackheath:** Tel: (021) 905-1270, Fax: (021) 905-2913
- **De Aar:** Tel (053) 631-3601/2, Fax: (053) 631-3351
- **Newcastle:** Tel: (034) 375-7848/9, Fax: (034) 375-6941
- **Nelspruit:** Tel: (087) 354-9202, Fax: (086) 681-1052
- **Polokwane:** Tel: (015) 293-1857/8, Fax: (015) 293-2821
- **Port Elizabeth:** Tel: (041) 486-1462, Fax: (041) 486-2835
- **Roodepoort:** Tel: (011) 670-7600, Fax: (086) 677-1510
- **Virginia:** Tel: (087) 354-8688, Fax: (086) 646-6291
- **Stilfontein Depot:** Tel: (010) 005-1703, Fax: (086) 685-1148
- **Windhoek, Rocla Pipes:** Tel: (002646) 126-3128, Fax: (002646) 121-5149
- **Gaborone, Kwena Rocla:** Tel: (00267) 390-4032, Fax: (00267) 390-7160

Email: info@rocla.co.za

Web: www.rocla.co.za



**CMACS
APPROVED**

ROCLA
OUR DIFFERENCE IS CONCRETE

iSG
Infrastructure Specialist Group