



汉武钢铁

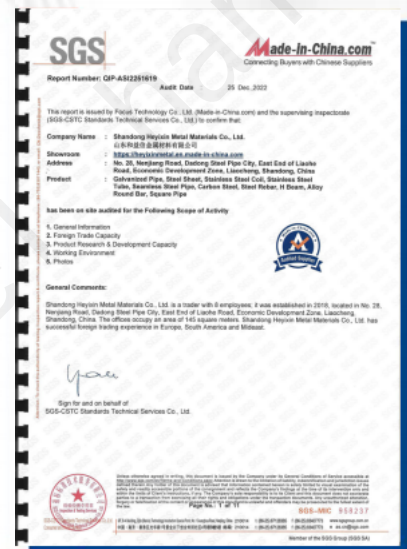
HANWU IRON AND STEEL

PIPE INDUSTRY



GOOD GOVERNANCE, HONESTY, INTERNATIONAL FIRST-CLASS
AND CONTINUOUS IMPROVEMENT

Hanwu Iron and Steel (Shandong) Co., Ltd.





► MANAGEMENT

Set up a scientific and appropriate to the operation and management mechanism of enterprise development.

Establish and optimize the power distribution mechanism of decision-making, execution and management.

Establish accountability mechanisms at all levels within the company.

Establish a control mechanism to ensure the healthy development of enterprises.

Establish an income distribution mechanism to stimulate the vitality of enterprises.

Establish fair competition, survival of the fittest talent screening mechanism.

► SERVICE PROMISE

Companies adhering to the creating value for customers the concept of common development. Think what customers want, urgent customer urgent. Company has a perfect pre-sale, sale and after-sales service tracking system, to ensure that customers can timely and effectively when you want to enjoy our service.



COMPANY PRODUCTS



ALL FLANGE TEE



DOUBLE SOCKET TAPER PIPE



ALL FLANGED CROSS



**SOCKET-SPIGOT TEE WITH
FLANGED BRANCH**



FLANGED SPIGOT PIPE



**22 DEGREE SOCKET
SPIGOT ELBOW**



BLIND FLANGE



FLANGE SOCKET PIPE



**DOUBLE SOCKET
CONCENTRIC TAPER**

COMPANY PRODUCTS



DUCKFOOT BEND



BOLTED GLAND K TYPE JOINT



DOUBLE SOCKET 45° BEND



**SOCKET SPIGOT
REDUCING TEE**



SOCKET SPIGOT 45° BEND



HOUGH SECTION



**K TYPE DOUBLE SOCKET
45 DEGREE BEND**



MANHOLE COVER



FLANGE ADAPTORS

COMPANY PRODUCTS



HUB AND SPIGOT CAST IRON
ELBOW FITITNGS 90°



HUB AND SPIGOT CAST IRON
ELBOW FITITNGS 45°



HUB AND SPIGOT CAST IRON
WYE REDUCER FITTINGS



HUB AND SPIGOT CAST IRON
ELBOW FITITNGS 90°



T 型接口球墨铸铁管技术参数表
Technical Parameters of T-type Joint Ductile Iron Pipe

DN	DE (mm)	D (mm)	P (mm)	θ (°)	单支管道 末端位移量 Single pipe end displacement (mm)	Lu (mm)	K9		C级管 ¹ C-class ¹		
							e _{nom} (mm)	PFA (bar)	e _{nom} (mm)	PFA (bar)	
80	98	140	85	5	522	6000	6	64	4.4	40	
100	118	163	88				6		4.4		
125	144	190	91				6		4.5		
150	170	217	94				6		4.5		
200	222	278	100				6.3	62	4.7		
250	274	336	105				6.8	54	5.5		
300	326	393	110				7.2	49	6.2		
350	378	448	110	4	418		7.7	45	6.3	30	
400	429	500	110				8.1	42	6.5		
450	480	540	120				8.6	40	6.9		
500	532	604	120	3	314		9	38	7.5		
600	635	713	120	2.5	261		9.9	36	8.7	25	
700	738	824	150				10.8	34	8.8		
800	842	943	160				11.7	32	9.6		
900	945	1052	175				12.6	31	10.6		
1000	1048	1158	185				13.5	30	11.6		
1100	1152	1270	202		261/355	6000/8150	14.4	29	12.6		
1200	1255	1378	217				15.3	28	13.6		
1400	1462	1600	242				17.1	28	15.7		
1500	1565	1710	253				18	27	16.7		
1600	1668	1821	266				18.9	27	17.7		
1800	1875	2043	297	2	209/284		20.7	26	19.7		
2000	2082	2262	319				22.5	26	21.8		

符合 ISO 2531-2009 标准要求的首选压力等级的 C 级管。
C-Class pipe of preferred pressure class complying with ISO 2531-2009

CONSTRUCTION SITE



T-JOINT DUCTILE IRON PIPE WEIGHT

(K9 LEVEL, STANDARD EFFECTIVE LENGTH 6 METERS)

Nominal Diameter DN(mm)	Outer Diameter DE(mm)	Thickness e(mm)	Weight Per Meter (kg/m)	Socket Weight (kg)	Overall Weight (kg)
80	98	6	12.2	12.2	76.5
100	118	6.1	15.1	15.1	95
125	144	6.2	18.9	18.9	119
150	170	6.3	22.8	22.8	144
200	222	6.4	30.6	30.6	194
250	274	6.8	40.2	40.2	255
300	326	7.2	50.8	50.8	323
350	378	7.7	63.2	63.2	403
400	429	8.1	75.5	75.5	482
450	480	8.6	89.3	89.3	575
500	532	9	104.3	104.3	669
600	635	9.9	137.3	137.3	882
700	738	10.8	173.9	173.9	1123
800	842	11.7	215.2	215.2	1394
900	945	12.6	260.2	260.2	1691
1000	1048	13.5	309.3	309.3	2017
1100	1152	14.4	362.8	362.8	2372
1200	1255	15.3	420.1	420.1	2758
1400	1462	17.1	547.2	547.2	3669
1500	1565	18	619.1	619.1	4175
1600	1668	21.0	690.3	690.3	4668
1800	1875	20.7	850.1	850.1	7291
2000	2082	22.6	1026.3	1026.3	8837
2200	2288	24.3	1218.3	1218.3	10531
2400	2495	26.1	1427.2	1427.2	12384
2600	2702	27.9	1652.4	1652.4	14393

*All dimensions are in mm

VARIOUS SIZES AND WEIGHTS OF PIPE FITTINGS

Flanged Spigot



DN	e	L	Overall Weight(kg)		
			PN10	PN16	PN25
40	7	335	4.3	4.3	4.3
50	7	340	5.2	5.2	5.2
60	7	345	6	6	6
65	7	345	6.6	6.6	6.6
80	7	350	7.8	7.8	7.8
100	7.2	360	9.6	9.6	10.2
125	7.5	370	12.4	12.4	13
150	7.8	380	15.6	15.6	16.6
200	8.4	400	22.5	22.5	24.5
250	9	420	32	31.5	35.5
300	9.6	440	43	42.5	47.5
350	10.2	460	52	55	64
400	10.8	480	64	70.4	81
450	11.4	500	79	88	103
500	12	520	94	109	121
600	13.2	560	133	159	173
700	14.4	600	179	197	228
800	15.6	600	226	245	294
900	16.8	600	272	295	356
1000	18	600	328	369	447
1100	19.2	600	386	424.4	508.4
1200	20.4	600	456	520	620
1400	22.8	710	664	732	884
1500	24	750	790.4	866.4	1017
1600	25.2	780	922	1024	1173
1800	27.6	850	1196	1322	1562
2000	30	920	1534	1687	2040
2200	32.4	990	1948	2115	/
2400	34.8	1060	2409	2611	/
2600	37.2	1130	2918	3153	/

Socket Spigot

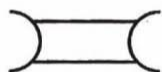


DN	e	L	Overall Weight(kg)	
			T Type	K Type
40	7	250	3.8	/
50	7	250	4.5	/
60	7	250	5.2	/
65	7	250	5.5	/
80	7	255	6.6	8
100	7.2	255	8.1	10.1
125	7.5	265	10.9	12.8
150	7.8	270	13.2	15.7
200	8.4	285	20.3	21.8
250	9	300	28.9	29.6
300	9.6	315	41.9	44.2
350	10.2	335	49.1	54.1
400	10.8	355	59.5	65.8
450	11.4	365	69.5	78.5
500	12	385	86.6	94.2
600	13.2	425	123.3	129.6
700	14.4	460	179.2	174.7
800	15.6	475	233.1	219.9
900	16.8	500	299.7	280.7
1000	18	515	369.5	348.5
1100	19.2	540	456.5	420.1
1200	20.4	565	558.2	502.2
1400	22.8	620	838.2	692.1
1600	25.2	650	1156	914
1800	27.6	700	1468	1244

*All dimensions are in mm

Socket Set

T-handle Socket Set



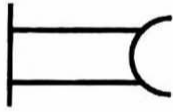
DN	e	L	d	Overall Weight(kg)
40	7	155	67	4.6
50	7	155	78	5.4
60	7	155	88	6.3
65	7	155	93	6.6
80	7	160	109	7.9
100	7.2	160	130	9.9
125	7.5	165	156	12.9
150	7.8	165	183	15.9
200	8.4	170	235	23
250	9	175	288	31.5
300	9.6	180	340	41
350	10.2	185	393	52
400	10.8	190	445	64
450	11.4	195	498	91
500	12	200	550	93
600	13.2	210	655	129
700	14.4	220	760	172
800	15.6	230	865	225.7
900	16.8	240	970	291
1000	18	250	1075	357
1100	19.2	260	1180	455
1200	20.4	270	1285	566
1400	22.8	340	1492	890
1500	24	350	1596	1113
1600	25.2	360	1699	1395
1800	27.6	380	1905	1822
2000	30	400	2107	/
2200	32.4	420	2316	/
2400	34.8	440	2521	/
2600	37.2	460	2728	/

K-handle Socket Set

DN	e	L	d	Overall Weight(kg)
80	7	410	109	13.5
100	7.2	410	130	16.5
125	7.5	415	156	20.7
150	7.8	415	183	24.4
200	8.4	420	235	32.6
250	9	425	288	42.5
300	9.6	430	340	61.7
350	10.2	435	393	78.6
400	10.8	440	445	100.4
450	11.4	445	498	126.9
500	12	450	550	134.6
600	13.2	460	655	171.9
700	14.4	470	760	261.5
800	15.6	480	865	323.4
900	16.8	490	970	407.7
1000	18	500	1075	454.4
1100	19.2	610	1180	627.8
1200	20.4	620	1285	760
1400	22.8	660	1492	1076
1500	24	700	1596	1248
1600	25.2	710	1699	1421
1800	27.6	730	1905	1828
2000	30	750	2107	2301
2200	32.4	770	2316	2845
2400	34.8	790	2521	3465
2600	37.2	810	2728	4166

*All dimensions are in mm

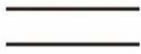
Flange Socket Pipe



DN	e	d	L	T Type Overall Weight(kg)			K Type Overall Weight(kg)		
				PN10	PN16	PN25	PN10	PN16	PN25
40	7	67	125	4.7	4.7	4.7	/	/	/
50	7	78	125	5.4	5.4	5.4	/	/	/
60	7	88	125	6.2	6.2	6.2	/	/	/
65	7	93	125	6.7	6.7	6.7	/	/	/
80	7	109	130	7.6	7.6	7.6	9	9	9
100	7.2	130	130	9.1	9.1	9.6	11.4	11.4	12.4
125	7.5	156	135	11.9	11.9	12.5	13.8	13.8	14.4
150	7.8	183	135	14.2	14.2	15.2	16.7	16.7	17.6
200	8.4	235	140	20.5	20	22	22.7	22.7	24.5
250	9	288	145	30	32	33.3	30.7	30.3	34
300	9.6	340	150	37	36.5	42	45.4	45.1	50.3
350	10.2	393	155	45	48	56	52.9	55.7	63.6
400	10.8	445	160	55	60	71	62.2	68.7	77.9
450	11.4	498	165	66.5	86.2	87.5	72.8	82.1	92.5
500	12	550	170	78	93	104	85.7	100.1	110.5
600	13.2	655	180	108	135	149	114.6	139.6	152
700	14.4	760	190	144	159	216	161	175	211
800	15.6	865	200	189	235	287	206	225	274
900	16.8	970	210	262.5	284.1	340.1	243.5	265.1	321.1
1000	18	1075	220	328.3	366	458	307.3	345	417.6
1100	19.2	1180	230	406	442.6	526.6	367.8	406.2	490.2
1200	20.4	1285	240	496	554.3	664	456	521	664
1400	22.8	1492	310	759.4	820.2	959.9	613.3	674.1	813.8
1500	24	1596	330	1007	1083	1233	724.6	800.6	950.6
1600	25.2	1699	330	1185	1278	1438	897	999	1176
1800	27.6	1905	350	1308	1421	1638	1137	1263	1503
2000	30	2107	370	/	/	/	1428	1581	1933
2200	32.4	2316	390	/	/	/	1783	1950	/
2400	34.8	2521	410	/	/	/	2140	2465	/
2600	37.2	2728	480	/	/	/	2679	3045	/

*All dimensions are in mm

Double Spigot



DN	DE	e		Weight(kg/1000mm)	
		K12	K14	K12	K14
40	56	7	7.6	7.6	8.2
50	66	7	7.7	9.2	10
60	77	7	7.8	10.9	12
65	82	7	7.9	11.6	13
80	98	7	8.1	14.1	16.1
100	118	7.2	8.4	17.7	20.4
125	144	7.5	8.8	22.7	26.4
150	170	7.8	9.1	28	32.4
200	222	8.4	9.8	39.7	46.1
250	274	9	10.5	52.8	61.3
300	326	9.6	11.2	67.3	78.1
350	378	10.2	11.9	83.1	96.5
400	429	10.8	12.6	100	116.2
450	480	11.4	13.3	118.3	137.5
500	532	12	14	138.2	160.6
600	635	13.2	15.4	182	211.3
700	738	14.4	16.8	231	268.4
800	842	15.6	18.2	285.5	332.1
900	945	16.8	19.6	345.4	401.7
1000	1048	18	21	410.6	478
1100	1152	19.2	22.4	482	560.4
1200	1255	20.4	23.8	558	649
1400	1462	22.8	26.6	727	846
1500	1565	24	28	819	953.2
1600	1668	25.2	29.4	917	1067
1800	1875	27.6	32.2	1130	1315
2000	2082	30	35	1364	1587
2200	2288	32.4	37.8	1619	1884
2400	2495	34.8	40.6	1897	2207
2600	2702	37.2	43.4	2196	2556

Double Spigot 45°Bend



DN	e	t	Overall Weight(kg)	
			T Type	K Type
40	7	40	4	/
50	7	40	5	/
60	7	45	5.3	/
65	7	50	6.3	/
80	7	50	7.7	10.3
100	7.2	60	10.1	14.9
125	7.5	75	13.6	16.9
150	7.8	85	17.4	22.5
200	8.4	110	27	31.4
250	9	130	38.5	41.3
300	9.6	150	53	65.3
350	10.2	175	70	80.5
400	10.8	195	89	99.4
450	11.4	220	123	132
500	12	240	139	145.4
600	13.2	285	202	198
700	14.4	330	282	302
800	15.6	370	378	395
900	16.8	415	496	539
1000	18	460	635	734
1100	19.2	505	842.5	769.7
1200	20.4	550	986	937
1400	22.8	515	1509	1273
1500	24	540	1803	1415
1600	25.2	565	2117	1740
1800	27.6	610	2615	2296
2000	30	660	/	2970
2200	32.4	710	/	3762
2400	34.8	755	/	4854
2600	37.2	805	/	5943

*All dimensions are in mm

Socket Spigot 90 Degree Elbow



DN	e	t	L	Overall Weight(kg)	
				T Type	K Type
40	7	60	240	4.1	/
50	7	70	250	4.9	/
60	7	80	260	5.9	/
65	7	85	265	6.4	/
80	7	100	280	9	9.3
100	7.2	120	300	11.9	14.3
125	7.5	145	325	14.4	16.3
150	7.8	170	350	21.4	23.9
200	8.4	220	400	34.2	36.4
250	9	270	450	54.1	51.6
300	9.6	320	500	69.6	75
350	10.2	370	550	99.7	90.5
400	10.8	420	600	130	135
450	11.4	470	670	165	148.5
500	12	520	720	205	183.3
600	13.2	620	820	301	268.3
700	14.4	720	900	379	374
800	15.6	820	1000	521	508
900	16.8	920	1100	694	675
1000	18	1020	1200	896	875
1100	19.2	1120	1300	1139	1103
1200	20.4	1220	1400	1422	1366
1400	22.8	1220	1400	1924	1778
1500	24	1270	1525	2332	2138
1600	25.2	1290	1555	2685	2470
1800	27.6	1320	1560	3320	3095

Socket Spigot 45 Degree Elbow



DN	e	t	L	Overall Weight(kg)	
				T Type	K Type
40	7	40	220	3.9	/
50	7	40	220	4.6	/
60	7	45	225	5.4	/
65	7	50	230	5.8	8.4
80	7	50	235	8.1	13
100	7.2	60	245	10.6	14.2
125	7.5	75	255	12.3	20.7
150	7.8	85	265	18.2	30.4
200	8.4	110	290	28.2	36.7
250	9	130	310	40.2	42.9
300	9.6	150	330	54.6	69.3
350	10.2	175	355	71.3	95.1
400	10.8	195	375	89.9	109.5
450	11.4	220	420	125	142
500	12	240	440	139	198
600	13.2	285	485	200	302
700	14.4	330	580	310	357.3
800	15.6	370	620	418	778
900	16.8	415	665	554	710
1000	18	460	760	710	769
1100	19.2	505	805	805	929
1200	20.4	550	850	985	1183
1400	22.8	515	815	1329	1374
1500	24	540	840	1568	1631
1600	25.2	565	885	1845	2058
1800	27.6	610	890	2282	2656
2000	30	660	920	/	3378
2200	32.4	710	990	/	4243
2400	34.8	755	1025	/	5272
2600	37.2	805	1120	/	

*All dimensions are in mm

Socket Spigot 22.5 Degree Elbow



DN	e	t	L	Overall Weight(kg)	
				T Type	K Type
40	7	30	210	3.7	/
50	7	30	210	4.4	/
60	7	35	215	5.2	/
65	7	35	215	5.5	/
80	7	40	220	7.7	8.1
100	7.2	40	220	9.8	10.2
125	7.5	50	230	11.2	13.1
150	7.8	55	235	16.8	16.2
200	8.4	65	245	25.2	22.8
250	9	75	255	35.2	31.1
300	9.6	85	265	46.2	46.5
350	10.2	95	275	59	56.9
400	10.8	110	290	79.5	84.7
450	11.4	120	320	107	87.8
500	12	130	330	117	104.2
600	13.2	150	350	161	142.7
700	14.4	175	425	248	240
800	15.6	195	445	331	308
900	16.8	220	470	432	388
1000	18	240	540	550	425
1100	19.2	260	560	588.7	552.3
1200	20.4	285	585	851	669
1400	22.8	260	560	1241	833.1
1500	24	270	570	1320	961.3
1600	25.2	280	640	1398	1377
1800	27.6	305	665	2245	1837
2000	30	330	730	/	2373
2200	32.4	355	755	/	2505
2400	34.8	380	780	/	3168
2600	37.2	400	800	/	3805

Socket Spigot 11.25 Degree Elbow



DN	e	t	L	Overall Weight(kg)	
				T Type	K Type
40	7	25	205	3.7	/
50	7	25	205	4.3	/
60	7	25	205	5	/
65	7	25	205	5.3	/
80	7	30	210	7.4	7.4
100	7.2	30	210	9.4	11.7
125	7.5	35	215	10.6	12.5
150	7.8	35	215	16	15.7
200	8.4	40	220	23.2	25.4
250	9	50	230	32.2	33.6
300	9.6	55	235	42.2	47.6
350	10.2	60	240	53.3	58.5
400	10.8	65	245	70.5	75.7
450	11.4	70	270	97	101
500	12	75	275	102	104
600	13.2	85	285	138	136
700	14.4	95	345	216	208
800	15.6	110	360	286	263
900	16.8	120	370	374	359
1000	18	130	430	473	473
1100	19.2	140	440	475.5	439.1
1200	20.4	150	450	724	724
1400	22.8	130	430	1047	1047
1500	24	140	440	1097	1091
1600	25.2	140	500	1146	1134
1800	27.6	155	515	1434	1209
2000	30	165	565	/	1573
2200	32.4	190	590	/	1985
2400	34.8	205	605	/	2516
2600	37.2	215	615	/	3008

*All dimensions are in mm

Installation Block

DN	L/mm	B/mm	H/mm	L1/mm	h	Quantity/pcs	Length from Socket End/mm	Single Weight/kg
40	25	20	15	15	7	2	100	0.05
50	25	20	15	15	7	2	100	0.05
60	25	20	15	15	7	2	100	0.05
65	25	20	15	15	7	2	100	0.05
80	25	20	15	15	7	2	110	0.05
100	25	20	15	15	7	2	130	0.05
125	25	20	15	15	7	2	130	0.05
150	25	20	15	15	7	2	150	0.05
200	25	20	15	15	7	2	150	0.05
250	25	20	15	15	7	2	150	0.05
300	35	35	25	20	15	3	180	0.2
350	35	35	25	20	15	3	180	0.2
400	35	35	25	20	15	3	180	0.2
450	35	35	25	20	15	3	180	0.2
500	35	35	25	20	15	4	180	0.2
600	35	35	25	20	15	4	180	0.2
700	70	50	35	45	20	4	280	0.8
800	70	50	35	45	20	4	280	0.8
900	70	50	35	45	20	4	280	0.8
1000	70	50	35	45	20	4	300	0.8
1100	70	50	35	45	20	4	300	0.8
1200	70	50	35	45	20	4	300	0.8
1400	70	50	35	45	20	4	330	0.8
1500	70	50	35	45	20	4	350	0.8
1600	70	50	35	45	20	4	350	0.8

Note: The installation blocks should take the intersection of the critical maximum outer arc length and the vertical line of the socket section as the reference point, and distribute them evenly in the circumferential direction of the socket end.

Double Socket Soil Pipe

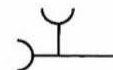
DN	e	L	R	Overall Weight(kg)	
				T Type	K Type
100	7.2	310	150	13.7	17.8
150	7.8	310	150	21.4	26.4
200	8.4	400	200	36.8	39.8
250	9	530	250	59	60.4
300	9.6	630	300	91.4	96

Socket Spigot Soil Pipe

DN	e	L	R	Overall Weight(kg)	
				T Type	K Type
100	7.2	470	150	12.9	14.9
150	7.8	475	150	20.4	22.9
200	8.4	600	200	35.7	37.2
250	9	700	250	54.8	55.5
300	9.6	800	300	81.8	84.1

*All dimensions are in mm

Socket Spigot Tee with Socket Branch



Heads				Branches			Overall Weight(kg)	
DN	e	LU	J	DN	e1	Lu'	T Type	K Type
80	8.1	85	275	80	8.1	85	13.1	15.9
100	8.4	85	275	80	8.1	95	15.6	19
		95	275	100	8.4	95	16.9	21.7
125	8.7	85	280	80	8.1	105	17.7	21
		95	290	100	8.4	110	19.8	23
		110	295	125	8.7	110	22	24.8
	9.1	85	275	80	8.1	120	22.6	26.5
		100	280	100	8.4	120	24.6	29.5
		115	305	125	8.7	125	26.8	31.8
		130	310	150	9.1	125	28.9	34
200	9.8	90	275	80	8.1	145	31.4	34.3
		100	280	100	8.4	145	33.2	37.8
		115	305	125	8.7	145	35.7	40.4
		130	310	150	9.1	150	38.2	42.9
250	10.5	160	340	200	9.8	155	44	48.4
		90	300	80	8.1	170	41.3	43.2
		100	300	100	8.4	170	43.8	47.6
		115	315	125	8.7	175	48	51.7
		130	310	150	9.1	175	51.9	55.8
		160	340	200	9.8	180	56.7	60.3
300	11.2	190	370	250	10.5	190	64	66.8
		95	300	80	8.1	195	54.7	58.4
		105	285	100	8.4	195	57.5	65.3
		120	320	125	8.7	200	60.1	64.3
		130	310	150	9.1	200	67.1	75.1
		160	340	200	9.8	205	72.3	79.9
		190	370	250	10.5	210	82.7	89.5
350		220	400	300	11.2	220	91.3	100
		90	300	80	8.1	220	66.8	73.2
		100	310	100	8.4	220	69.9	77.5
		120	325	125	8.7	225	75.9	83.5
		125	340	150	9.1	225	81.8	89.5
		160	340	200	9.8	230	87.1	94.5
		190	370	250	10.5	235	99.1	106
400	12.6	220	400	300	11.2	240	109	120
		250	430	350	11.9	250	118	129
		95	300	80	8.1	240	78.7	80.6
		105	310	100	8.4	245	84.2	91.8
		120	330	125	8.7	250	91.5	98.9
		135	340	150	9.1	250	98.7	106
		165	345	200	9.8	255	103	110
		190	375	250	10.5	260	118	125
450	13.3	220	400	300	11.2	270	128	138
		250	430	350	11.9	270	139	149
		280	460	400	12.6	280	152	163
		95	320	80	8.1	270	103	108
		105	330	100	8.4	270	107	114
		120	345	125	8.7	270	111.5	118.5
		135	360	150	9.1	280	116	123
		165	390	200	9.8	280	127	133
		195	415	250	10.5	290	138	144
		220	445	300	11.2	290	150	159
		250	460	350	11.9	300	162	171

*All dimensions are in mm

Heads				Branches			Overall Weight(kg)	
	e	LU	J	DN	e1	LU'	T Type	K Type
500	14	280	500	400	12.6	300	172	181
		310	525	450	13.3	310	185	193
		95	320	80	8.1	290	111	116
		110	330	100	8.4	295	115	120
		125	345	125	8.7	300	125.5	131
		135	360	150	9.1	300	136	141
		165	390	200	9.8	310	140	145
		195	395	250	10.5	310	161	165
		225	425	300	11.2	320	174	182
		255	455	350	11.9	320	186	194
		280	485	400	12.6	330	199	207
		310	525	450	13.3	335	212	238
		340	540	500	14	340	231	237
600	15.4	100	325	80	8.1	340	161	162
		110	330	100	8.4	345	165	166
		125	345	125	8.7	350	172.5	173
		140	360	150	9.1	350	180	180
		170	390	200	9.8	360	183	183
		200	415	250	10.5	360	210	210
		225	430	300	11.2	370	227	234
		255	455	350	11.9	370	241	245
		285	485	400	12.6	380	252	256
		315	525	450	13.3	385	274	277
		345	545	500	14	390	287	289
800	18.2	400	600	600	15.4	400	334	332
		100	345	80	8.1	390	217	207
		115	345	100	8.4	400	224	215
		130	360	125	8.7	400	232	223.5
		145	370	150	9.1	400	241	232
		170	400	200	9.8	410	259	250
		200	430	250	10.5	410	277	267
		230	480	300	11.2	420	297	290
		260	510	350	11.9	420	317	310
		290	540	400	12.6	430	337	329
		315	525	450	13.3	435	361	350
		350	595	500	14	440	380	370
		405	655	600	15.4	450	430	416
900	19.6	460	715	700	16.8	460	486	470
		105	355	80	8.1	440	278	254
		115	355	100	8.4	445	287	264
		130	370	125	8.7	450	297	274
		145	380	150	9.1	450	307	284
		175	410	200	9.8	460	330	305
		205	440	250	10.5	460	352	328
		235	450	300	11.2	470	374	353
		260	485	350	11.9	470	398	376
		290	540	400	12.6	480	420	398
		320	535	450	13.3	485	448	422
		350	600	500	14	490	472	447
		405	660	600	15.4	500	526	497
		465	690	700	16.8	510	586	556
		520	775	800	18.2	520	655	618
		110	410	80	8.1	490	349	322
		120	425	100	8.4	500	360	333
		135	435	125	8.7	500	373	346
		150	455	150	9.1	500	386	359
		180	485	200	9.8	510	410	383.2
		205	515	250	10.5	510	437	408
		235	535	300	11.2	520	462	438
		265	565	350	11.9	520	490	464
		295	590	400	12.6	530	518	491
		325	610	450	13.3	535	547	518
		350	600	500	14	540	574	546
		410	660	600	15.4	550	635	602
		470	720	700	16.8	560	700	667
		525	815	800	18.2	570	774	733
		585	835	900	19.6	580	858	815
		110	420	80	8.1	540	433	434
		125	435	100	8.4	550	443	445
		140	445	125	8.7	550	459	460

*All dimensions are in mm

Heads				Branches			Overall Weight(kg)	
DN	e	LU	J	DN	e1	LU'	T Type	K Type
1000	21	150	465	150	9.1	550	474	475
		180	495	200	9.8	560	502	503
		210	525	250	10.5	560	533	533
		240	545	300	11.2	570	564	568
		270	575	350	11.9	570	594	597
		295	600	400	12.6	580	626	628
		325	620	450	13.3	585	659	658
		355	650	500	14	590	690	690
		415	715	600	15.4	600	758	754
		470	770	700	16.8	610	831	825
		530	830	800	18.2	620	913	901
		585	880	900	19.6	630	1000	985
1100	22.4	645	945	1000	21	645	1096	1096
		115	435	80	8.1	590	507	472
		125	450	100	8.4	600	521.5	487.1
		140	460	125	8.7	600	536.2	501.7
		155	480	150	9.1	600	555.9	522
		185	510	200	9.8	610	591.6	556.7
		215	540	250	10.5	610	627.1	591.4
		240	560	300	11.2	620	658.2	624.1
		270	590	350	11.9	620	689.6	658.2
		300	615	4000	12.6	630	721.2	691.1
		330	635	450	13.3	635	749.7	722.3
		360	665	500	14	640	786.9	758.1
		415	725	600	15.4	650	859.2	829.1
		475	715	700	16.8	660	910.3	869.4
		530	835	800	18.2	670	1031	981
		590	890	900	19.6	680	1126	1070
		650	1060	1000	21	695	1293	1236
		705	1005	1100	22.4	710	1346	1274
1200	23.8	120	475	80	8.1	640	631.5	632
		130	490	100	8.4	650	648.1	649
		145	500	125	8.7	650	665	667.5
		160	515	150	9.1	650	685	686
		185	545	200	9.8	660	725	726
		215	575	250	10.5	660	766	766
		245	605	300	11.2	670	816	819
		275	630	350	11.9	670	845	849
		305	655	400	12.6	680	884	886
		330	675	450	13.3	685	929	928
		360	710	500	14	690	966	966
		420	675	600	15.4	700	1054	1050
		475	820	700	16.8	710	1143	1138
		535	835	800	18.2	720	1239	1226
		595	895	900	19.6	730	1339	1325
		650	950	1000	21	745	1447	1447
		765	1070	1200	23.8	770	1697	1697
1400	26.6	125	500	80	8.1	740	918.3	773.6
		135	515	100	8.4	750	939.8	795.7
		150	525	125	8.7	750	961.5	817.3
		165	540	150	9.1	750	986.7	843.1
		195	570	200	9.8	760	1039	894.4
		220	600	250	10.5	760	1087	941.3
		250	630	300	11.2	770	1143	998.8
		280	655	350	11.9	770	1186	1045
		310	680	400	12.6	780	1232	1093
		340	700	450	13.3	785	1274	1137
		365	735	500	14	790	1327	1188
		425	790	600	15.4	800	1428	1288
		485	845	700	16.8	810	1544	1393
		540	905	800	18.2	820	1658	1499
		600	900	900	19.6	830	1727	1562
		655	960	1000	21	845	1854	1687
		715	1065	1100	22.4	860	2034	1852
		775	1075	1200	23.8	870	2145	1943
		890	1190	1400	26.6	890	2514	2222
		200	720	200	9.8	860	1546	1332
		230	750	250	10.5	860	1611	1396
		255	780	300	11.2	870	1674	1461
		315	830	400	12.6	880	1786	1578

*All dimensions are in mm

Heads				Branches			Overall Weight(kg)	
DN	e	LU	J	DN	e1	LU'	T Type	K Type
1600	29.4	385	885	500	14	890	1919	1712
		430	935	600	15.4	900	2023	1814
		545	1050	800	18.2	920	2296	2068
		665	1165	1000	21	945	2591	2355
		780	1275	1200	23.8	970	2910	2639
		895	1380	1400	26.6	990	3299	2938
		1010	1490	1600	29.4	1010	3752	3322
1800	32.2	205	720	200	9.8	960	1896	1673
		235	750	250	10.5	960	1979	1755
		265	780	300	11.2	970	2063	1841
		320	830	400	12.6	980	2201	1983
		380	885	500	14	990	2339	2122
		435	935	600	15.4	1000	2506	2288
		555	1050	800	18.2	1020	2808	2570
		670	1165	1000	21	1045	3146	2901
		785	1275	1200	23.8	1070	3509	3229
		900	1380	1400	26.6	1090	3936	3566
		1015	1490	1600	29.4	1110	4420	3981
		1135	1595	1800	32.2	1130	4886	4437
2000	35	210	720	200	9.8	1060	/	2058
		240	750	250	10.5	1060	/	2156
		270	780	300	11.2	1070	/	2257
		325	830	400	12.6	1080	/	2428
		385	885	500	14	1090	/	2596
		445	935	600	15.4	1100	/	2766
		560	1050	800	18.2	1120	/	3129
		675	1165	1000	21	1145	/	3513
		790	1275	1200	23.8	1170	/	3893
		905	1380	1400	26.6	1190	/	4275
		1025	1490	1600	29.4	1210	/	4740
		1140	1595	1800	32.2	1230	/	5220
2200	37.8	1255	1705	2000	35	1255	/	5777
		215	720	200	9.8	1160	/	2488
		245	750	250	10.5	1160	/	2601
		275	780	300	11.2	1170	/	2719
		335	830	400	12.6	1180	/	2930
		390	885	500	14	1190	/	3119
		450	935	600	15.4	1200	/	3321
		565	1050	800	18.2	1220	/	3747
		680	1165	1000	21	1245	/	4191
		795	1275	1200	23.8	1270	/	4628
		915	1380	1400	26.6	1290	/	5073
		1030	1490	1600	29.4	1310	/	5580
2400	40.6	1145	1595	1800	32.2	1330	/	6102
		1260	1705	2000	35	1335	/	6692
		1375	1810	2200	37.8	1380	/	7340
		225	720	200	9.8	1260	/	3070
		250	750	250	10.5	1260	/	3195
		280	780	300	11.2	1270	/	3332
		340	830	400	12.6	1280	/	3578
		395	885	500	14	1290	/	3800
		455	935	600	15.4	1300	/	4035
		570	1050	800	18.2	1320	/	4530
		685	1165	1000	21	1345	/	5042
		805	1275	1200	23.8	1370	/	5552
2600	43.6	920	1380	1400	26.6	1390	/	6047
		1035	1490	1600	29.4	1410	/	6611
		1150	1595	1800	32.2	1430	/	7185
		1265	1705	2000	35	1455	/	7822
		1385	1810	2200	37.8	1480	/	8514
		1500	1920	2400	40.6	1500	/	9374
		230	720	200	9.8	1360	/	3616
		260	750	250	10.5	1360	/	3773
		285	780	300	11.2	1370	/	3918
		345	830	400	12.6	1380	/	4202
		405	885	500	14	1390	/	4472
		460	935	600	15.4	1400	/	4731
2600	43.6	575	1050	800	18.2	1420	/	5300
		695	1165	1000	21	1445	/	5898
		810	1275	1200	23.8	1470	/	6466

*All dimensions are in mm

Heads				Branches			Overall Weight(kg)	
DN	e	LU	J	DN	e1	LU'	T Type	K Type
		925	1380	1400	26.6	1490	/	7027
		1040	1490	1600	29.4	1510	/	7655
		1155	1595	1800	32.2	1530	/	8288
		1275	1705	2000	35	1555	/	8993
		1390	1810	2200	37.8	1580	/	9721
		1505	1920	2400	40.6	1600	/	10617
		1620	2025	2600	43.4	1620	/	11504

Note: Size is in accordance with ISO2531 standard, wall thickness according to K14.

Socket Spigot Tee with Flanged Branch



Heads				Branches			Overall Weight(kg)					
DN	e	Lu	J	DN	e1	LU'	PN10		PN16		PN25	
							T Type	K Type	T Type	K Type	T Type	K Type
80	8.1	85	275	80	8.1	165	14	14.7	14	14.7	14	14.7
100	8.4	85	275	80	8.1	175	16.4	18.7	16.4	18.7	16.4	18.7
		95	285	100	8.4	180	17.8	20.1	17.8	20.1	17.8	20.1
125	8.7	85	275	80	8.1	190	18.7	20.6	18.7	20.6	18.7	20.6
		100	285	100	8.4	195	20.5	22.3	20.3	22.2	20.9	22.8
		110	285	125	8.7	200	21.8	23.7	21.8	23.7	22.4	24.3
150	9.1	85	275	80	8.1	205	23.7	26.1	23.7	26.1	23.7	26.1
		100	285	100	8.4	210	25.4	27.6	25.4	27.6	25.1	27.6
		110	285	125	8.7	215	27.8	30.2	27.7	30.2	27.7	30.2
		130	310	150	9.1	220	30.2	32.7	30.2	32.7	30.2	32.7
200	9.8	90	275	80	8.1	235	32.5	34.5	32.5	34.5	32.5	34.5
		100	280	100	8.4	240	34.3	36.3	34.3	36.3	34.3	36.3
		110	285	125	8.7	240	37.3	39.3	37.3	39.3	37.3	39.3
		130	310	150	9.1	250	40.2	42.2	40.2	42.2	40.2	42.2
250	10.5	150	340	200	9.8	260	46.6	48.6	47	49	48.5	50.5
		90	315	80	8.1	265	43.4	44.8	43.4	44.8	43.4	44.8
		100	325	100	8.4	270	44.9	46.4	44.9	46.4	45	45.8
		115	325	125	8.7	255	51.1	52.6	51.1	52.6	51.7	52.8
		130	360	150	9.1	280	57.3	58.7	57.3	58.7	58.3	59.7
		150	385	200	9.8	290	57.9	59.1	57.9	59.1	59.7	61.1
300	11.2	180	415	250	10.5	300	65.7	67.6	66.7	68.1	70.2	71.1
		90	340	80	8.1	295	58.8	61.1	58.8	61.1	58.8	61.1
		105	355	100	8.4	300	62.1	64.4	62	64.3	62.6	64.9
		115	360	125	8.7	285	64.1	66.4	64.1	66.4	64.7	67
		130	390	150	9.1	310	70.9	76.3	71.9	76.3	71.9	77.3
		160	415	200	9.8	320	77.6	79.9	77.6	79.9	79.4	81.7
		190	445	250	10.5	330	87.3	89.6	87	89.3	90.6	92.9
350	11.9	215	475	300	11.2	340	97.8	100.1	97.9	99.8	112.7	115
		95	345	80	325	325	68.3	73.3	68.3	73.3	68.3	73.3
		100	355	100	330	330	72.7	77.7	72.6	77.6	73.2	78.2
		115	360	125	315	315	73.4	78.4	73.4	78.4	74	79
		135	390	150	340	340	85.2	90.2	85.2	90.2	85.2	90.2
		160	415	200	350	350	88.7	93.7	88.7	93.7	90.5	95.5
		190	445	250	350	350	106	110	116	120	127	131
		210	475	300	350	350	114	122	120	124	131	135
		240	500	350	380	380	121	125.5	123.3	128.3	132	136.2
		95	355	80	355	355	80.9	87.2	80.9	87.2	80.9	87.2

*All dimensions are in mm

Heads				Branches			Overall Weight(kg)					
DN	e	Lu		DN	e1	Lu'	PN10		PN16		PN25	
							T Type	K Type	T Type	K Type	T Type	K Type
400	12.6		105	355	100	360	84.2	89.3	84.2	89.2	84.2	89.8
			115	360	125	345	92	97	92	97	92	97
			135	390	150	370	99.8	104	99.8	104	99.6	104
			160	415	200	380	105	109	104	109	106	110.8
			190	445	250	390	120	125	120	125	123	129
			220	475	300	400	134	138	133	137	139	143
			240	500	350	400	144	148	146	151	155	160
			280	530	400	420	152	158.3	158.5	164.8	167.7	174
450	13.3		95	355	80	370	97.2	106.2	97.2	106.2	97.2	106.2
			110	355	100	390	106	110	107	111	107	111
			115	360	125	405	113	117	113	117	115.5	117
			135	390	150	400	120	124	120	123	124	127
			165	415	200	410	130	134	130	134	132	136
			195	445	250	420	141	145	140	144	144	148
			220	475	300	430	156	158	155	158	161	164
			240	500	350	440	165	169	168	172	177	181
			280	530	400	450	180	184	185	189	196	200
			310	555	450	460	191	195	199	203	215	219
500	14		95	355	80	400	113.1	117.7	113.1	117.7	113.1	117.7
			110	355	100	420	116	121.3	116	121.3	116	121.8
			120	360	125	420	127	130.7	127	130.7	127	131.4
			140	390	150	425	138	140	138	140	138	141
			165	415	200	440	142	146	141	146	143	147.8
			190	445	250	440	165	168	164	167	168	171
			220	475	300	440	178	181	178	181	183	186
			245	500	350	450	192	194	195	197	203	206
			280	530	400	480	198	203.4	204	209.9	215	219.1
			300	555	450	480	219	222	227	230	243	245
			340	580	500	500	231	237.3	246	251.7	258	262.1
			100	355	80	460	162.7	162	162.7	162	163	162
600	15.4		100	355	100	460	166	164	166	164	167	165
			120	360	125	465	174.5	172.5	174.5	172.5	175.5	173.5
			130	390	150	470	183	181	183	181	184	182
			170	415	200	500	184	187.8	184	187.8	186	189.6
			190	445	250	490	215	201.7	215	201.3	219	205
			215	475	300	500	231	228	230	228	235	233
			245	500	350	510	247.0	245	250	248	258	256
			285	530	400	540	253	255.9	258	262.4	269	271.6
			305	555	450	530	279	277	288	286	303	301
			335	580	500	540	299	297	303	301	326	324
			400	635	600	580	333.5	339.8	359	364.8	373	377.2
			105	345	80	490	238	238	238	238	238	240
			115	345	100	490	242	243	242	243	243	244
			125	361	125	495	244	244	244	244	245	245
			140	370	150	500	246	246	246	246	247	247
700	16.8		170	385	200	525	249	249	249	249	251	251
			195	430	250	515	275	275	275	275	278.5	279
			220	440	300	520	300	301	300	301	306	307
			250	475	350	530	312	313	315	316	324	325
			285	495	400	555	329	329	338	334	344	345
			305	525	450	545	369	370	378	379	391	392
			340	560	500	550	391	392	406	407	418	419
			385	595	600	565	421	422	445	445	456	457
			460	690	700	600	476	476	487	488	525	525
			120	355	80	550	299	290	299	290	299	290
			130	355	100	550	304	295	304	295	305	295
			145	371	125	555	306	296.5	306	296.5	306	297.5
			155	381	150	560	308	298	308	298	309	299
			175	395	200	585	311	302	311	301	313	303
			210	441	250	585	351	342	351	341	355	346
800	18.2		240	451	300	585	371	362	371	362	377	368
			265	485	350	590	388	379	390.5	381.5	399	390
			290	505	400	615	405	396	410	401	421	412
			320	535	450	615	463.5	454.5	473.5	464.5	485	476
			345	571	500	615	522	513	537	528	549	540
			405	605	600	645	588	579	612	603	624	614
			460	700	700	655	620	626	635	600	669	660
			520	760	800	675	640	631	655	646	708	699
			120	440	80	605	356.1	337.1	356.1	337.1	356.1	337.1
			130	450	100	610	364.9	345.9	364.9	345.9	365.4	346.4

*All dimensions are in mm

Heads				Branches			Overall Weight(kg)					
DN	e	Lu	J	DN	e1	LU'	PN10		PN16		PN25	
							T Type	K Type	T Type	K Type	T Type	K Type
900	19.6	145	465	125	615	615	378	359	378	359	378.6	359.6
		155	485	150	620	620	391.3	372.3	391.3	372.3	392.2	373.2
		180	515	200	645	645	416.5	397.5	416.6	397.6	418.4	399.4
		210	545	250	645	645	443.7	424.7	443.4	424.4	447	428
		240	565	300	650	650	467.5	448.5	467.2	448.2	482.4	463.4
		265	600	350	660	660	494.1	475.1	496.9	477.9	504.8	485.8
		295	630	400	675	675	522.7	503.7	529.2	510.2	538.4	519.4
		320	660	450	680	680	547.6	528.6	556.9	537.9	567.3	548.3
		345	700	500	690	690	580.3	561.3	594.7	575.7	605.1	586.1
		410	760	600	705	705	645.4	626.4	670.4	651.4	682.8	663.8
		460	795	700	720	720	699.5	680.5	713.6	694.6	746.1	727.1
		520	855	800	735	735	776.4	757.4	794.1	775.1	840.1	821.1
		585	905	900	750	750	853.2	834.2	874.8	855.8	930.8	911.8
		120	450	80	670	670	434.6	413.6	434.6	413.6	434.6	413.6
		130	460	100	670	670	448.4	426.8	448.4	426.8	448.9	427.3
1000	21	145	475	125	675	675	463.8	442.2	463.8	442.2	464.4	442.8
		155	495	150	680	680	475.8	454.8	475.8	454.8	476.7	455.7
		180	525	200	705	705	505.1	484.1	505.2	484.2	507	486
		210	555	250	705	705	536.8	515.8	536.5	515.5	540.1	519.1
		240	575	300	710	710	564.2	543.2	563.9	542.9	579.1	558.1
		265	610	350	720	720	595.3	574.3	598.1	577.1	606	585
		295	640	400	735	735	628.2	607.2	634.7	613.7	643.9	622.9
		320	670	450	740	740	657.1	636.1	666.4	645.4	676.8	655.8
		345	710	500	750	750	694.3	673.3	708.7	687.7	719.1	698.1
		410	770	600	765	765	768	747	793	772	805.4	784.4
		465	805	700	780	780	829.7	808.7	843.8	822.8	876.3	855.3
		520	865	800	795	795	911.3	890.3	929	908	975	954
		580	915	900	810	810	991.1	970.1	1013	991.7	1069	1048
		645	980	1000	825	825	1096	1075	1133	1112	1206	1185
		120	465	80	730	730	528.7	492.3	528.7	492.3	528.7	492.3
1100	22.4	130	475	100	730	730	540.6	504.2	540.5	504.1	541.1	504.7
		145	490	125	735	735	558.4	522	558.4	522	559	522.6
		155	510	150	740	740	576.4	540	576.4	540	577.4	541
		180	540	200	745	745	609.4	573	609.4	573	611.2	574.8
		210	570	250	755	755	646.3	609.9	645.9	609.5	649.6	613.2
		240	590	300	760	760	677.5	641.1	677.2	640.8	692.4	656
		265	625	350	770	770	713.2	676.8	716	679.6	723.9	687.5
		300	655	400	795	795	754.6	718.2	761.1	724.7	770.3	733.9
		325	685	450	795	795	787.2	750.8	796.5	760.1	806.9	770.5
		350	725	500	795	795	827.6	791.2	842	805.6	852.4	816
		415	785	600	825	825	913.4	877	938.4	902	950.8	914.4
		470	820	700	830	830	978.6	942.2	992.7	956.3	1026	988.8
		525	880	800	835	835	1065	1028	1082	1046	1128	1092
		585	930	900	850	850	1150	1113	1171	1135	1227	1191
		640	995	1000	870	870	1257	1220	1294	1258	1367	1331
1200	23.8	695	1045	1100	880	880	1359	1323	1399	1361	1481	1445
		120	500	80	790	790	649.9	593.9	649.9	593.9	649.9	593.9
		130	510	100	790	790	663.6	607.6	663.5	607.5	664.1	608.1
		145	525	125	795	795	684	628	684	628	684.6	628.6
		155	545	150	800	800	704.7	648.7	704.7	648.7	705.7	649.7
		180	570	200	805	805	739.3	683.3	739.3	683.3	741.1	685.1
		210	600	250	815	815	781.4	725.4	781.1	725.1	784.7	728.7
		240	630	300	820	820	823.5	767.5	823.2	767.2	838.4	782.4
		265	660	350	830	830	861.1	805.1	863.9	807.9	871.8	815.8
		295	690	400	835	835	902.6	846.6	909.1	853.1	918.3	862.3
		325	720	450	845	845	943.9	887.9	953.2	897.2	963.6	907.6
		355	760	500	850	850	993.8	937.8	1009	952.2	1019	962.6
		420	820	600	885	885	1091	1035	1116	1060	1128	1072
		470	855	700	885	885	1159	1103	1173	1117	1205	1149
		535	915	800	915	915	1267	1211	1285	1229	1331	1275
		595	965	900	920	920	1358	1302	1379	1323	1435	1379
		650	1030	1000	945	945	1476	1420	1514	1458	1586	1530
		760	1145	1200	955	955	1710	1654	1768	1712	1859	1803
		170	525	80	870	870	979.3	833.2	979.3	833.2	979.3	833.2
		210	535	100	875	875	1023	876.2	1023	876.1	1023	876.7
		225	550	125	880	880	1049	902.4	1049	902.4	1050	903
		240	570	150	880	880	1079	932.8	1079	932.8	1080	933.7
		270	595	200	890	890	1128	981	1128	981.1	1129	982.9
		280	625	250	895	895	1164	1018	1163	1017	1167	1021
		325	655	300	905	905	1230	1084	1229	1083	1245	1099

*All dimensions are in mm

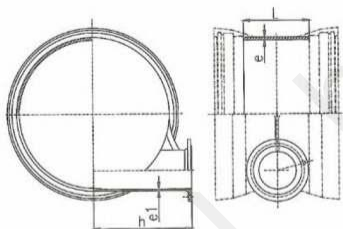
Heads				Branches			Overall Weight(kg)					
DN	e	Lu	J	DN	e1	Lu'	P	N10	PN16		PN25	
							T Type	K Type	T Type	K Type	T Type	K Type
1400	26.6	355	685	350	910	910	1281	1135	1284	1138	1292	1146
		385	715	400	920	920	1334	1188	1340	1194	1349	1203
		415	745	450	925	925	1385	1239	1394	1248	1405	1259
		440	785	500	935	935	1444	1298	1458	1312	1469	1322
		515	845	600	980	980	1573	1426	1598	1451	1610	1464
		560	880	700	990	990	1652	1506	1666	1520	1698	1552
		630	940	800	1010	1010	1783	1637	1801	1655	1847	1701
		675	990	900	1020	1020	1879	1733	1901	1755	1957	1811
		750	1055	1000	1040	1040	2030	1884	2067	1921	2140	1994
		790	1105	1100	1045	1045	2136	1990	2174	2028	2258	2112
		850	1170	1200	1050	1050	2281	2135	2340	2194	2430	2284
		965	1270	1400	1070	1070	2556	2410	2617	2471	2757	2611
1600	29.4	220	755	80	1015	1015	1605	1390	1605	1390	1605	1390
		225	755	100	1025	1025	1612	1397	1612	1397	1612	1397
		260	755	150	1025	1025	1646	1431	1646	1431	1647	1432
		290	730	200	1030	1030	1658	1443	1658	1443	1660	1445
		320	760	250	1040	1040	1725	1510	1724	1509	1728	1513
		345	790	300	1045	1045	1786	1571	1785	1570	1801	1586
		405	860	400	1060	1060	1927	1712	1934	1719	1943	1728
		465	895	500	1080	1080	2066	1846	2080	1860	2091	1871
		520	915	600	1090	1090	2121	1906	2146	1931	2158	1943
		640	970	800	1120	1120	2335	2120	2353	2138	2399	2184
		750	1090	1000	1150	1150	2622	2407	2659	2444	2732	2517
		870	1210	1200	1180	1180	2949	2734	3007	2792	3098	2883
		985	1315	1400	1210	1210	3270	3055	3331	3116	3471	3256
		1100	1430	1600	1240	1240	3675	3460	3767	3552	3927	3712
		300	730	200	1150	1150	2040	1816	2041	1816	2042	1818
1800	32.2	320	760	250	1150	1150	2110	1885	2109	1885	2113	1888
		350	790	300	1155	1155	2191	1967	2191	1966	2206	1982
		410	860	400	1170	1170	2367	2143	2374	2149	2383	2158
		470	915	500	1185	1185	2516	2291	2530	2306	2541	2316
		525	970	600	1200	1200	2675	2450	2700	2475	2712	2487
		640	1090	800	1230	1230	2999	2775	3017	2792	3063	2838
		760	1210	1000	1260	1260	3348	3124	3386	3162	3459	3234
		875	1315	1200	1290	1290	3699	3474	3757	3533	3848	3623
		990	1430	1400	1320	1320	4074	3849	4134	3910	4274	4050
		1110	1540	1600	1350	1350	4512	4287	4604	4380	4764	4540
		1225	1615	1800	1380	1380	4915	4692	5030	4805	5247	5022
		300	730	200	1250	1250	/	2230	/	2230	/	2232
2000	35	330	760	250	1260	1260	/	2320	/	2320	/	2324
		360	790	300	1265	1265	/	2428	/	2428	/	2433
		415	860	400	1280	1280	/	2621	/	2628	/	2637
		475	915	500	1295	1295	/	2799	/	2814	/	2824
		530	970	600	1310	1310	/	2966	/	2991	/	3004
		640	1090	800	1340	1340	/	3362	/	3380	/	3426
		765	1210	1000	1370	1370	/	3778	/	3815	/	3888
		880	1315	1200	1400	1400	/	4180	/	4239	/	4329
		1000	1430	1400	1430	1430	/	4614	/	4674	/	4814
		1110	1540	1600	1460	1460	/	5081	/	5174	/	5334
		1230	1615	1800	1490	1490	/	5519	/	5632	/	5849
		1345	1725	2000	1520	1520	/	6072	/	6209	/	6531
2200	37.8	310	730	200	1360	1360	/	2687	/	2687	/	2689
		335	760	250	1370	1370	/	2795	/	2795	/	2798
		365	790	300	1380	1380	/	2910	/	2910	/	2925
		420	860	400	1395	1395	/	3151	/	3157	/	3166
		480	915	500	1410	1410	/	3361	/	3375	/	3386
		540	970	600	1420	1420	/	3567	/	3592	/	3605
		655	1090	800	1445	1445	/	4036	/	4053	/	4099
		770	1210	1000	1480	1480	/	4500	/	4538	/	4610
		890	1315	1200	1510	1510	/	4970	/	5028	/	5119
		1000	1430	1400	1540	1540	/	5443	/	5504	/	5644
		1120	1540	1600	1570	1570	/	5981	/	6073	/	6233
		1235	1615	1800	1600	1600	/	6447	/	6560	/	6777
		1350	1725	2000	1630	1630	/	7036	/	7173	/	7495
		1465	1830	2200	1630	1660	/	7699	/	7857	/	/
		310	730	200	1470	1470	/	3285	/	3285	/	3287
		340	760	250	1480	1480	/	3422	/	3421	/	3425
		370	790	300	1490	1490	/	3556	/	3556	/	3571
		430	860	400	1505	1505	/	3848	/	3854	/	3863
		490	915	500	1520	1520	/	4093	/	4107	/	4118

*All dimensions are in mm

Heads				Branches			Overall Weight(kg)					
DN		Lu		DN	e1	LU'	PN10		PN16		PN25	
							T Type	K Type	T Type	K Type	T Type	K Type
2400	40.6	545	970	600	1530	1530	/	4324	/	4349	/	4361
		660	1090	800	1560	1560	/	4866	/	4883	/	4929
		780	1210	1000	1590	1590	/	5410	/	5448	/	5521
		895	1315	1200	1620	1620	/	5932	/	5990	/	6081
		1010	1430	1400	1650	1650	/	6481	/	6541	/	6681
		1125	1540	1600	1680	1680	/	7068	/	7161	/	7321
		1240	1615	1800	1710	1710	/	7578	/	7692	/	7908
		1360	1725	2000	1740	1740	/	8228	/	8365	/	8687
		1472	1830	2200	1770	1770	/	8920	/	9078	/	/
		1590	1935	2400	1800	1800	/	9666	/	9873	/	/
2600	43.4	320	730	200	1580	1580	/	3878	/	3878	/	3880
		350	760	250	1590	1590	/	4036	/	4035	/	4039
		380	790	300	1600	1600	/	4191	/	4191	/	4205
		435	860	400	1615	1615	/	4514	/	4521	/	4530
		495	915	500	1630	1630	/	4797	/	4812	/	4822
		550	970	600	1640	1640	/	5065	/	5090	/	5102
		670	1090	800	1670	1670	/	5698	/	5716	/	5762
		785	1210	1000	1700	1700	/	6309	/	6347	/	6419
		900	1315	1200	1730	1730	/	6899	/	6957	/	7048
		1015	1430	1400	1750	1750	/	7509	/	7570	/	7710
		1130	1540	1600	1790	1790	/	8172	/	8264	/	8425
		1250	1615	1800	1820	1820	/	8746	/	8859	/	9076
		1365	1725	2000	1850	1850	/	9442	/	9579	/	9901
		1480	1830	2200	1880	1880	/	10191	/	10349	/	/
		1595	1935	2400	1910	1910	/	10968	/	11175	/	/
		1710	2035	2600	1940	1940	/	11827	/	12045	/	/

Note: Size is in accordance with ISO2531 standard, wall thickness according to K14.

Double Socket Mud Discharge Tee with Flanged Branch



Heads	Branches	T Type Weight			K Type Weight		
DN	dn	PN10	PN16	PN25	PN10	PN16	PN25
200	100	36.5	36.5	37	41	41	41.5
	150	44	44	45	48.5	48.5	49.5
250	100	47.5	47.5	49	51.1	51.1	52.6
	150	62.6	62.6	63.5	66.2	66.2	67.1
	200	65	65	67	68.6	68.6	70.6
300	100	59	59	60.5	69.8	69.8	71.3
	150	74	74	75	74.8	74.8	75.8
	200	80	79	82	90.8	90.8	92.8
350	100	73	73	73	83.4	83.4	83.4
	150	91.5	91.5	92	102	102	102
	200	96	96	98	106	106	108
400	100	89	89	89	99.4	99.4	99.4
	150	101	101	102	111	111	112
	200	115	114	116	125	125	126
	250	134	133	138	144	144	148
450	100	114	114	114	121	121	121
	150	130	130	131	137	137	138
	200	142	142	144	149	149	151
	250	155	154	159	162	162	166
500	300	174	174	180	181	181	187
	100	124	124	125	130	130	131
	150	149	150	151	155	156	157
	200	158	157	159	164	164	165
600	250	182	181	185	188	188	191
	300	201	201	206	207	207	212
	100	186	185	185	184	183	183
	150	199	199	200	197	197	198

*All dimensions are in mm

Heads	Branches	T Type Weight			K Type Weight		
DN	dn	PN10	PN16	PN25	PN10	PN16	PN25
600	200	205	205	207	203	203	205
	250	239	238	243	237	236	241
	300	257	257	261	255	255	259
	350	283	289	295	281	287	293
	400	294	300	310	292	298	308
700	100	261	261	262	253	253	254
	150	265	265	266	255	255	256
	200	269	269	271	280	280	282
	300	324	324	330	320	319	326
800	100	328	328	329	308	308	309
	150	335	335	336	310	310	311
	200	336	336	338	335	335	337
	250	379	379	383	355	354	358
	300	401	401	407	380	379	385
900	150	409	409	410	382	382	383
	200	416	416	418	396	396	398
	300	491	491	497	460	459	465
	400	537	537	553	504	508	519
1000	100	508	508	509	508	508	509
	150	511	511	512	511	511	512
	200	514	514	516	514	514	516
	300	608	608	614	608	608	614
1200	200	751	751	753	751	751	753
	400	938	938	954	938	942	954
1400	200	1308	1308	1308	1308	1308	1308
	400	1493	1505	1515	1493	1505	1512
	600	1626	1626	1671	1626	1656	1671
	400				1718	1722	1734
1600	400				2247	2251	2265
1800	400				2783	2788	2802
2000	600				3113	3139	3152

Socket Spigot Mud Discharge Tee with Flanged Branch



Heads	Branches	Weight (kg)	Heads	Branches	Weight (kg)
DN	dn	PN10	DN	dn	PN10
200	100	40	700	100	266
	150	48		150	291
250	100	52		200	299
	150	69	800	300	330
300	200	72		100	330
	100	65		150	335
	150	81		200	342
350	200	88		250	386
	100	80		300	408
	150	101	900	150	409
400	200	106		200	416
	100	98		300	491
	150	111		400	537
450	200	127	1000	100	508
	250	147		150	511
	100	125		200	514
500	150	143		300	608
	200	156	1200	200	751
	250	170		400	938
550	300	191	1400	200	1038
	100	136		400	1493
	150	164	1600	600	1626
600	200	142		400	
	250	200	1800	400	
	300	221		400	
650	350	235	2000	400	
	100	205		600	
	150	219			
700	200	225			
	250	263			
	300	203			
750	350	311			
	400	323			

*All dimensions are in mm

Socket Spigot

Double Socket Cross

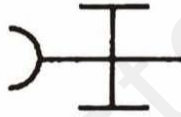


Heads DN	Branches dn	Weight(kg)	
		T Type	K Type
100	100	21.2	27.6
150	100	28.8	35.4
	150	36.2	42.4
200	100	37.5	43.7
	150	45.3	51.3
	200	54.3	59.4
250	100	48.1	53.7
	150	59	64.2
	200	67	71.3
	250	78.2	80.9
300	100	61.8	71.2
	150	74.2	83.5
	200	82.6	90.9
	250	96.9	104
	300	108	123
350	200	97.4	106
	250	114	121
	300	128	143
	350	142	157
400	200	114	121
	250	133	139
	300	147	161
	350	163	177
	400	182	198
500	250	176	179
	300	193	205
	350	229	222
	400	274	239
	500	296	280
600	300	247	257
	350	265	273
	400	282	288
	500	330	332
	600	394	388
700	350	374	368
	400	408	399
	500	481	468
	600	568	547
	700	673	649
800	400	499	477
	500	583	558
	600	676	642
	700	782	746
	800	914	864
900	500	697	662
	600	799	756
	700	909	863
	800	1045	985
	900	1202	1138
1000	600	938	904
	700	1057	1021
	800	1203	1152
	900	1359	1305
	1000	1539	1513
1200	800	1579	1499
	900	1749	1665
	1000	1936	1881
	1200	2399	2344
1400	900	2184	2063
	1000	2391	2299
	1200	2863	2771
	1400	3369	3277

Note: Size is in accordance with IS02531 standard,
wall thickness according to K14.

*All dimensions are in mm

Socket Spigot Double Flanged Cross Tube

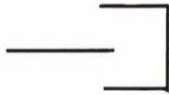


Heads	Branches	T Type Weight(kg)			K Type Weight(kg)		
DN	dn	PN10	PN16	PN25	PN10	PN16	PN25
100	100	23.8	23.8	23.8	26.8	26.8	26.8
150	100	33.5	33.5	33.5	36.8	36.8	36.8
	150	40.3	40.3	40.3	43.6	43.6	43.6
200	100	45.8	45.8	45.8	48.4	48.4	48.4
	150	53.6	53.6	53.6	56.3	56.3	56.3
	200	62.2	62.7	64.7	64.8	65.4	67.4
250	100	59.9	59.9	59.2	61.9	61.9	61.1
	150	76.4	76.4	77.8	78.3	78.3	79.6
	200	77	77	79.6	78.8	78.8	81.5
	250	87.6	89	93	89.5	90.8	94.8
300	100	76.7	78	78	83.9	85.2	85.2
	150	95	96	96	102	117	104
	200	98	110	101	106	118	108
	250	114	125	117	121	132	124
350	300	123	140	131	130	147	138
	200	117	117	120	124	124	127
	250	142	142	170	147	160	175
	300	152	160	175	163	166	180
400	350	162	164	176	167	170	182
	200	140	139	142	146	144	147
	250	160	160	164	167	167	172
	300	179	178	186	184	183	191
500	350	192	195	207	198	202	214
	400	202	210	211	208	216	218
	250	220	219	224	224	223	228
	300	238	238	244	242	242	248
600	350	256	260	271	259	263	275
	400	264	272	287	268	276	291
	500	308	328	344	311	331	347
	300	308	307	314	304	304	311
700	350	330	334	344	327	331	342
	400	338	344	359	335	342	356
	500	399	404	435	396	402	432
	600	444	479	498	442	476	495
800	350	416	420	432	418	422	434
	400	439	444	459	439	446	460
	500	522	542	558	523	543	559
	600	562	594	608	563	594	610
900	700	635	650	700	635	651	700
	400	540	547	562	528	535	550
	500	696	716	732	684	704	720
	600	784	816	832	772	804	819
1000	700	827	847	892	835	800	800
	800	854	874	944	842	862	932
	500	888	908	924	871	891	920
	600	1011	1043	1059	994	1026	1044
1200	700	1051	1071	1116	1034	1054	1099
	800	1114	1139	1227	1096	1120	1210
	900	1180	1212	1314	1162	1198	1294
	600	1278	1310	1326	1278	1310	1376
1400	700	1314	1334	1376	1314	1334	1376
	800	1342	1362	1432	1342	1362	1432
	900	1403	1435	1516	1403	1435	1516
	1000	1430	1475	1590	1430	1475	1590
1600	800	1636	1656	1727	1636	1656	1727
	900	1823	1903	1936	1823	1903	1936
	1000	1915	1960	2075	1915	1960	2075
	1200	2243	2315	2462	2243	2315	2494
1800	1000	2608	2662	2767	2608	2662	2767
	1200	3167	3252	3396	3167	3252	3396
	1400	3596	3687	3890	3596	3687	3890

Note: Size is in accordance with ISO2531 standard, wall thickness according to K14.

*All dimensions are in mm

Push on Gaskets



DN	T	L	H	R	Overall Weight(kg)
80	10	80	—	—	6.5
100	10	80	—	—	8.5
125	10	80	—	—	10.4
150	10	80	—	—	12.3
200	12	80	—	—	18.4
250	12	80	—	—	22
300	12	110	—	—	34
350	12	110	58	345	47.3
400	12	110	64	390	56
450	12	110	72	445	69.5
500	15	110	82	500	83
600	15	110	96	596	138
700	18	120	110	688	170
800	18	120	81	1040	225
900	18	120	86	1210	300
1000	22	130	94	1450	370
1100	22	130	102	1610	475
1200	22	130	105	1865	580
1400	25	130	111	2500	1027
1500	30	130	124	2652	1234
1600	30	160	130	2850	1441
1800	35	170	150	3210	1941
2000	35	180	160	3690	2541
2200	40	190	166	4450	2710
2400	45	250	184	4825	2880
2600	50	260	210	4950	3280

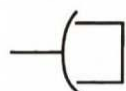
T Type Push on Gaskets



DN	e	H	R	Overall Weight(kg)
40	16	—	—	3.7
50	16	—	—	4.2
60	16	—	—	4.8
65	16	—	—	5.3
80	18	—	—	7.3
100	18	—	—	8.5
125	18	—	—	11.3
150	18	—	—	14.1
200	18	—	—	19.8
250	19.5	—	—	27.4
300	23	—	—	42.8
350	24	58	345	61.7
400	25	64	390	76.3
450	26	72	445	93.7
500	27	82	500	107
600	29.5	96	596	132
700	31	110	688	202
800	33	81	1040	275
900	35	86	1210	353
1000	37	94	1450	454
1100	39	102	1610	493.3
1200	41	105	1865	613.7
1400	43	111	2500	1018
1500	44	124	2652	1337
1600	45	130	2850	1656
1800	48	150	3210	2165

*All dimensions are in mm

Gaskets



DN	e	DS	L	L1	k	R	T	Overall Weight(kg)
80	7	98	86	34	—	—	10	4.5
100	7.2	118	87	35	—	—	10	5.7
150	7.8	170	88	36	—	—	10	8.8
200	8.4	222	89	37	—	—	12	13
250	9	274	90	38	—	—	12	17.6
300	9.6	326	95	39	—	—	15	25.2
350	10.2	378	96	40	315	345	15	32.7
400	10.8	429	100	41	370	390	18	42.9
450	11.4	480	105	43	420	445	18	52.5
500	12	532	105	43	430	500	20	63.6
600	13.2	635	110	44	565	596	20	87.7
700	14.4	738	125	45	660	688	25	166
800	15.6	842	130	47	760	1040	25	250
900	16.8	945	130	48	860	1210	28	333
1000	18	1048	135	49	960	1450	30	434
1100	19.2	1152	136	50	980	1610	30	553
1200	20.4	1255	137	51	1160	1865	30	671
1400	22.8	1462	140	53	1360	2500	35	710
1500	24	1565	140	54	1460	2652	35	747.2
1600	25.2	1668	160	55	1550	2850	35	816
1800	27.6	1875	165	57	1760	3210	40	1123
2000	30	2082	170	59	1780	3690	40	1515
2200	32.4	2288	175	62	2150	4450	45	1808
2400	34.8	2495	180	65	2350	4825	50	2340
2600	37.2	2702	185	68	2540	4950	50	2870

T Type Gaskets



DN	DE	e1	e	K、R	L	Overall Weight(kg)
40	56	16	7	—	190	1.6
50	66	16	7	—	190	2
60	77	16	7	—	190	2.4
65	82	16	7	—	190	2.6
80	98	16	7	—	190	3.3
100	118	18	7.2	—	200	4.6
125	144	18	7.5	—	212	7
150	170	18	7.8	—	225	9.5
200	222	18	7.2	—	250	14.8
250	274	19.5	9	—	250	21.5
300	326	23	9.6	—	275	33.5
350	378	24	10.2	315	275	45.5
400	429	25	10.8	370	275	56
450	480	26	11.4	420	275	68.5
500	532	27	12	460	275	81
600	635	29.5	13.2	565	300	123
700	738	30	14.4	660	320	170
800	842	30	15.6	760	330	220
900	945	30	16.8	860	350	298
1000	1048	35	18	960	360	400
1100	1152	35	19.2	1060	380	520
1200	1255	35	20.4	1160	390	600
1400	1462	40	22.8	1360	410	850
1500	1565	40	24	1460	420	976
1600	1668	40	25.2	1550	450	1133
1800	1875	45	27.6	1760	480	1564

*All dimensions are in mm

Flange



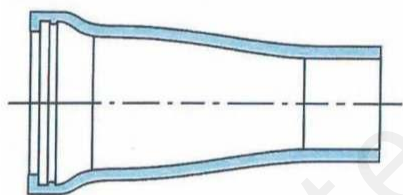
DN	D1	D2	D3	DE	a	c
40	150	110	84	56	19	3
50	165	125	99	66	19	3
60	175	135	108	77	19	3
65	185	145	118	82	19	3
80	200	160	132	98	19	3
100	220	180	156	118	19	3
125	250	210	184	144	19	3
150	285	240	211	170	19	3
200	340	295	266	222	20	3
250	400	350	319	274	22	3
300	455	400	370	326	24.5	4
350	505	460	429	378	24.5	4
400	565	515	480	429	24.5	4

Flexible Cast Iron Drain Pipe

Size(mm)	Standard Code	Internal Diameter (mm)	Outer Diameter (mm)	Wall Thickness (mm)	Length (mm)	Single weight (kg)
50 (2")	GB/T12772-2016 W1	50	58	3.5(3.0)	3000±20	13
	GB/T12772-2016 W	50	61	4.3(3.6)	3000±10	16.5
75(3")	GB/T12772-2016 W1	75	83	3.5(3.0)	3000±20	18.9
	GB/T12772-2016 W	75	86	4.4(3.7)	3000±10	24.4
100(4")	GB/T12772-2016 W1	100	110	3.5(3.0)	3000±20	25.2
	GB/T12772-2016 W	100	111	4.8(4.1)	3000±10	34.6
125(5")	GB/T12772-2016 W1	125	135	4.0(3.5)	3000±20	35.4
	GB/T12772-2016 W	125	137	4.8(3.8)	3000±10	43.1
150(6")	GB/T12772-2016 W1	150	160	4.0(3.5)	3000±20	42.2
	GB/T12772-2016 W	150	162	4.8(3.8)	3000±10	51.2
200(8")	GB/T12772-2016 W1	200	214	5.0(4.0)	3000±20	69.3
	GB/T12772-2016 W	200	214	4.8(4.8)	3000±10	81.96
250(10")	GB/T12772-2016 W1	250	274	5.5(4.5)	3000±20	99.8
	GB/T12772-2016 W	250	268	6.4(5.2)	3000±10	113.6
300(12")	GB/T12772-2016 W1	300	326	6.0(5.0)	3000±20	129.7
	GB/T12772-2016 W	300	318	7.0(5.8)	3000±10	148

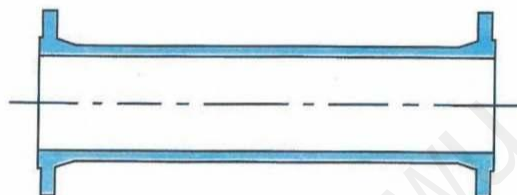
*All dimensions are in mm

Socket Spigot Concentric Taper



DN	dn	Weight(kg)
100	80	9.3
150	80	15.6
	100	20
200	100	23
	150	20
250	100	28.5
	150	29
	200	29
300	100	44
	150	46
	200	47
	250	38.5
400	100	76
	150	75
	200	74
	250	72
	300	73
500	100	102.8
	150	103.9
	200	102.9
	250	102.7
	300	103.8
	400	97
600	100	157.8
	150	158.9
	200	160
	300	158.7
	400	159.9
	500	149

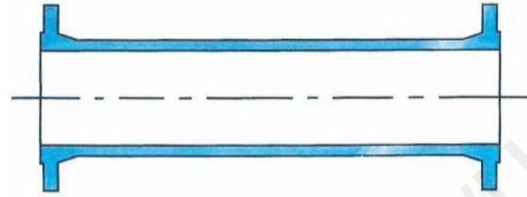
Double Flanged Straight Pipe



DN	Length(mm)	Weight(kg)
100	200	13
	300	14
	400	16
	500	20
	600	22
	700	24
	800	26
	900	28
	1000	30
150	200	22
	300	23
	400	26
	500	29
	600	32
	700	37
	800	41
200	900	46
	1000	50
	200	27
	300	28
	400	32
	500	38
	600	45
	700	52
	800	58
	900	64
250	1000	70
	300	33
	400	46

*All dimensions are in mm

Double Flanged Straight Pipe

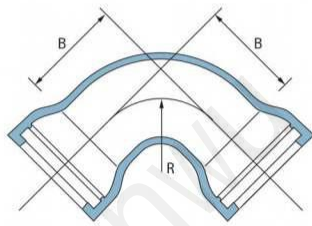


DN	Length(mm)	Weight(kg)
250	500	52
	600	63
	700	73
	800	82
	900	91
	1000	100
300	400	60
	500	66
	600	80
	700	73
	800	82
	900	91
	1000	128
350	400	75
	500	81
	600	95
	700	107
	800	118
	900	130
	1000	141
400	400	88.8
	500	96
	600	110
	700	122
	800	133
	900	143
	1000	152
	1200	180
500	500	130
	600	152

DN	Length(mm)	Weight(kg)
500	700	166
	800	180
	900	195
	1000	209
	1200	230
600	500	170
	600	205
	700	222
	800	238
	900	258
	1000	278
	1200	310
700	500	225
	600	298
	700	314
	800	329
	900	347
	1000	364
800	500	280
	600	391
	700	405
	800	420
	900	435
	1000	450
1000	500	378
	600	438
	700	518
	800	597

*All dimensions are in mm

Double Socket 90°Bend



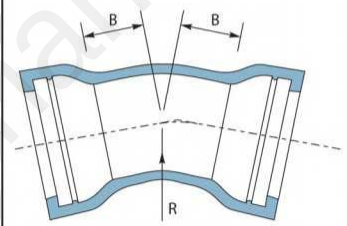
ITEM CODE: S-B90

DN	B	Unit Wt. Kgs.	
		T-Type	K-Type
80	100	8.6	
100	120	11.4	
150	170	20.5	
200	220	33	
250	270	48.5	
300	320	68	
350	370	98.4	
400	420	129	
450	470	163	
500	520	204	
600	620	303	
700	720	436	
800	820	595	
900	920	793	
1000	1020	986	
1200	1220	1624	1624
1400	1220	2419	2419
1600	1290		3014
1800			3833
2000			4783

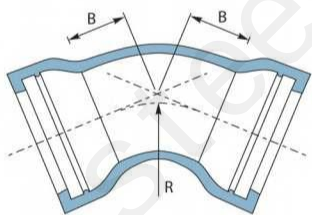
ITEM CODE: S-B22

DN	B	Unit Wt. Kgs.	
		T-Type	K-Type
80	40	7.5	--
100	40	9.5	
150	55	16.0	
200	65	24.0	
250	75	33.5	
300	85	44.5	
350	95	58.0	
400	110	74.0	
450	120	102.0	
500	130	111.0	
600	150	157.0	
700	175	217.0	
800	195	287.0	
900	220	373.0	
1000	240	470.0	
1200	285	716.0	851.0
1400	260	933.0	1241.0
1600	280	1259.0	1377.0
1800	305	1663.0	1837.0
2000	330	2144.0	2373.0

Double Socket 22.5°Bend



Double Socket 45°Bend



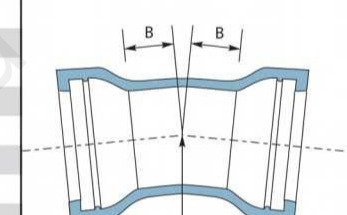
ITEM CODE: S-B45

DN	B	Unit Wt. Kgs.	
		T-Type	K-Type
80	55	8.0	
100	65	10.0	
150	85	17.5	
200	110	27.0	
250	130	38.5	
300	150	53.0	
350	175	70.0	
400	195	89.0	
450	220	123.0	
500	240	129.0	
600	285	202.0	
700	330	282.0	
800	370	378.0	
900	415	496.0	
1000	460	635.0	
1200	550	986.0	1109.0
1400	515	1273.0	1632.0
1600	565	1740.0	1893.0
1800	610	2296.0	2222.0
2000	660	2970.0	3020.0
2200	710		3762.0

ITEM CODE: S-B11

DN	B	Unit Wt. Kgs.	
		T-Type	K-Type
80	30	7.0	
100	30	9.0	
150	35	15.0	
200	40	22.0	
250	50	30.5	
300	55	40.5	
350	60	52.0	
400	65	65.0	
450	70	91.9	
500	75	96.0	
600	85	134.0	
700	95	181.0	
800	110	239.0	
900	120	305.0	
1000	130	381.0	
1200	150	568.0	724.0
1400	130	747.0	1047.0
1600	140	1007.0	1134.0
1800		1331.0	1549.0
2000		1702.0	1985.0
2200		1900.0	2183.0

Double Socket 11.5°Bend

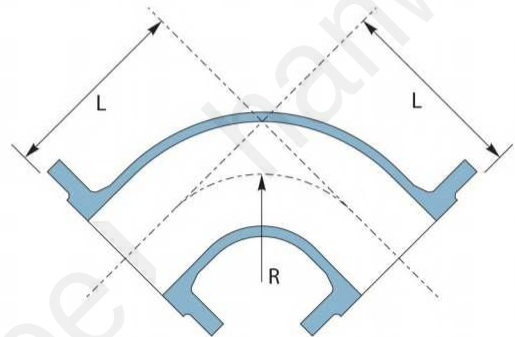


*All dimensions are in mm

ITEM CODE: B90

DN	L	Unit Wt. Kgs. PN10	Unit Wt. Kgs. PN16	Unit Wt. Kgs. PN25
50	150	6.0	6.0	6.0
65	165	7.0	7.0	7.0
80	165	9.6	9.6	9.6
100	180	15.6	15.6	15.6
150	220	20.5	20.5	20.5
200	260	31.0	31.0	35.0
250	350	49.5	49.5	56.7
300	400	69.5	69.5	80.3
350	450	90.6	96.0	111.8
400	500	117.0	126.0	148.0
450	550	147.2	163.0	184.8
500	600	184.2	211.0	232.2
600	700	276.6	324.0	347.6
700	800	394.6	418.0	
800	900	543.2	573.0	
900	1000	708.0	746.0	
1000	1100	919.0	988.0	
1200	1300	1,452.2	1,562.0	
1400	1270	2,199.0	2,335.0	
1500	1300	2,273.0	2,449.0	
1600	1270	2,663.0	2,841.0	

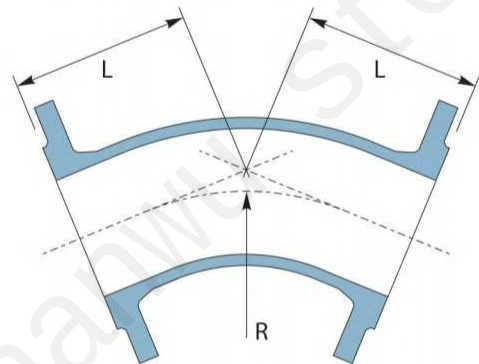
Double Flanged 90° Bend



ITEM CODE: B45

DN	L	Unit Wt. Kgs. PN10	Unit Wt. Kgs. PN16	Unit Wt. Kgs. PN25
50	150	5.0	5.0	5.0
65	165	7.0	7.0	7.0
80	130	9.3	9.3	9.3
100	140	11.4	11.4	11.4
125	150	14.6	14.6	14.6
150	160	18.9	18.9	18.9
200	180	27.5	27.5	31.5
250	350	54.5	54.5	61.7
300	400	76.5	76.5	87.3
350	298	77.1	82.5	98.3
400	324	98.0	107.0	129.0
450	349	119.2	135.0	156.8
500	375	148.2	175.0	196.2
600	426	215.6	263.0	286.6
700	478	311.6	335.0	
800	529	414.2	444.0	
900	581	538.0	576.0	
1000	632	684.0	753.0	
1100	695	857.0	927.0	
1200	735	1,077.2	1,187.0	
1400	775	1,430.4	1,544.0	
1500	810	1,677.0	1,853.0	
1600	845	1,915.0	2,119.0	
1800	910	2,465.0	2,717.0	
2000	980	3,149.0	3,455.0	
2200		3,446.0	3,805.0	

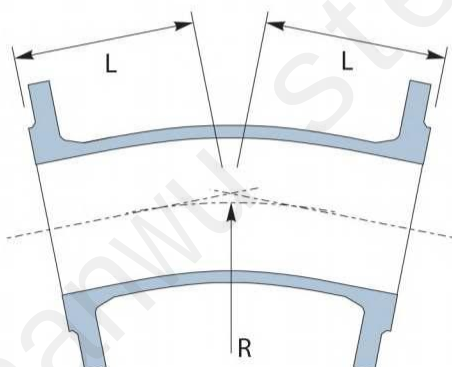
Double Flanged 45° Bend



*All dimensions are in mm

ITEM CODE: B22

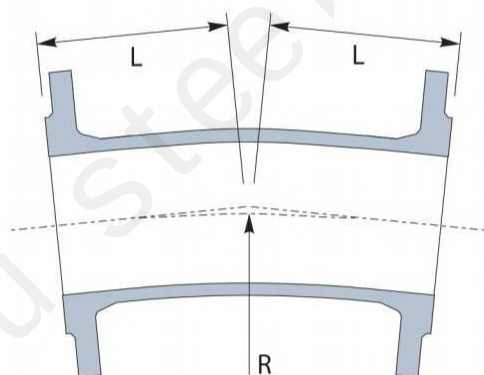
Double Flanged 22.5° Bend



DN	L	Unit Wt. Kgs. PN10	Unit Wt. Kgs. PN16	Unit Wt. Kgs. PN25
80	130	9.2	9.2	9.2
100	140	11.5	11.5	11.5
125	150	16.0	16.0	16.0
150	160	18.6	18.6	18.6
200	180	27.0	27.0	31.0
250	350	54.5	54.5	61.7
300	400	77.5	77.5	88.3
350	298	77.6	83.0	98.8
400	324	98.0	107.0	129.0
450	349	119.2	135.0	156.8
500	375	149.2	176.0	197.2
600	426	219.6	267.0	290.6
700	478	252.0	342.0	
800	529	288.0	448.0	
900	581	361.0	588.0	
1000	632	459.0	773.0	
1100	683	600.0	947.0	
1200	735	717.0	1213.0	
1400	835	1021.0	1635.0	
1500	886	1100.0	2014.0	
1600	940	1190.0	2325.0	
1800		1640.0	1864.0	
2000		2,081.0	2357.0	
2200		2,593.0	2908.0	

ITEM CODE: B11

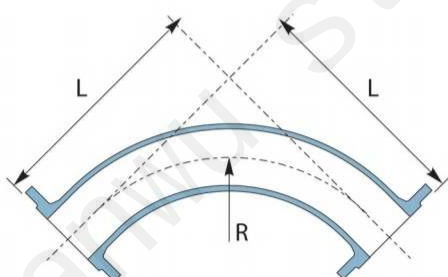
Double Flanged 11.25° Bend



DN	L	Unit Wt. Kgs. PN10	Unit Wt. Kgs. PN16	Unit Wt. Kgs. PN25
80	130	9.2	9.2	9.2
100	140	11.5	11.5	11.5
125	150	16.0	16.0	16.0
150	160	18.6	18.6	18.6
200	180	27.0	27.0	31.0
250	350	55.0	55.0	62.2
300	400	78.0	78.0	88.8
350	298	78.1	83.5	99.3
400	324	99.0	108.0	130.0
450	349	119.2	135.0	156.8
500	375	148.2	175.0	196.2
600	426	220.6	268.0	291.6
700	478	240.0	343.0	
800	529	270.0	451.0	
900	581	303.0	592.0	
1000	632	382.0	778.0	
1100	683	550.0	952.0	
1200	735	590.0	1220.0	
1400	835	827.0	1643.0	
1500	885	1,100.0	2025.0	
1600	940	1,203.0	2336.6	
1800		1,342.0	1566.0	
2000		1,694.0	1970.0	
2200		2,075.0	2390.0	

*All dimensions are in mm

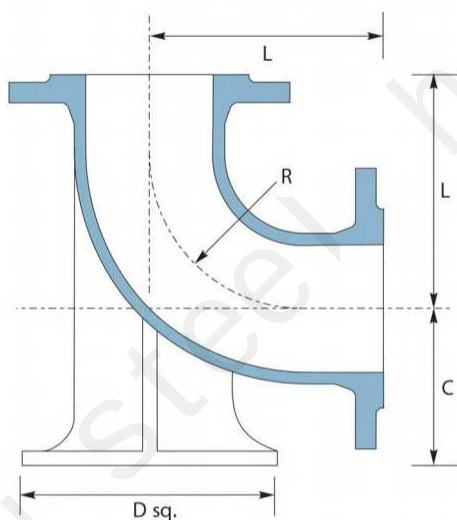
Double Flanged 90° Long Radius Bend



ITEM CODE: L90

DN	L	Unit Wt. Kgs. PN10	Unit Wt. Kgs. PN16	Unit Wt. Kgs. PN25
80	380	13.8	13.8	13.8
100	400	18.0	18.0	18.0
150	450	30.0	30.0	30.0
200	500	45.5	45.5	49.5
250	550	65.0	65.0	72.2
300	600	89.5	89.5	100.3
350	650	115.6	121.0	136.8
400	700	148.0	157.0	179.0
450	750	181.2	197.0	218.8
500	800	225.2	252.0	273.2
600	900	331.6	379.0	402.6
700	1000	465.6	489.0	
800	1100	631.2	661.0	
900	1200	816.0	854.0	
1000	1300	1,048.0	1,117.0	
1200	1500	1,627.2	1,737.0	

Double Flanged 90° Duckfoot Bend

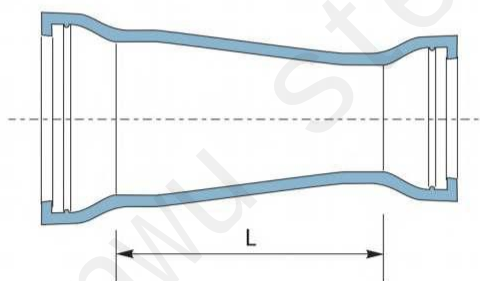


ITEM CODE: BB4

DN	L	C	D	Unit Wt. Kgs. PN10	Unit Wt. Kgs. PN16	Unit Wt. Kgs. PN25
50	150	95	150	8.6	8.6	8.6
80	165	110	180	14.1	14.1	14.1
100	180	125	200	17.8	17.8	18.8
150	220	160	250	30	30	32
200	260	190	300	46.5	46	50.5
250	350	225	350	75	75	82
300	400	255	400	106	105	116
350	450	290	450	139	145	162
400	500	320	500	178	189	212
450	550	355	550	229	249	275
500	600	385	600	283	313	337
600	700	450	700	428	481	509
700	800	515	800	700	741	811
800	900	580	900	846	884	982
900	1000	645	1000	1118	1165	1286
1000	1100	710	1100	1698	1781	1937
1200	1300	840	1300	2599	2709	

*All dimensions are in mm

Double Socket Concentric Taper



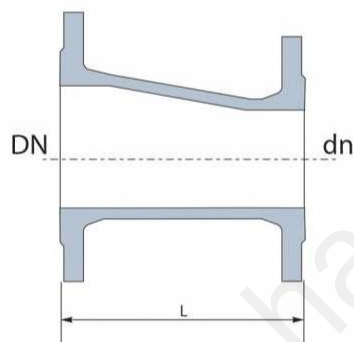
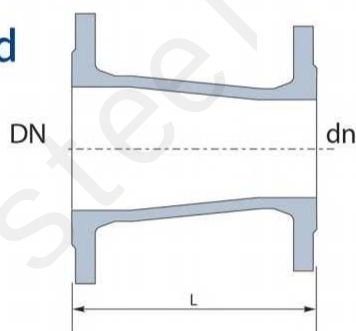
ITEM CODE: S-RR1

DN	dn	L	Unit Wt. Kgs. T-Type
100	80	90	8.5
150	80	190	13.5
	100	150	13.8
200	100	250	20.5
	150	150	21
250	100	300	28.5
	150	250	29
	200	150	29
300	100	450	39
	150	350	39.5
	200	250	39.5
	250	150	38.5
350	150	460	52
	200	360	51
	250	260	50
	300	160	50
400	200	460	67
	250	360	66
	300	260	64
	350	160	62
450	200	560	89
	250	460	89
	300	360	88
	350	260	86
	400	160	83
500	250	560	101
	300	460	100
	350	360	98
	400	260	94
	450	160	99
600	300	660	152
	350	560	151
	400	460	142
	450	360	149
	500	260	131
700	500	480	194
	600	280	178
800	600	480	252
	700	280	229
900	700	480	318
	800	280	288
1000	800	480	392
	900	280	354
1200	1000	480	570
1400	1200	360	711

*All dimensions are in mm

Double Flanged Concentric Taper

ITEM CODE: RR1



Double Flanged Flat Taper

ITEM CODE: RR2

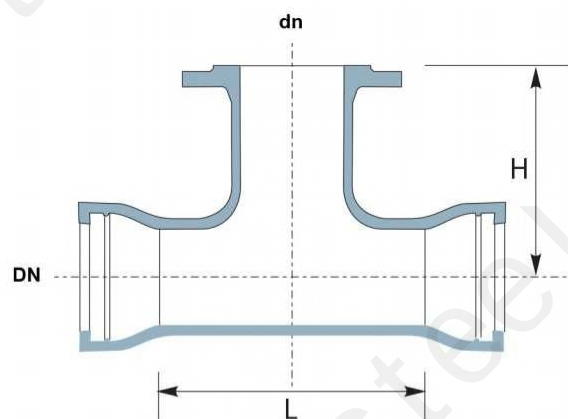
DN	dn	L	Unit Wt. Kgs. PN10	Unit Wt. Kgs. PN16	Unit Wt. Kgs. PN25
100	80	200	9.5	9.5	9.8
150	80	400	16	16	17
200	100	300	15	15	17.5
	100	600	27	27	29
250	150	300	22	22	25
	150	600	38	38	43
300	200	300	30	29	36
	150	600	46	46	52
	200	600	51	51	59
350	250	300	40	41	49
	200	600	58	60	71
	250	600	65	70	79
400	300	300	50	52	66
	200	600	66	71	84
	250	600	72	77	92
450	300	600	79	84	101
	350	300	58	67	86
	250	600	80	88	97
	300	600	86.8	95	107
500	350	600	92.7	104	118
	400	300	72.4	81	113
	250	700	99.4	114	130
	300	600	96.2	111	129
600	400	600	110	130	153
	450	300	116	139	157
	300	800	145	171	191
	400	600	132	164	190
	450	600	140	175	195
	500	600	149	190	216

*All dimensions are in mm

ITEM CODE: V-T16

DN	dn	L	H	Unit Wt. Kgs. T-Type
80	80	170	160	13.5
100	80	170	175	16
	100	190	180	17
150	80	170	205	23
	100	195	210	24.5
	150	255	220	29.5
200	80	175	235	31.5
	100	200	240	34
	150	255	250	39
	200	315	260	46
250	80	175	265	44
	100	200	270	43.5
	150	260	280	56.5
	200	315	290	57
	250	375	300	66
300	100	200	300	55
	150	260	310	68
	200	320	320	70
	250	375	330	81
	300	435	340	91
350	100	205	330	68
	150	265	340	81.3
	200	320	350	86
	250	380	360	114
	300	435	370	118
	350	495	380	120
400	100	210	360	83
	150	265	370	98
	200	325	380	102
	250	380	390	118
	300	440	400	131
	350	500	410	146
	400	560	420	156
450	100	210	390	107
	150	270	400	119
	200	325	410	129
	250	385	420	140
	300	445	430	154
	350	500	440	169
	400	560	450	185
	450	615	460	200
500	100	215	420	116
	150	270	430	137
	200	330	440	141
	250	390	450	165
	300	445	460	179
	350	505	470	195
	400	565	480	205
	450	620	490	228
	500	680	500	247

Double Socket Tee with PN16 Flange Branch



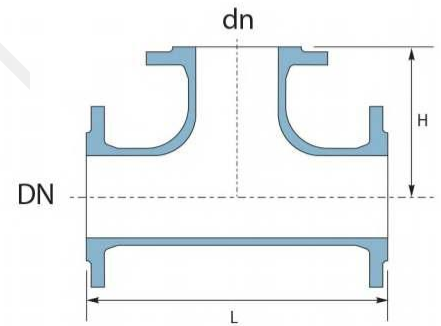
Weight with PN16 Flange indicated . PN10 & PN 25 Flanges are also available

*All dimensions are in mm

ITEM CODE: T90

	dn	L	H	Unit Wt. Kgs. PN10	Unit Wt. Kgs. PN16	Unit Wt. Kgs. PN25
80	80	330	165	15.6	15.6	15.6
100	80	360	175	18.4	18.4	18.4
	100	360	180	19.4	19.4	19.4
150	80	440	205	28.5	28.5	31
	100	440	210	29.5	29.5	32
	150	440	220	32.5	32.5	36
200	80	520	235	42	41.5	46
	100	520	240	43	42	47.5
	150	520	250	46	45	51
	200	520	260	49.5	49	56
250	80	700	265	49.7	49.3	56.7
	100	700	275	68	67	75
	150	700	300	72	71	81
	200	700	325	76	75	85
	250	700	350	82	81	93
300	100	800	300	94	93	105
	150	800	325	98	97	109
	200	800	350	102	101	114
	250	800	375	109	108	121
	300	800	400	116	115	131
350	100	850	325	116	122	139
	150	850	325	119	125	142
	200	850	325	121	128	146
	250	850	352	128	134	154
	300	850	425	132	138	160
	350	850	425	142	151	176
400	100	900	350	143	154	177
	150	900	350	144	156	181
	200	900	350	148	159	184
	250	900	350	151	161	198
	300	900	450	160	184	213
	350	900	450	170	183	215
450	400	900	450	174	191	215
	100	950	375	176	193	225
	150	950	375	182	199	231
	200	950	375	190	207	240
	250	950	375	199	216	250
	300	950	475	210	227	263
	350	950	475	219	240	279
	400	950	475	231	254	296
500	450	950	475	243	269	315
	100	1000	400	210	241	265
	150	1000	400	214	243	269
	200	1000	400	215	245	271
	250	1000	400	218	258	280
	300	1000	500	227	255	287
	350	1000	500	239	262	298
	400	1000	500	242	276	311
	450	1000	500	249	298	327
	500	1000	500	252	297	332

All Flanged Tee

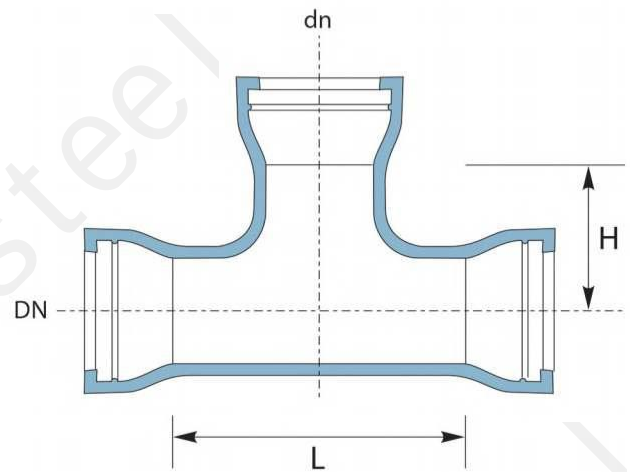


*All dimensions are in mm

ITEM CODE: S-T90

DN	dn	L	H	Unit Wt. Kgs. T-Type
80	80	170	85	12.5
100	80	170	95	15
	100	190	95	16
150	80	170	120	21.5
	100	195	120	23.5
	150	255	125	28
200	80	175	145	30
	100	200	145	32
	150	255	150	37
	200	315	155	43
250	80	175	165	40
	100	200	165	43
	150	260	175	51
	200	315	180	56
	250	375	185	53
300	80	180	190	51
	100	200	195	54
	150	260	200	64
	200	320	205	70
	250	375	210	80
	300	435	215	56
350	80	180	215	64
	100	205	220	67
	150	265	225	80
	200	320	230	85
	250	380	235	97
	300	435	240	106
	350	495	245	116
400	100	210	245	82
	150	265	240	97
	200	325	255	102
	250	380	260	116
	300	440	265	127
	350	500	270	137
	400	555	275	150
450	100	210	270	106
	150	270	275	116
	200	325	280	127
	250	385	285	138
	300	445	290	149
	350	500	295	161
	400	500	300	173
	450	615	305	186
500	150	270	300	137
	200	330	305	141
	250	390	315	161
	300	445	315	174
	350	505	320	187
	400	560	325	199
	450	620	330	214
	500	680	340	234
600	150	280	350	185
	200	335	355	188
	250	395	360	215
	300	450	365	231
	400	570	375	258
	450	625	380	280
	500	685	390	296
	600	800	400	343
700	200	345	405	259
	250	400	410	277
	300	460	420	297
	400	575	430	337
	450	635	435	361
	500	690	440	380
	600	810	450	430
	700	925	460	486

All Socket Tee

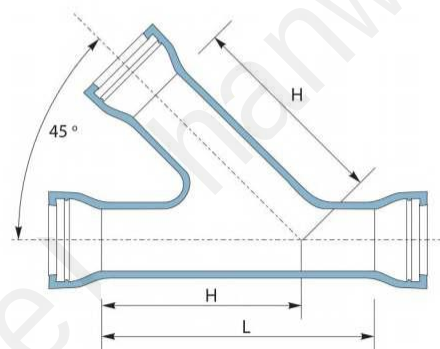


*All dimensions are in mm

All Socket 45° Angle Branch

ITEM CODE: S-H45

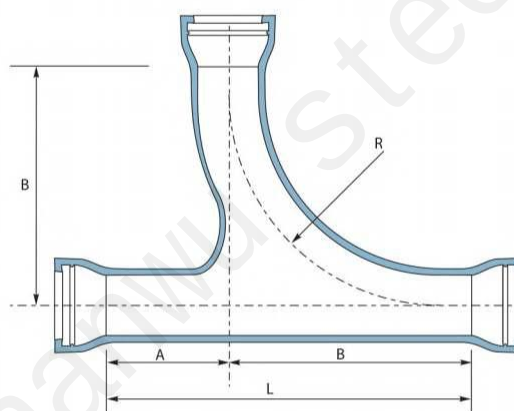
DN	L	H	Unit Wt. Kgs. T Type
80	500	375	19.0
100	540	405	26.0
150	640	480	46.0
200	735	560	72.0
250	830	640	106.0
300	930	715	151.0
350	880	790	169.0
400	970	870	209.0
450	1060	950	281.0
500	1140	1025	347.0
600	1310	1180	511.0



All Socket Radial Tee

ITEM CODE: S-TT1

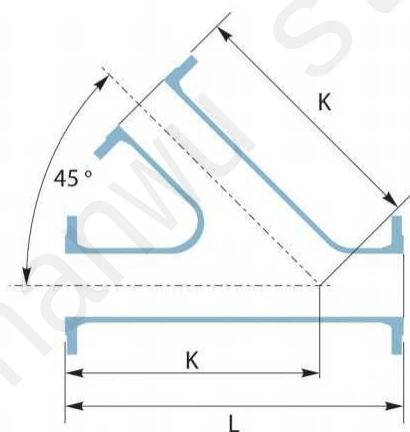
DN	A	B	L	R	Unit Wt. Kgs. T Type
80	165	380	545	330	21.0
100	180	400	580	340	28.0
150	220	450	670	385	47.0
200	260	500	760	430	72.5
250	350	550	900	475	107.0
300	400	600	1000	515	150.0
350	450	650	1100	560	206.0



*All dimensions are in mm

All Flanged 45° Angle Branch

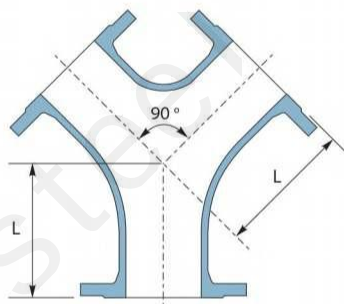
ITEM CODE: H45



DN	L	K	Unit Wt. Kgs. PN10	Unit Wt. Kgs. PN16	Unit Wt. Kgs. PN25
80	500	375	21.0	21.0	21.0
100	540	405	27.0	27.0	27.0
150	640	480	47.0	47.0	47.0
200	735	560	71.0	71.0	77.0
250	830	640	105.0	105.0	115.8
300	930	715	147.0	147.0	163.2
350	880	790	177.0	188.0	213.0
400	970	870	238.0	255.0	288.0
450	1060	950	295.0	321.0	367.0
500	1140	1025	369.0	414.0	449.0
600	1310	1180	545.0	625.0	667.0
700	1550	1430	830.0	875.0	
800	1700	1570	1570.0	1615.0	
900	1850	1700	1597.0	1669.0	
1000	2050	1900	2070.0	2196.0	
1200	2350	1950	2665.0	2857.0	

All Flanged True Wye

ITEM CODE: Y90

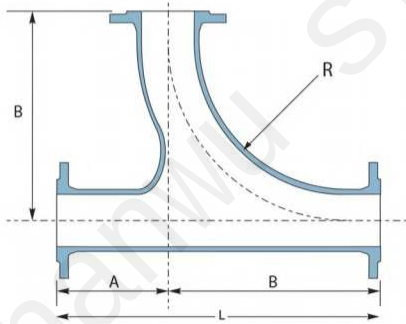


DN	L	Unit Wt. Kgs. PN10	Unit Wt. Kgs. PN16	Unit Wt. Kgs. PN25
80	165	15.6	15.6	15.6
100	180	19.3	19.3	19.3
150	220	32.5	32.5	32.5
200	260	49.0	49.0	55.0
250	350	81.0	81.0	91.8
300	400	115.0	115.0	131.2
350	450	157.9	166.0	189.7
400	500	231.0		
450	550	295.0		
500	600	385.0		
600	700	591.0		

*All dimensions are in mm

All Flanged Radial Tee

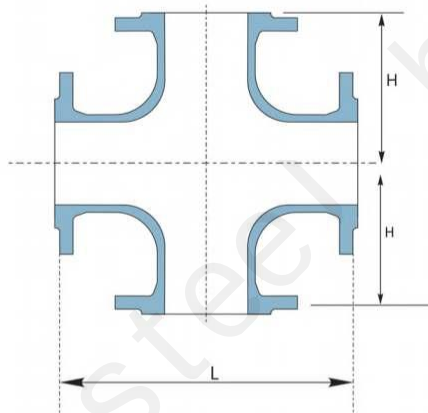
ITEM CODE: TT1



DN	L	A	B	r	Unit Wt. Kgs. PN10	Unit Wt. Kgs. PN16	Unit Wt. Kgs. PN25
80	545	165	380	330	23.0	23.0	23.0
100	580	180	400	340	29.5	29.5	29.5
150	670	220	450	385	48.5	48.5	48.5
200	760	260	500	430	72.5	72.5	78.5
250	900	350	550	475	106.0	106.0	116.8
300	1000	400	600	515	146.0	146.0	162.2
350	1100	450	650	560	195.9	204.0	227.7
400	1200	500	700	605	250.5	264.0	297.0
450	1300	550	750	650	308.3	332.0	364.7
500	1400	600	800	690	392.8	433.0	464.8
600	1600	700	900	780	561.9	633.0	668.4

All Flanged Cross

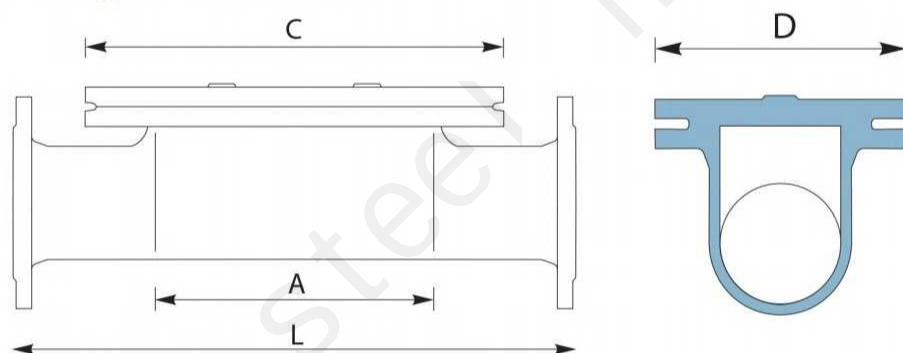
ITEM CODE: C00



DN	L	H	Unit Wt. Kgs. PN10	Unit Wt. Kgs. PN16	Unit Wt. Kgs. PN25
80	330	165	20.5	20.5	20.5
100	360	180	24.5	24.5	24.5
150	440	220	41.0	41.0	41.0
200	520	260	60.5	60.5	68.5
250	700	350	99.5	99.5	113.9
300	800	400	143.0	143.0	164.6
350	850	425	178.2	189.0	220.6
400	900	450	218.0	236.0	280.0
450	950	475	254.4	286.0	329.6
500	1000	500	316.4	370.0	412.4
600	1100	550	447.2	542.0	589.2
700	1200	600	633.2	680.0	
800	1350	675	903.4	963.0	
900	1500	750	1,190.0	1,266.0	
1000	1650	825	1,537.0	1,675.0	
1200	1950	975	2,452.4	2,672.0	

*All dimensions are in mm

Flanged Hatchbox

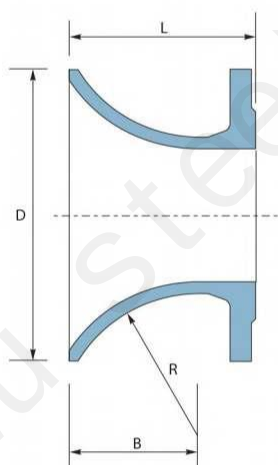


ITEM CODE: ZZ1

DN	L	A	C	D	hex bolts	stud bolts	Unit Wt. Kgs. PN10	Unit Wt. Kgs. PN16	Unit Wt. Kgs. PN25
					Qty / Size	Qty / Size			
80	800	400	520	200	10 x M16		68.3	68.3	68.3
100	800	400	535	235	10 x M20		73.5	73.5	73.5
150	800	400	550	300	10 x M24	4 x M24	100.0	100.0	100.0
200	800	400	560	360	12 x M24	4 x M24	107.0	107.0	111.0
250	950	500	675	425	14 x M27	4 x M27	155.0	155.0	162.2
300	950	500	685	485	18 x M27	6 x M27	193.0	193.0	203.8
350	950	500	705	555	18 x M30	6 x M30	259.6	265.0	280.8
400	1100	600	820	620	18 x M33	6 x M33	317.0	326.0	348.0
450	1100	600	820	670	18 x M33	8 x M33	369.2	385.0	406.8
500	1200	600	830	730	22 x M33	4 x M33	415.2	442.0	463.2
600	1200	600	845	845	22 x M36	4 x M36	426.6	474.0	497.6

Flanged Bellmouth

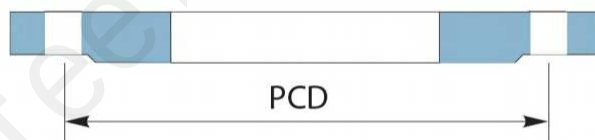
ITEM CODE: AA3



DN	L	D	B	R	Unit Wt. Kgs. PN10	Unit Wt. Kgs. PN16
80	135	160	80	100	5.2	5.2
100	140	185	85	106	6.3	6.3
150	155	245	95	119	11.0	11.0
200	170	310	110	137	24.0	24.0
250	190	370	120	150	32.0	32.0
300	210	435	135	169	44.0	44.0
350	225	495	145	181	72.0	75.0
400	245	560	160	200	92.0	98.0
450	260	620	170	212	111.0	120.0
500	280	685	185	231	138.0	153.5
600	300	810	210	262	185.3	221.0
700	340				210.0	225.0
800	380				225.0	244.0
900	420				260.0	284.0
1000	440				327.0	369.0
1200	490				457.0	512.0
1400	515				646.0	702.0
1600	540				906.0	995.0
1800					1185.0	1297.0
2000					1530.2	1668.0

*All dimensions are in mm

Blank Flange



ITEM CODE: K10 (PN 10)

ITEM CODE: K16 (PN 16)

ITEM CODE: K25 (PN 25)

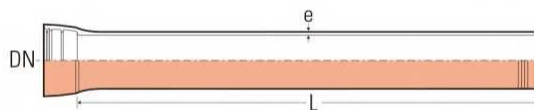
DN	Unit Wt. Kgs. PN10	Unit Wt. Kgs. PN16	Unit Wt. Kgs. PN25
80	3.9	3.9	3.9
100	4.8	4.8	4.8
150	8.1	8.1	8.1
200	11.4	11.4	13.4
250	16.6	16.6	20.2
300	23.0	23.0	28.4
350	34.3	37.0	44.9
400	44.0	48.5	59.5
450	55.6	63.5	74.4
500	69.6	83.0	93.6
600	106.3	130.0	141.8
700	157.3	169.0	
800	220.1	235.0	
900	288.0	307.0	
1000	378.5	413.0	
1100	501.0	536.0	
1200	604.1	659.0	
1400	847.2	904.0	
1500	978.0	1092.0	
1600	1239.0	1409.0	
1800	1717.0	1858.0	
2000	2272.0	2407.0	
2200	2372.0	3097.0	

Flange dimensions to EN1092-2 / ISO 7005-2

ITEM CODE: KK2 For PN10 welded on flange without drilling for Puddle

Push-fit Flexible Pipe

EN598



DN (MM)	EXTERNAL DIAMETER DE		PRESSURE CLASS	MIN. WALL THICKNESS e	LENGTH (MM)	WEIGHT (KGS)	PRESSURE	
	NOMINAL	LIMIT DEVIATION					PFA	PEA
80	98	+1/-2.7	PP	4.8	5500	74	40	53
100	118	+1/-2.8	PP	4.8	5500	89	40	53
150	170	+1/2.9	PP	4.8	5500	134	40	53
200	222	+1/-3.0	PP	4.9	5500	179	40	53
250	274	+1/-3.1	PP	5.3	5500	235	38	51
300	326	+1/-3.3	PP	5.6	5500	293	35	47
350	378	+1/-3.4	PP	6.0	5500	373	32	44
400	429	+1/-3.5	PP	6.3	5500	443	30	41
450	480	+1/-3.6	PP	6.7	5500	521	29	40
500	532	+1/3.8	PP	7.0	5500	600	28	38
600	635	+1/-4.0	PP	7.7	5500	781	26	36
700	738	+1/-4.3	PP	9.6	5500	1117	29	40
800	842	+1/-4.5	PP	10.4	5500	1370	28	38
900	945	+1/-4.8	PP	11.2	5500	1644	27	37
1000	1048	+1/-5.0	PP	12.0	5500	1938	26	36

Both **EN545** and **EN598** state that for pipes DN < 300, the external diameter of the pipe barrel measured with a circumferential tape will be such as to allow the assembly of the joint over at least two thirds of the pipe length from the spigot end when the pipe needs to be cut on site.

For DN > 300, the same requirement applies to 5% of pipes.

As the dimensions of the steel moulds in which ductile iron pipes are cast vary with time and use, batches of pipes from a single mould on a given production run are likely to be either all suitable for cutting or none suitable for cutting.

Should you require pipes suitable for cutting this must be specified at time of order.

*All dimensions are in mm

DISPLAY DRAWING OF PIPE FITTINGS SERIES



*All dimensions are in mm

TECHNICAL

Wall thickness

Pipe

For deviations on pipe see pages 9 and 10.

Fittings

The following table denotes the minimum wall thickness for ductile fittings and the limit deviations as per BS EN545 and BS EN598

DN (MM)	WALL THICKNESS e	LIMIT DEVIATIONS ON NOMINAL WALL THICKNESS ¹
80	7.0	- 2.3
100	7.2	-(2.3 + 0.001 DN)
150	7.8	-(2.3 + 0.001 DN)
200	8.4	-(2.3 + 0.001 DN)
250	9.0	-(2.3 + 0.001 DN)
300	9.6	-(2.3 + 0.001 DN)
350	10.2	-(2.3 + 0.001 DN)
400	10.8	-(2.3 + 0.001 DN)
450	11.4	-(2.3 + 0.001 DN)
500	12.0	-(2.3 + 0.001 DN)
600	13.2	-(2.3 + 0.001 DN)
700	14.4	-(2.3 + 0.001 DN)
800	15.6	-(2.3 + 0.001 DN)
900	16.8	-(2.3 + 0.001 DN)
1000	18.0	-(2.3 + 0.001 DN)

¹ the lower limit only is given to ensure sufficient resistance to internal pressure.

Standardised lengths of push-fit (flexible) pipes

Pipe is supplied in the standardised lengths shown.

DN (MM)	STANDARDISED LENGTH L _s (M)	DEVIATION
80 - 1000	5.5	± 100mm

NB. Of the total number of pipes supplied in each diameter, up to ten percent may be supplied shorter than specified.

Standardised lengths of fittings

Fittings are supplied to the lengths stated within this catalogue. There are two series' of dimensions shown; series A corresponding to ISO 2531 and series B generally limited to DN 450mm. The permissible deviations on the standardised length of series A fittings are given below. No deviation is permitted for series B fittings.

TYPE OF FITTING	DN (MM)	DEVIATION
90° (1/4) Bends	80 - 1000	± (15 + 0.03 DN)
45° (1/8) Bends	80 - 1000	± (10 + 0.025 DN)
22½° (1/16) and 11¼° Bends	80 - 1000	± (10 + 0.02 DN)
Tees	80 - 1000	+ 50/ - 25
Tapers	80 - 1000	± 35
Standard flanged socket pieces	80 - 1000	± 25
Standard flanged spigot pieces	80 - 1000	± 35

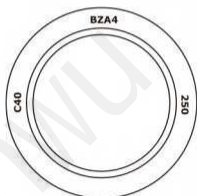
*All dimensions are in mm

TECHNICAL

Pipe and fitting markings

Pipeline Solutions manufactures ductile iron pipe, fittings and accessories to the latest revision of the standard. As part of the standard our pipes, fittings and accessories carry a number of markings for ease of identification.

All pipes and fittings are legibly marked and bear the following information:



For ease of identification and to aid stock rotation we have included additional markings on the pipes. These additional markings are:
month of manufacture
day of manufacture
type of cement
external coatings

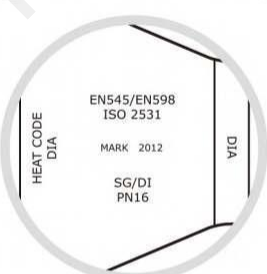
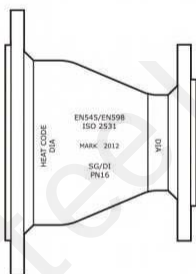
These are marked on both the side of the pipe and on the socket ends.

The following markings are either cast-on or cold stamped as per BS EN545 and BS EN598:
manufacturers mark
year of manufacture
identification as ductile nominal bore
PN rating if applicable

All other markings can be applied by any method eg. painted on the casting.

Pipe

Manufacturers name or mark	Mark or name
Year of manufacture	'2012'
Month of manufacture ¹	A,B,C etc A = January, B = February, C = March
Day of manufacture ¹	13, 14, 15 etc Day of month
Identification as ductile iron	SG or DI
Nominal bore	DN 250
Reference to the standard	BS EN545 or BS EN598
Pipe class	C40 (BS EN545) or PP (BS EN598)
Type of cement	B = Blast furnace cement (BS EN545) H = High Alumina cement (BS EN598)
External coating	Z = Zinc, A = Aluminium, 4 = 400 g/m ²



Cast fittings

Manufacturers name or mark	Mark or name
Year of manufacture	'2012'
Identification as ductile iron	SG or DI
Nominal bore	DN 400
PN rating of flanges for flange components	PN 16
Reference to the standard	BS EN545 or BS EN598
Angle of bend (where required)	90°

*All dimensions are in mm

LINING & COATING FOR DUCTILE IRON PIPE & FITTINGS

Type	Internal (Lining)	External (Coating)
Standard	Sulphate resistant cement mortar type V (ISO 4179)	Metallic Zinc plus bituminous paint (ISO 8179-1)
Additional Protection	High alumina cement mortar	Polyethylene sleeving (installed on site)
Other Coatings	Fusion Bonded Epoxy lining (FBE) Induron Protecto 401™ ceramic epoxy Ceramapure PL90™ Seal coat	Fusion Bonded Epoxy coating Zinc / Aluminum coating up to 400mg/sqm (85% / 15%)

a) Cement lining thickness

DN	Nominal Value	Tolerance*	Maximum crack width & radial displacement
80 - 300	3.5	-1.5	0.8
350 - 600	5	-2	1.0
700 - 1200	6	-2.5	1.2
1400 - 2000	9	-3	1.5

* A negative tolerance only is required by the standards.
Note: Pipe end may have a chamfer of maximum length 50mm.

b) Bitumen coating

The mean thickness of bitumen coating shall not be less than 70 μm and local minimum thickness shall not be less than 50 μm .

c) Metallic Zinc coating

When metallic zinc spray is applied, the mean mass of the Zinc per unit area shall not be less than 130g/m², with a local minimum of 110g/m².

d) Epoxy coating

Fusion Bonded Epoxy coating available internally up to a thickness of 500 μm . Externally up to 120 μm in accordance with EN 14901.

e) Ceramic Epoxy Protecto 401™ lining

Protecto 401™ is applied to the interior of ductile pipe and fittings, utilizing specialized application equipment and stringent specifications. The lining is designed to be applied at a nominal 40-mil (1000 μm) thickness. A non-destructive pinhole detection test and a thickness test are performed to insure a sound, chemically resistant protective lining for ductile iron pipe and fittings. This lining is not suitable for potable water pipelines.

f) Ceramapure PL90™ is certified for cold end uses only to NSF/ANSI International Standard 61 for potable water immersion service. Ceramapure™ PL90 meets or exceeds AWWA C-210.

*All dimensions are in mm

GENERAL SPECIFICATIONS FOR ISO /EN PIPES & FITTINGS-DUCTILE IRON

ISO 2531	Ductile iron pipes, fittings and accessories for pressure pipelines.
ISO 7186	Ductile iron products for sewage applications.
ISO 4179	Ductile iron pipes for pressure and non pressure pipelines - centrifugal cement mortar lining general requirements.
ISO 8179	Ductile iron pipes - external zinc coating.
ISO 4633	Rubber seals-joint rings for water supply, drainage and sewerage pipelines – Meets the specification for materials.
ISO 8180	Ductile iron pipes - Polyethylene sleeving.
ISO 7005-2	Metallic flanges - Part 2 cast iron flanges. Hexagon head bolts – produced grades A and B.
ISO 4032	Hexagon nuts, style1 - Produced grades A and B.
ISO 14901	Epoxy coating (heavy duty) of ductile iron fittings and accessories
BS EN545	Requirements and testing methods for Ductile iron pipes, fittings and accessories and their joints for water pipelines.
BS EN598	Requirements and testing methods for Ductile iron pipes, fittings and accessories and their joints for sewerage applications.
BS EN1092-2	Metallic flanges - Part 2 cast iron flanges
BS 4027	Requirements for composition, strength, physical and chemical properties of three strength classes of specification for sulfate-resisting Portland cement.
BS 3416	Specification for bitumen based coatings for cold application, suitable for use in contact with potable water.
BS 2494	Specification for elastomeric seals for joints in pipe work and pipelines.

REMARKS:

The specifications in the brochure are subject to revision without prior notice based on our product modification and sourcing programme.

While we make every effort to generate the correct information in the catalog, we do not guarantee that the information is complete and accurate.

MANHOLE COVER SERIES

As an industry leader, we have comprehensive international standard production facilities geared to our quest for qualitative excellence as well as quantitative growth. In our core foundry business, we are equipped to offer a full range of services from product development to moulding, in-house machining, as well as the facilities to provide the most stringent product testing.

In-House Designing is integrated with CNC Machines to produce patterns in a short time.

Auto CAD, Auto Cast and ProEngineer software are used for designing products as well as optimizing them using a series of simulations. Two 4 axis CNC machines are being used to develop new patterns with greater accuracy and speed. Our company has a melting capacity of 40,000 tons per year of cast iron using 6 cupolas and has 2 induction furnaces with a capacity of 10,000 tons for ductile iron. We produce GG20/25 Grades of Cast Iron and GGG50 Grade of Ductile Iron.

Environmental protection type cast nodular cast iron anti-theft and anti-impact sound manhole cover, catchment plate and tree circumference, product construction department confirmed and designated products. Widely used in municipal, tap water, telecommunications, cable TV, airport, gas, port, street lamp, road administration, garden, construction and other projects.

CERTIFATES



*All dimensions are in mm

PRODUCT AT A GLANCE



Self Locking Manhole



Leak Proof Manhole



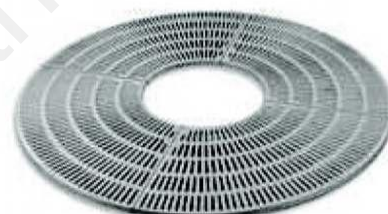
Manhole Frames and Covers/ Surface Box/ Telecom Cover



Manhole Frames and Covers/ Recessed Cover/ Telecom Cover



Gully & Channel Gratings | Kerb Gullies



Gas & Air Tight Inspection Covers | Decorative Street Furniture

CARRIAGEWAY/TELECOM



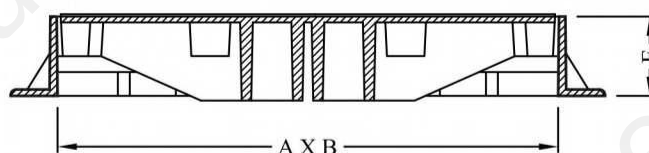
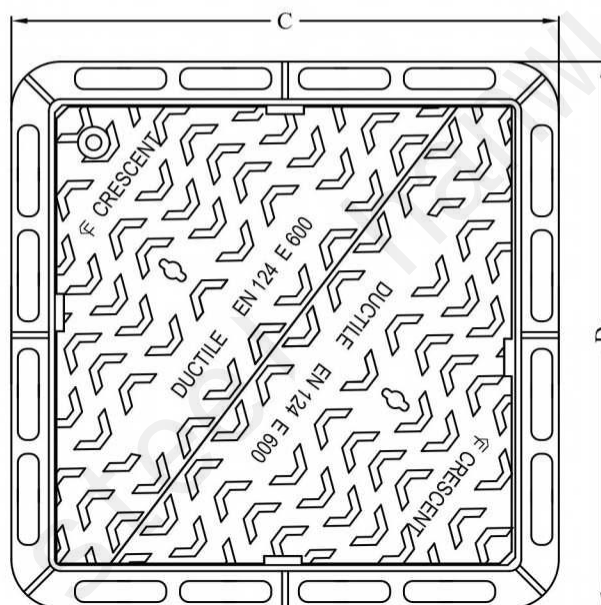
CDT 802

FEATURES

- Manufactured as per BS EN 124
- Anti-skid Checker design

OPTIONS

- Interlocked Covers
- Provision for bolting Covers to Frames for better security



PRODUCT CODE	CLEAR OPENING AXB(MM)	OVER BASE CXD(MM)	TOTAL DEPTH E(MM)	BS EN 124 CLASS
CDT-2200	600X600	730X730	100	E 600
CDT-675*	675X675	865X865	100	E 600
CDT-1202	750X750	880X880	100	E 600
CDT-1302	1220X675	1376X830	100	E 600

* GRP Seal Provision

*All dimensions are in mm

CARRIAGEWAY/TELECOM



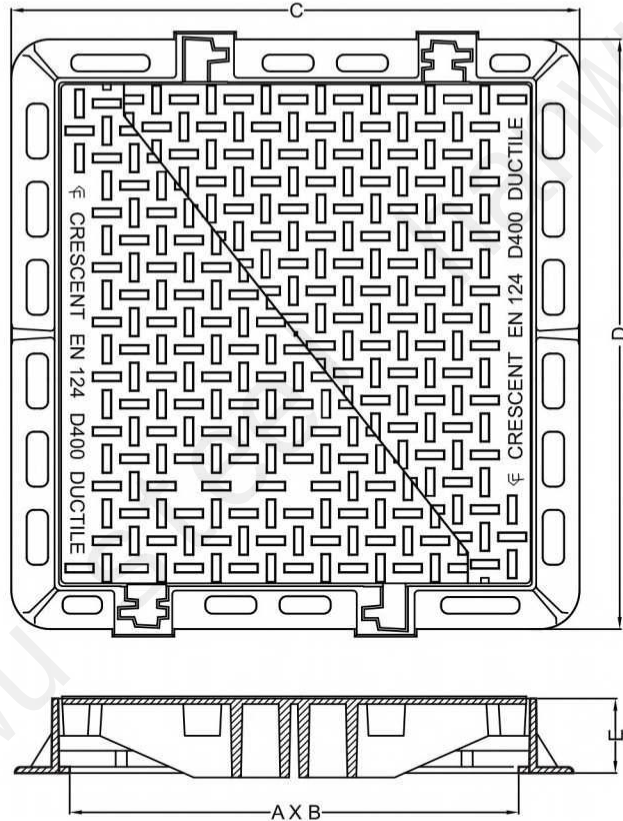
E 0012

FEATURES

- Manufactured as per BS EN 124
- Anti-skid Checker design
- Hinged for easy opening

OPTIONS

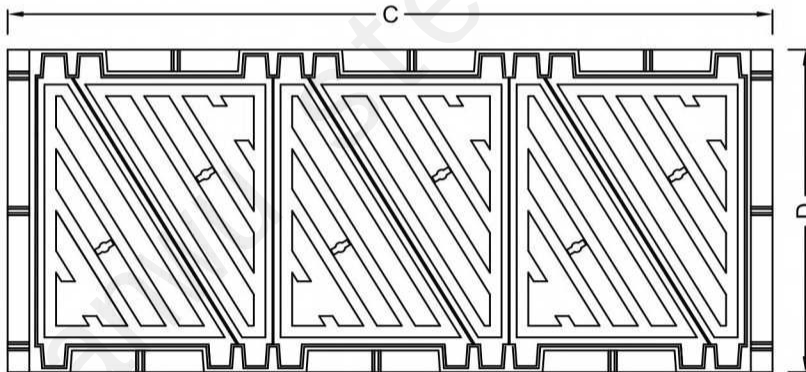
- Interlocked Covers
- Provision for bolting Covers to Frames for better security



PRODUCT CODE	CLEAR OPENING AXB(MM)	OVER BASE CXD(MM)	TOTAL DEPTH E(MM)	BS EN 124 CLASS	KITE MARK
E-0008	450x450	595x570	100	D400	
E-0009	600x450	755x570	100	D400	
E-0010	600x600	725x755	100	D400	
E-0007	1300x850	1505x1035	100	D400	
E-0011	1310x 610	1435x790	100	D400	
E-0012	1500x750	1630x930	100	D400	

*All dimensions are in mm

CARRIAGEWAY/TELECOM



CW1

FEATURES

- Manufactured as per BS EN 124
- Multiple Covers for easy handling
- Covers lugs fit securely into frame to ensure no movement in heavy traffic condition

OPTIONS

- Interlocked Covers
- Provision for bolting Covers to Frames for better security
- Safety grid provision

PRODUCT CODE	CLEAR OPENING AXB(MM)	OVER BASE CXD(MM)	TOTAL DEPTH E(MM)	BS EN 124 CLASS
CW-1	590x590	745x745	150	D400
CW-2	1244x700	1370x850	150	D400
CW-3	1835x700	1985x850	150	D400
CW-4	916x456	1105x645	95	150kN
VN-101	1229x766	1380x925	87	D400

*All dimensions are in mm

SQUARE/RECTANGULAR



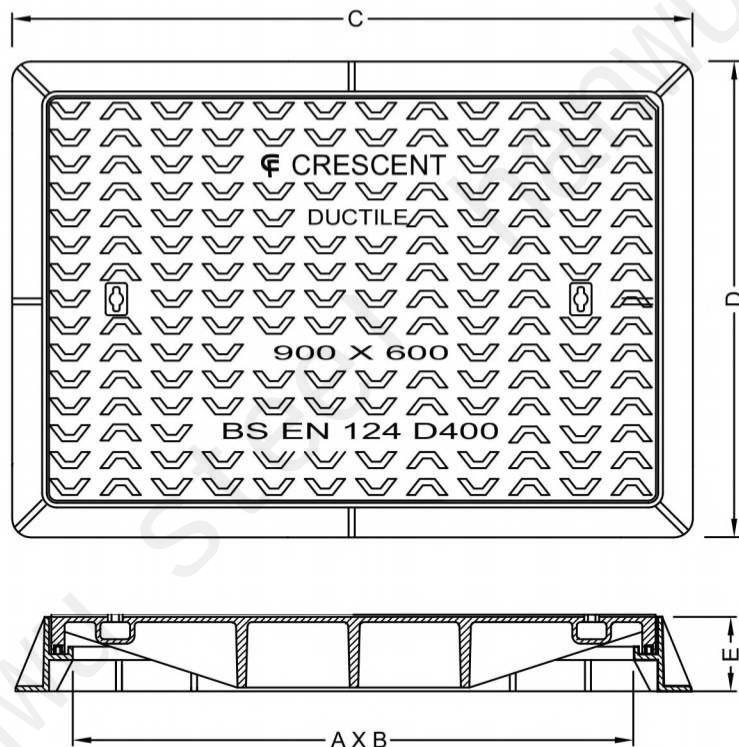
CDD 170

FEATURES

- Manufactured as per BS EN 124
- Anti-skid Checker design

OPTIONS

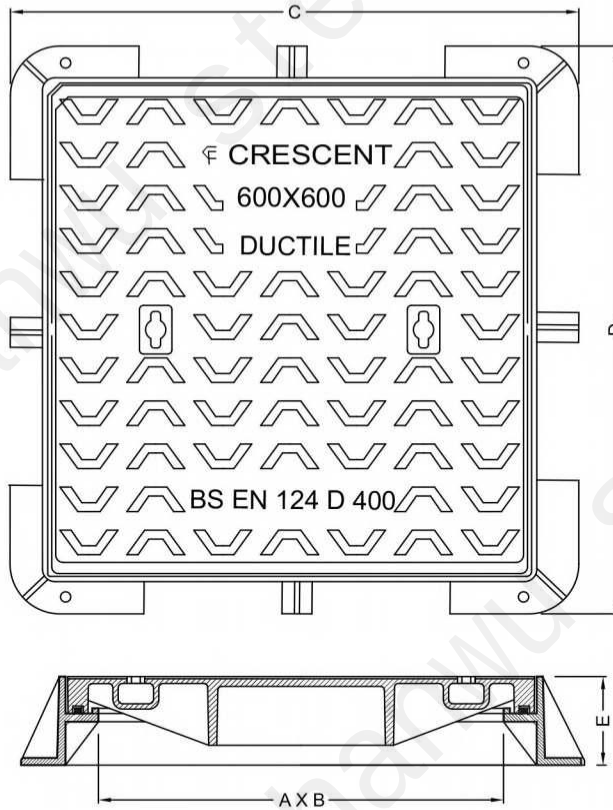
- Provision for bolting Covers to Frames for better security



PRODUCT CODE	CLEAR OPENING AXB(MM)	OVER BASE CXD(MM)	TOTAL DEPTH E(MM)	SEAL	BS EN 124 CLASS
CDD-170	900x600	1075x775	100	DOUBLE	D400

*All dimensions are in mm

SQUARE/RECTANGULAR



CDS 1751

FEATURES

- Manufactured as per BS EN 124
- Anti-skid Checker design

OPTIONS

- Provision for bolting Covers to Frames for better security

PRODUCT CODE	CLEAR OPENING AXB(MM)	OVER BASE CXD(MM)	TOTAL DEPTH E(MM)	SEAL	BS EN 124 CLASS
CDS-1751	600x600	735x735	75	SINGLE	D400
CDD-1752	600x600	775x775	75	DOUBLE	D400

*All dimensions are in mm

CIRCULAR



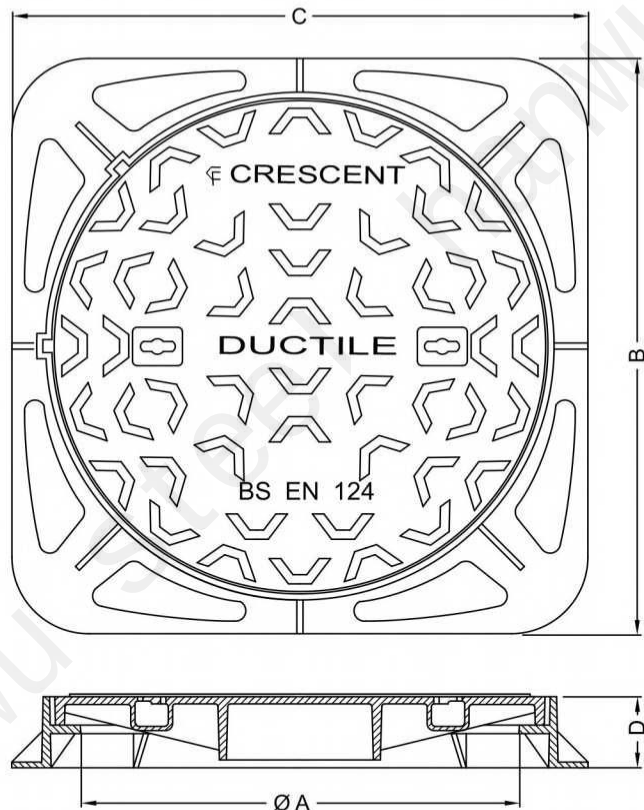
CDC 701

FEATURES

- Manufactured as per BS EN 124
- Anti-skid Checker design

OPTIONS

- Hinged/Bolted Covers available
- Vented Covers available

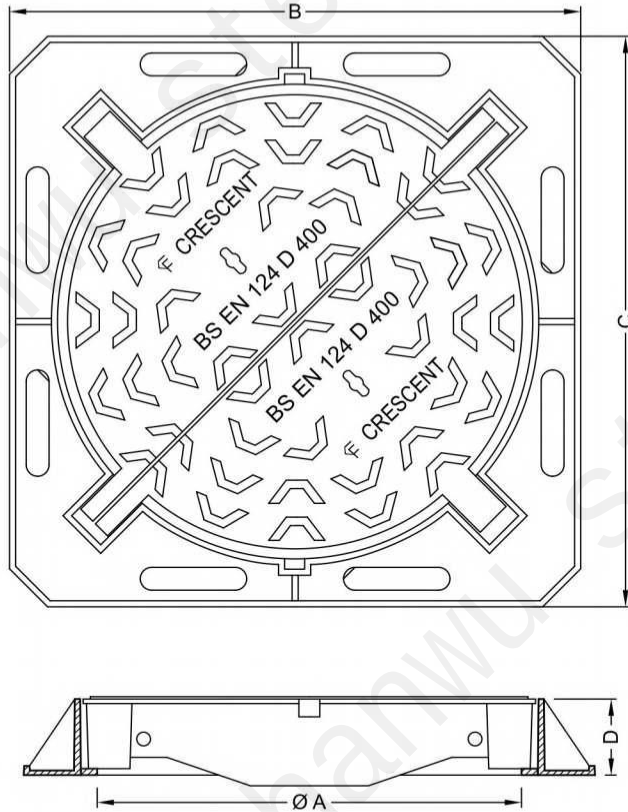


PRODUCT CODE	CLEAR OPENING Ø A(MM)	OVER BASE BXC(MM)	TOTAL DEPTH D(MM)	SEAL	BS EN 124 CLASS	KITE MARK
CDC-150*	Ø150	300x300	100	SINGLE	D400	
CDC-300*	Ø300	420x420	100	SINGLE	D400	
CDC-703	Ø600	750x750	100	SINGLE	B125	
CDC-702	Ø600	750x750	100	SINGLE	C250	
CDC-701	Ø600	750x750	100	SINGLE	D400	
CDC-705	Ø675	825x825	100	SINGLE	D400	

* GRP Seal Provision

*All dimensions are in mm

CIRCULAR



CDC 700

FEATURES

- Manufactured as per BS EN 124
- Anti-skid Checker design

OPTIONS

- Interlocked Covers

PRODUCT CODE	CLEAR OPENING Ø A(MM)	OVER BASE BXC(MM)	TOTAL DEPTH D(MM)	BS EN 124 CLASS	KITE MARK
CDC-700*	ø600	750x750	100	D400	

* GRP Seal Provision

*All dimensions are in mm

CIRCULAR



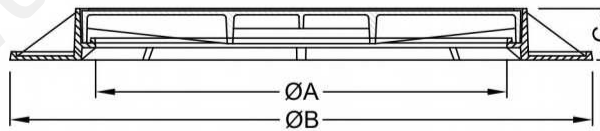
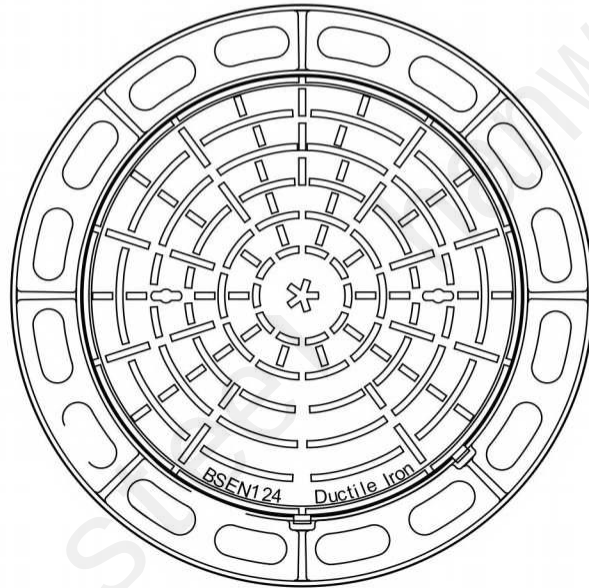
CRC 902

FEATURES

- Manufactured as per BS EN 124
- Anti-skid Checker design

OPTIONS

- Hinged/Bolted Covers available
- Vented Covers available



PRODUCT CODE	CLEAR OPENING Ø A(MM)	OVER BASE B(MM)	TOTAL DEPTH C(MM)	SEAL	BS EN 124 CLASS
CRC-602*	ø600	ø755	75	SINGLE	B125
CRC-702	ø600	ø850	75	SINGLE	C250
CRC-601*	ø600	ø820	100	SINGLE	D400
D-7200	ø600	ø850	100	SINGLE	D400
CRC-902	ø900	ø1060	50	SINGLE	B125

* GRP Seal Provision

INDEX

PRODUCT CODE	CLEAR OPENING AXB(MM)	BS EN 124 CLASS	PAGE No.
Carriageway/ Telecom Covers			06
CDT-2200	600X600	E 600	07
CDT-675*	675X675	E 600	
CDT-1202	750X750	E 600	
CDT-1302	1220X675	E 600	
CDT-803*	305x305	D400	08
CDT-801	600x600	D400	
CDT-802*	600x600	D400	
CDT-805*	600x600	D400	
D-1102*	600 Dia	D400	
D-1103*	675 Dia	D400	
CDT-475*	675x675	D400	
CDT-960*	900x600	D400	
CDT-1301*	1220x675	D400	
E-0008	450x450	D400	09
E-0009	600x450	D400	
E-0010	600x600	D400	
E-0007	1300x850	D400	
E-0011	1310x 610	D400	
E-0012	1500x750	D400	
CW-1	590x590	D400	10
CW-2	1244x700	D400	
CW-3	1835x700	D400	
CW-4	916x456	150kN	
VN-101	1229x766	D400	
Square/Rectangular Frames and Covers			11
CQR-800*	800x800	D400	12
CDL-3001	900x900	D400	
CQR-900*	900x900	D400	
CQR-1000*	1000x1000	D400	
CDD-170	900x600	D400	13
CDS-1751	600x600	D400	14
CDD-1752	600x600	D400	
CDS-760*	750x600	B125	15
CDD-760	750x600	B125	
CDX-760	750x600	D400	
CDG-765*	750x600	D400	
CDG-775*	750x750	D400	

* GRP Seal Provision

PRODUCT CODE	CLEAR OPENING AXB(MM)	BS EN 124 CLASS	PAGE No.
CQR-700	600x600	B125	16
CDG-201*	600x600	C250	
CDS-101	600x600	D400	
CDD-301	600x600	B125	17
CDD-202	600x600	C250	
CDD-102	600x600	D400	
CDS-164	600x450	D400	18
CDD-144	450x450	B125	19
CDD-145	450x450	D400	
CDG-401*	300x300	D400	20
CDD-601	300x300	B125	21
CDD-502	300x300	C250	
CDD-402	300x300	D400	
Circular Frames and Covers			22
CDC-150*	ø150	D400	23
CDC-300*	ø300	D400	
CDC-703	ø600	B125	
CDC-702	ø600	C250	
CDC-701	ø600	D400	
CDC-705	ø675	D400	
CDC-700*	ø600	D400	
CRC-602*	ø600	B125	25
CRC-702	ø600	C250	
CRC-601*	ø600	D400	
D-7200	ø600	D400	
CRC-902	ø900	B125	
Recessed Frames and Covers			26
CDR-2001	300x300	B125	27
CDR-2002	300x300	C250	
CDR-5001	450x450	B125	
CDR-1001	600x600	B125	
CDR-1002	600x600	C250	
CDR-1003	600x600	D400	
CDR-4001	800x800	D400	
CDR-3003	900x600	C250	
CDR-3004	900x600	D400	
CDR-6001	900x900	B125	

* GRP Seal Provision

*All dimensions are in mm

INDEX

PRODUCT CODE	CLEAR OPENING AXB(MM)	BS EN 124 CLASS	PAGE No.
Gas/Air Tight Inspection Covers			28
CGT-001	600x450	F900	29
CGT-002	600x600	F900	
CGT-003	750x750	F900	
CGT-004	900x600	F900	
CGT-005	900x750	F900	
CGT-006	900x900	F900	
CGT-007	750x1300	F900	
CGT-008	1050x1000	F900	
CGT-009	900x1300	F900	
CGT-010	1200x1300	F900	
CGT-011	900x1600	F900	
CGT-012	900x2000	F900	
CGT-013	900x2850	F900	
CGT-014	900x3400	F900	
Catch Basin Covers			30
ADS-601	660x610	C250	31
ADS-600	660x610	C250	
ADG-102	600x120		
ADG-101	600x170		
Kerb Gullies			32
CKG-003C	470x470	C250	33
CKG-003D	470x470	D400	
CKG-002	470x470	C250	
CKG-004	485x475	C250	
CKG-001	530x405	D400	
Gully and Channel Gratings			34
CDQ-907	300x300	D400	35
CDQ-900	450x450	D400	
CDQ-901	600x600	D400	
CDQ-935	635x635	D400	
D-1104C	430x370	C250	36
D-1104D	430x370	D400	
CDQ-430	400x350	E600	

PRODUCT CODE	CLEAR OPENING AXB(MM)	BS EN 124 CLASS	PAGE No.
CDQ-906	750x300	C250	37
CDQ-913	750x150	D400	
CDQ-910	750x200	D400	
CDQ-912	750x250	D400	
CDQ-902	750x300	D400	
CDQ-903	750x350	D400	
CDQ-904	750x400	D400	
CDQ-911	750x500	D400	
CDQ-921	750x550	D400	
CDQ-919	750x450	F900	
Surface Boxes			38
D-1106	150x150	D400	39
D-1150	150x150	E600	
CBS-2626	265x265	E600	
D-1105	380x230	D400	
D-1380	380x230	E600	
Steps			40
DMS-175	175x145		41
DMS-185	185x145		
DMS-250	250x145		
DMS-370	370x145		
PMS-275	275x165		42
SG-1	584x230		43
SG-2	683x423		
"T"-Type	280x130		44
"V"-Type	290x150		
Fabricated Products			45
Gratings & Wedge wire			46
Access Covers & Cages			47

*All dimensions are in mm

INSTALLATION AND PRECAUTIONS

1. When installing the manhole cover, the road surface reservation should be designed according to the traffic flow of the road and the urban requirements. When installing heavy manhole covers, the effective aperture of the manhole frame shall be taken as the standard, and the opening depth of the foundation pit shall be as follows :300mm

2. When the light manhole cover is installed, the effective aperture of the well frame shall prevail and extend to the outside by 400mm. The foundation pit opening depth is 250mm.

3. The installation position of the manhole cover should choose the place where there is no wheel linear stamping, generally within the range of 0.6-1.0m of the road surface and the road edge, and the manhole cover is parallel or 1.5mm higher than the road surface, so as to avoid the impact of the overlap when the car passes.

4. When the manhole cover installation, the dumpling chain and lock position should be perpendicular to the cross section of the road, and according to the chain head should be on the direction of the road.

5. Manhole cover must be supporting installation (installation of manhole cover should first check whether all parts are complete, such as screw loosening should be timely key solid, lock open freely, impact pad is complete, etc.).

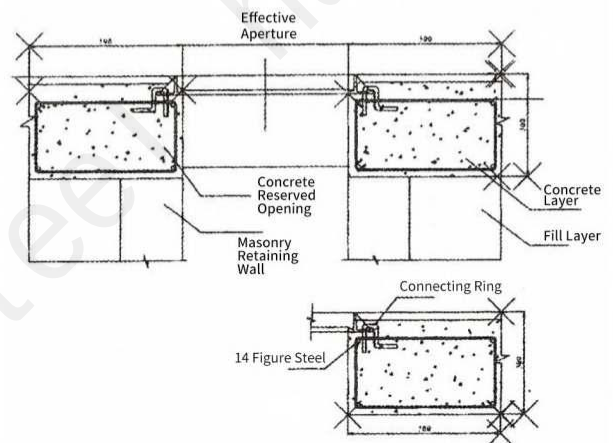
6. The filling material of manhole cover and road surface is concrete. According to the pressure requirements, it is divided into: concrete label C20-C25 when heavy manhole cover is installed.

7. When pouring concrete manhole cover support, steel die should be used along the effective aperture of manhole cover, and the production of steel die is live block type.

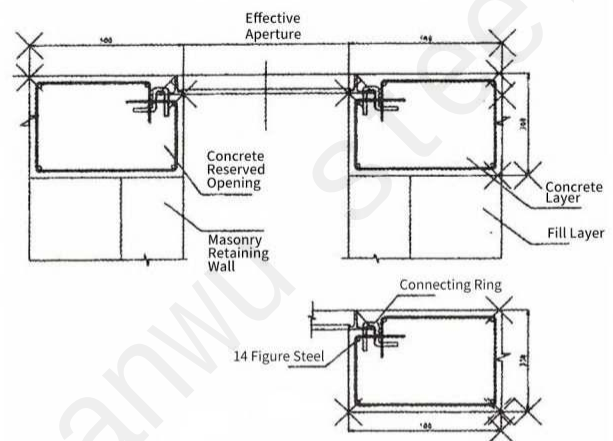
8. In the installation of steel mold, should be coated on the outside of the steel mold demoulding agent, in order to demoulding, demoulding time is 12 hours.

Installation Diagram

Asphalt Pavement Manhole Cover Installation Drawing



Cement Road Manhole Cover Installation Drawing



*All dimensions are in mm



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