



**YUAN GANG**  
**INDUSTRIAL CO., LTD.**

**ISO 9001**  
**Certified**



---

**BS 4772/ISO 2531 /BSEN 545 /BSEN 598  
Ductile Cast Iron Pipes and Fittings**

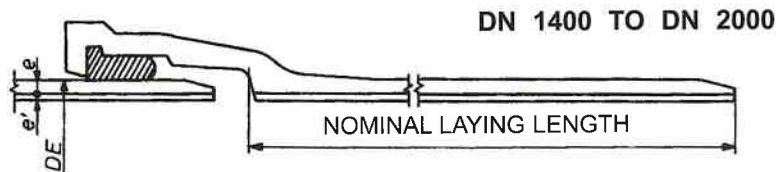
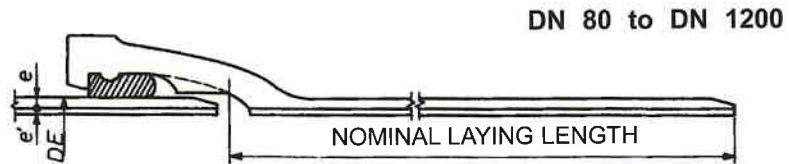






# BS 4772/ISO 2531 /BSEN 545 /BSEN 598

## TYTON STYLE PUSH-ON FLEXIBLE JOINT TYPE



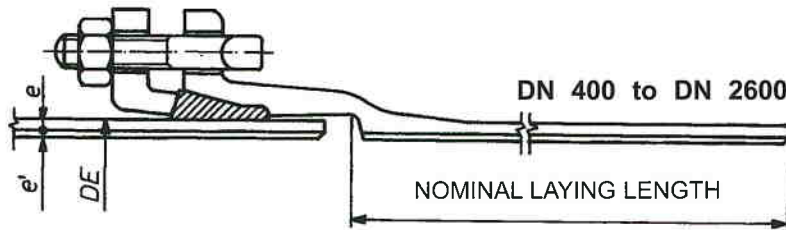
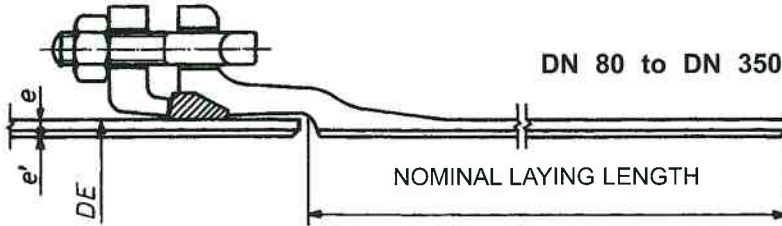
### Standard K-9

Dimension in millimeters

Nominal Diameter D N	Thickness		Outside Diameter D E	Nominal Laying Length	Total Mass (kg)			
	e	e'			Pipe	Cement Mortar Lining		
		BS				ISO	BS	ISO
80	6.0	5	3	98	6000	64.5	14.0	8.5
100	6.1	5	3	118	6000	80.0	17.4	10.5
125	6.2	5	3	144	6000	100.0	22.2	13.5
150	6.3	5	3	170	6000	121.0	26.3	16.0
200	6.4	5	3	222	6000	163.0	35.3	21.0
250	6.8	5	3	274	6000	215.0	44.2	26.0
300	7.2	5	3	326	6000	323.0	63.6	37.8
350	7.7	5	5	378	6000	403.0	73.8	73.8
400	8.1	5	5	429	6000	482.0	84.0	84.0
450	8.6	5	5	480	6000	571.0	94.9	94.9
500	9.0	5	5	532	6000	669.0	105.0	105.0
600	9.9	5	5	635	6000	882.0	125.4	125.4
700	10.8	6	6	738	6000	1123.0	175.8	175.8
800	11.7	6	6	842	6000	1394.0	200.4	200.4
900	12.6	6	6	945	6000	1691.0	225.6	225.6
1000	13.5	6	6	1048	6000	2017.0	250.2	250.2
1100	14.4	6	6	1152	6000	2372.0	278.0	278.0
1200	15.3	6	6	1255	6000	2758.0	300.0	300.0
1400	17.1	9	9	1462	6000	3563.0	525.6	525.6
1500	18.0	9	9	1565	6000	4015.0	567.5	567.5
1600	18.9	9	9	1668	6000	4517.0	600.6	600.6
1800	20.7	9	9	1875	6000	5591.0	675.0	675.0
2000	22.5	9	9	2082	6000	6784.0	750.0	750.0



# BS 4772/ISO 2531 /BSEN 545 /BSEN 598 MECHANICAL JOINT TYPE



## Standard K-9

Dimension in millimeters

Nominal Diameter D N	Thickness			Outside Diameter D E	Nominal Laying Length	Total Mass (kg)		
	e	e'				Pipe	Cement Mortar Lining	
		BS	ISO				BS	ISO
80	6.0	5	3	98	6000	66.2	14.0	8.5
100	6.1	5	3	118	6000	81.6	17.4	10.5
125	6.2	5	3	144	6000	103.0	22.2	13.5
150	6.3	5	3	170	6000	124.0	26.3	16.0
200	6.4	5	3	222	6000	166.0	35.3	21.0
250	6.8	5	3	274	6000	218.0	44.2	26.0
300	7.2	5	3	326	6000	329.0	63.6	37.8
350	7.7	5	5	378	6000	408.0	73.8	73.8
400	8.1	5	5	429	6000	487.0	84.0	84.0
450	8.6	5	5	480	6000	579.0	94.9	94.9
500	9.0	5	5	532	6000	671.0	105.0	105.0
600	9.9	5	5	635	6000	880.0	125.4	125.4
700	10.8	6	6	738	6000	1119.0	175.8	175.8
800	11.7	6	6	842	6000	1381.0	200.4	200.4
900	12.6	6	6	945	6000	1672.0	225.6	225.6
1000	13.5	6	6	1048	6000	1996.0	250.2	250.2
1100	14.4	6	6	1152	6000	2338.0	278.0	278.0
1200	15.3	6	6	1255	6000	2708.0	300.0	300.0
1400	17.1	9	9	1462	6000	3547.0	525.6	525.6
1500	18.0	9	9	1565	6000	3992.0	567.5	567.5
1600	18.9	9	9	1668	6000	4476.0	600.6	600.6
1800	20.7	9	9	1875	6000	5535.0	675.0	675.0
2000	22.5	9	9	2082	6000	6699.0	750.0	750.0
2100	23.4	9	9	2164	5000	6143.0	655.7	655.7
2200	24.3	12	12	2288	5000	6807.0	917.5	917.5
2400	26.1	12	12	2495	4000	6526.0	800.0	800.0
2600	27.9	12	12	2702	4000	7628.0	866.4	866.4

D2

Note

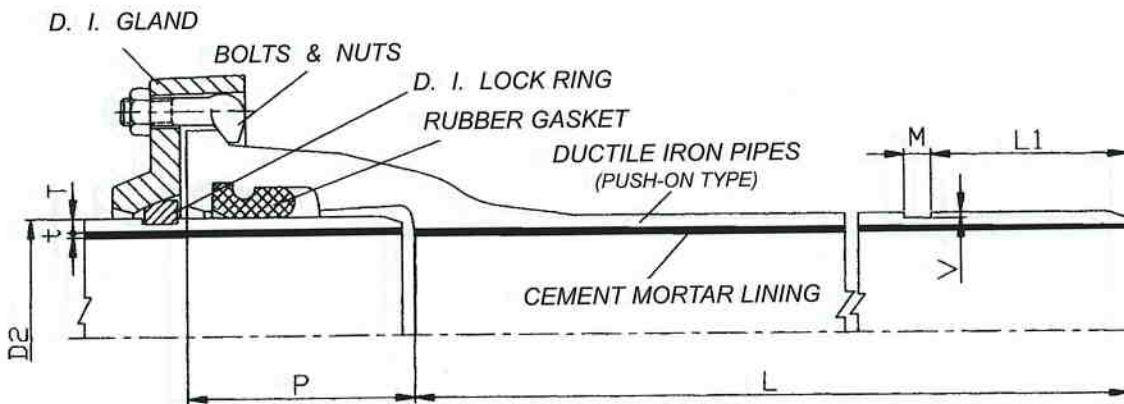
Sta

DN
80
100
150
200
250
300
350
400
450
500
600
700
800
900
1000
1100
1200
1400
1500
1600
1800
2000



**BSEN 545 / BSEN 598**

# BS EN545 / ISO 2531 / ISO 10804-1 RESTRAINED JOINT PIPES (T-Type)



Note: Dimension "V" depends on the pressure requirements & is the average depth.

## Standard K-12 / K-10 / K-9

Dimension in millimeters

DN	D2	T			t	L	L1	P	V			M	Pipe Mass (Kg/pc)		
		K12	K10	K9					K12	K10	K9		K12	K10	K9
80	98	8.5	6.0	6.0	3	6000	90	84	2.5	2	2	15	88	76	76
100	118	8.5	6.0	6.0	3	6000	94	88	2.5	2	2	15	110	94	94
150	170	8.5	6.5	6.0	3	6000	100	94	2.5	2.5	2	15	160	153	138
200	222	8.5	7.0	6.3	3	6000	105	100	2.5	2.5	2.5	15	249	212	192
250	274	9.0	7.5	6.8	3	6000	110	105	2.5	2.5	2.5	15	332	284	257
300	326	9.6	8.0	7.2	3	6000	115	110	3	2.5	2.5	17	427	359	326
350	378	10.2	8.5	7.7	5	6000	115	110	3	3	2.5	17	523	448	406
400	429	10.8	9.0	8.1	5	6000	115	110	3	3	3	17	630	536	486
450	480	11.4	9.5	8.6	5	6000	115	120	3	3	3	17	746	641	581
500	532	12.0	10.0	9.0	5	6000	125	120	4	3	3	22	871	744	674
600	635	13.2	11.0	9.9	5	6000	130	120	4	4	3	32	1144	982	891
700	738	14.4	12.0	10.8	6	6000	155	150	4	4	4	32	1470	1249	1133
800	842	15.6	13.0	11.7	6	6000	165	160	4	4	4	32	1822	1551	1408
900	945	16.8	14.0	12.6	6	6000	180	175	4	4	4	32	2214	1883	1709
1000	1048	18.0	15.0	13.5	6	6000	190	185	5	4	4	32	2632	2245	2039
1100	1152	19.2	16.0	14.4	6	6000	205	200	5	5	4	32	3111	2640	2298
1200	1255	20.4	17.0	15.3	6	6000	220	215	5	5	5	32	3618	3071	2791
1400	1462	22.8	19.0	17.1	6	6000	250	245	5	5	5	32	4724	4087	3722
1500	1565	24.0	20.0	18.0	9	6000	265	260	6	5	5	37	5338	4604	4293
1600	1668	25.2	21.0	18.9	9	6000	280	275	6	5	5	37	6017	5221	4761
1800	1875	27.6	23.0	20.7	9	6000	310	305	6	5	5	37	7383	6476	5910
2000	2082	30.0	25.0	22.5	9	6000	340	335	6	5	5	37	8955	7875	7191





**BSEN 545 / BSEN 598**

**BS 4772/ISO 2531**

**ISO 10804-1**

**Ductile Iron Fittings**

**Ductile Iron Fittings Restrained Joint**

**Wall Thickness of Fittings**

Dimension in millimeters

NOMINAL DIAMETER D N	WALL THICKNESS	
	K = 12	K = 14
80	7.0	8.1
100	7.2	8.4
125	7.5	8.8
150	7.8	9.1
200	8.4	9.8
250	9.0	10.5
300	9.6	11.2
350	10.2	11.9
400	10.8	12.6
450	11.4	13.3
500	12.0	14.0
600	13.2	15.4
700	14.4	16.8
800	15.6	18.2

Dimension in millimeters

NOMINAL DIAMETER D N	WALL THICKNESS	
	K = 12	K = 14
900	16.8	19.6
1000	18.0	21.0
1100	19.2	22.4
1200	20.4	23.8
1400	22.8	26.6
1500	24.0	28.0
1600	25.2	29.4
1800	27.6	32.2
2000	30.0	35.0
2100	31.2	36.4
2200	32.4	37.8
2400	34.8	40.6
2600	37.2	43.4

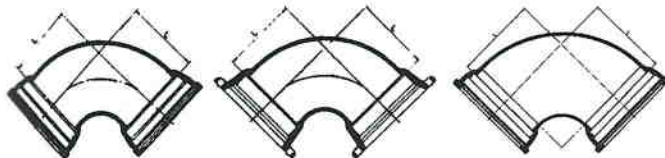
**Double Socket 90° Bend**

**Double Socket 45° Bend**

"T" Type

"K" Type

"RT" Type



"T" Type

"K" Type

"RT" Type



K=12

Dimension in millimeters

NOMINAL DIAMETER D N	L	MASS (kg)		
		T Type	K Type	RT Type
80	100	8.6	12.0	11.8
100	120	11.4	15.6	15.8
125	145	15.7	21.3	20.5
150	170	20.5	27.5	25.7
200	220	33.0	40.0	40.2
250	270	48.5	55.5	53.7
300	320	68.0	81.5	74.4
350	370	97.5	105.0	102
400	420	124.0	134.0	132
450	470	156.0	166.0	169
500	520	193.0	202.0	202
600	620	280.0	290.0	288
700	720	455.0	408.0	468
800	820	605.0	544.0	624
900	920	813.0	720.0	844
1000	1020	1045.0	935.0	1073
1100	1120	1252.6	1168.0	1281
1200	1220	1663.0	1444.0	1609
1400	1220	-	1918.0	2143
1500	1270	-	2230.0	2500
1600	1290	-	2543.0	2823
1800	1320	-	3229.0	3755
2000	1360	-	4033.0	4586

K=12

Dimension in millimeters

NOMINAL DIAMETER D N	L	MASS (kg)		
		T Type	K Type	RT Type
80	55	7.7	11.1	10.9
100	65	10.1	14.3	14.5
125	75	13.6	19.2	18.4
150	85	17.4	24.0	22.6
200	110	27.0	34.0	34.2
250	130	38.5	45.5	43.7
300	150	53.0	66.0	59.4
350	175	70.0	83.5	74.2
400	195	89.0	104.0	97.0
450	220	117.0	127.0	130
500	240	139.0	150.0	148
600	286	202.0	209.0	210
700	330	282.0	289.0	295
800	370	378.0	373.0	397
900	415	496.0	488.0	527
1000	460	635.0	629.0	663
1100	505	855.5	772.0	885
1200	550	986.0	943.0	1108
1400	515	1273.0	1223.0	1448
1500	540	2025.0	1417.0	1687
1600	565	1740.0	1647.0	1927
1800	610	2296.0	2166.0	2692
2000	660	2970.0	2791.0	3344
2100	685	-	3107.0	
2200	710	3762.0	3494.0	
2400	755	4665.0	4272.0	
2600	805	5721.0	5401.0	



**BSEN 545 / BSEN 598**

**BS 4772/ISO 2531**

**ISO 10804-1**

**Ductile Iron Fittings**

**Ductile Iron Fittings Restrained Joint**

Wall Thickness of Fittings

**Double Socket 22<sup>1</sup>/<sub>2</sub>° Bend**

"T" Type



"K" Type



"RT" Type



K=12 Dimension in millimeters

NOMINAL DIAMETER D N	L	MASS (kg)		
		T Type	K Type	RT Type
80	40	7.3	10.7	10.5
100	40	9.3	13.5	13.7
125	50	12.6	18.2	17.4
150	55	15.9	22.5	21.1
200	65	24.0	30.5	31.2
250	75	33.5	40.5	38.7
300	85	44.5	58.0	50.9
350	95	58.0	71.0	62.2
400	110	74.0	88.0	82.0
450	120	95.0	105.0	108
500	130	111.0	123.0	120
600	150	157.0	164.0	165
700	175	217.0	223.0	230
800	195	287.0	281.0	306
900	220	373.0	364.0	404
1000	240	470.0	463.0	498
1100	260	643.0	560.0	673
1200	285	716.0	671.0	836
1400	260	933.0	882.0	1107
1500	270	1627.0	1011.0	1281
1600	280	1259.0	1167.0	1447
1800	305	1663.0	1533.0	2059
2000	330	2144.0	1965.0	2518
2100	340	-	2173.0	-
2200	355	2707.0	2441.0	-
2400	380	3359.0	2986.0	-
2600	400	4087.0	3778.0	-

**Double Socket 11<sup>1</sup>/<sub>4</sub>° Bend**

"T" Type



"K" Type



"RT" Type



K=12 Dimension in millimeters

NOMINAL DIAMETER D N	L	MASS (kg)		
		T Type	K Type	RT Type
80	30	7.1	10.5	10.3
100	30	8.9	13.1	13.3
125	35	11.9	17.5	16.7
150	35	14.8	21.5	20.0
200	40	22.0	29.0	29.2
250	50	30.5	37.5	35.7
300	55	40.5	54.0	46.9
350	60	52.0	65.5	56.2
400	65	65.0	79.0	73.0
450	70	83.5	93.5	96.3
500	75	96.0	108.0	105
600	85	134.0	141.0	142
700	95	181.0	187.0	194
800	110	239.0	234.0	258
900	120	305.0	297.0	336
1000	130	381.0	375.0	409
1100	140	525.4	442.0	555
1200	150	568.0	524.0	689
1400	130	747.0	697.0	922
1500	135	1204.0	794.0	1064
1600	140	1007.0	914.0	1194
1800	155	1331.0	1200.0	1726
2000	165	1702.0	1522.0	2075
2100	185	-	1725.0	-
2200	190	2183.0	1919.0	-
2400	205	2709.0	2345.0	-
2600	215	3290.0	2987.0	-

**Double Socket 5<sup>3</sup>/<sub>8</sub>° Bend**

"T" Type

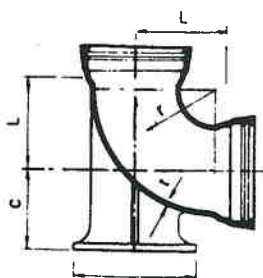


K=12

Nominal Size DN	t	L	r approx	Mass	Extra mass for cement mortar lining
mm	mm	mm	mm	kg	kg
700	14.4	95	1020	235	6
800	15.6	110	1280	295	8
900	16.8	120	1425	393	9
1000	18.0	130	1590	489	11
1100	19.2	140	1730	642	14
1200	20.4	150	1935	757	16
1400	22.8	130	1425	1027	24
1600	25.2	140	1628	1374	30

**Double Socket 90° Duckfoot Bend**

"T" Type



K=12

Nominal Size DN	t	L	r approx	c	d	Mass	Extra mass for cement mortar lining
mm	mm	mm	mm	mm	mm	kg	kg
80	70	100	80	110	180	11.3	0.3
100	72	120	95	125	200	14.8	0.4
150	78	170	145	160	250	28.5	0.9
200	84	220	195	190	300	44.5	1.1
250	90	270	245	225	350	68.5	2.5
300	96	320	290	255	400	100.0	3.4
350	102	370	340	290	450	133.0	8.0
400	108	420	390	320	500	180.0	10.0
450	114	470	435	355	550	230.0	12.0
500	120	520	485	385	600	294.0	15.0
600	132	620	580	450	700	442.0	22.0
700	144	720	655	515	800	618	36
800	156	820	745	580	900	832	46
900	168	920	855	645	1000	1113	58
1000	180	1020	945	710	1100	1435	72
1100	192	1120	1065	775	1200	1781	86
1200	204	1220	1155	840	1300	2153	103



**E**

**I**

Flange Short Bends

165mm

Tyton



Tyton 'S' Ductile I 150, 225







**BSEN 545 / BSEN 598**

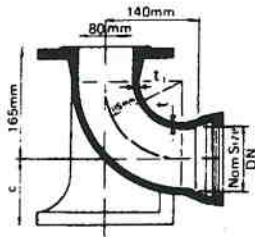
**BS 4772/ISO 2531**

**ISO 10804-1**

**Ductile Iron Fittings**

**Ductile Iron Fittings Restrained Joint**

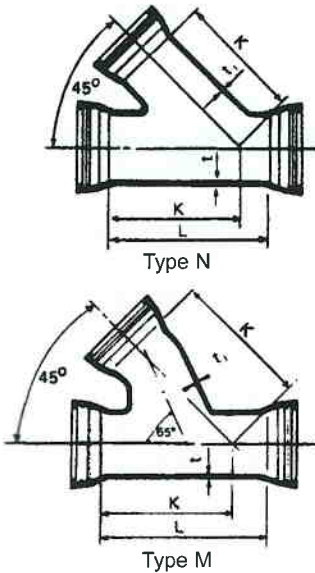
**Flanged and Tyton 90°  
Short hydrant duckfoot  
Bends**



K=12

Nominal Size DN	t	t	c	Mass PN 16 flange	Extra mass for cement mortar lining
mm	mm	mm	mm	kg	kg
80	70	70	95	125	0.4
100	72	70	105	159	0.6
150	78	70	135	215	0.8

**Tyton 45° Angle Branches**



K=14

Nominal Size		t	t <sub>1</sub>	Type	L	K	Mass	Extra mass for cement mortar lining
Body DN	Branch dn							
mm	mm	mm	mm		mm	mm	kg	kg
80	80	8.1	8.1	N	500	375	19.0	1.4
100	100	8.4	8.4	N	540	405	25.5	1.9
150	150	9.1	9.1	N	640	480	45.5	3.3
200	200	9.8	9.8	N	735	560	71.5	5.0
250	250	10.5	10.5	N	830	640	106.0	7.0
300	300	11.2	11.2	N	930	715	151.0	9.0
350	350	11.9	11.9	M	880	790	169.0	17.0
400	400	12.6	12.6	M	970	870	209.0	22.0
450	450	13.3	13.3	M	1060	950	281.0	26.0
500	500	14.0	14.0	M	1140	1025	347.0	31.0
600	600	15.4	15.4	M	1310	1180	511.0	43.0

Maximum hydraulic working pressure ratings for ductile iron angle branches  
 80 to 350 mm diameter 16 bar  
 400 to 600 mm diameter 10 bar

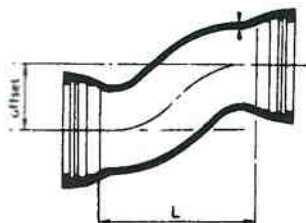
Recommended maximum site hydraulic test pressure  
 80 to 350 mm diameter 21 bar  
 400 to 600 mm diameter 15 bar

The manufacturer of specially designed angle branches for working pressures higher than those states above will be considered on request.

K=12

Nominal Size DN	Offset	t	L	Mass	Extra mass for cement mortar lining
mm	mm	mm	mm	kg	kg
80	150	7.0	260	9.4	0.5
80	225	7.0	335	10.9	0.7
80	300	7.0	410	12.4	0.9
100	150	7.2	280	11.5	0.7
100	225	7.2	355	13.5	1.0
100	300	7.2	430	15.5	1.2
150	150	7.8	320	19.5	1.2
150	225	7.8	395	22.5	1.6
150	300	7.8	470	25.5	1.9
200	150	8.4	370	31.0	1.6
200	225	8.4	445	35.0	2.3
200	300	8.4	520	39.0	3.1
250	150	9.0	410	44.0	2.5
250	225	9.0	485	51.0	3.1
250	300	9.0	560	55.0	3.7
300	150	9.6	480	65.0	3.4
300	225	9.6	535	73.0	4.0
300	300	9.6	610	77.0	4.777.0

**Tyton 'S' Bends**  
**Ductile Iron**  
**150, 225 and 300 mm offsets**





**BSEN 545 / BSEN 598**

**BS 4772/ISO 2531**

**ISO 10804-1**

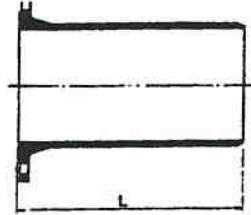
**Ductile Iron Fittings**

**Ductile Iron Fittings Restrained Joint**

**Collar  
"K" Type**



**Flanged Spigot**



**Double  
"T" Type**

DN 80 to  
DN 2600

**K=12 Dimension in millimeters**

NOMINAL DIAMETER DN	L	MASS (kg)
80	160	12.9
100	160	15.8
125	165	19.7
150	165	23.5
200	170	30.0
250	175	38.5
300	180	54.0
350	185	67.5
400	190	81.0
450	195	96.0
500	200	109.0
600	210	140.0
700	220	185.0
800	230	225.0
900	240	278.0
1000	250	348.0
1100	260	407.0
1200	270	472.0
1400	340	701.0
1500	350	783.0
1600	360	920.0
1800	380	1172.0
2000	400	1461.0
2100	410	1613.0
2200	420	1794.0
2400	440	2146.0
2600	460	2736.0

**K=12 Dimension in millimeters**

NOMINAL DIAMETER DN	L	MASS (kg)		
		PN 10	PN 16	PN 25
80	350	7.8	7.8	7.8
100	360	9.6	9.6	10.2
125	370	12.4	12.4	13.0
150	380	15.6	15.6	16.6
200	400	22.5	22.5	24.5
250	420	32.0	31.5	35.5
300	440	43.0	42.5	47.5
350	460	52.0	55.0	64.0
400	480	64.0	70.0	81.0
450	500	77.0	86.0	101.0
500	520	94.0	109.0	121.0
600	560	133.0	159.0	173.0
700	600	179.0	194.0	-
800	600	226.0	245.0	-
900	600	272.0	295.0	-
1000	600	328.0	369.0	-
1100	600	394.0	430.0	-
1200	600	456.0	520.0	-
1400	710	664.0	732.0	-
1500	745	812.0	900.0	-
1600	780	922.0	1024.0	-
1800	850	1196.0	1322.0	-
2000	920	1534.0	1687.0	-
2100	955	1803.0	1967.0	-
2200	990	1948.0	2115.0	-
2400	1060	2409.0	2611.0	-
2600	1130	2918.0	3153.0	-

**K=12**

NO  
DIA

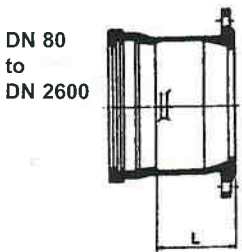
DN

- 100
- 125
- 125
- 150
- 150
- 150
- 200
- 200
- 200
- 200
- 200
- 250
- 250
- 250
- 300
- 300
- 300
- 300
- 350
- 350
- 350
- 400
- 400
- 400
- 400
- 450
- 450
- 450
- 500
- 500
- 500
- 500
- 600
- 600
- 600
- 600
- 700
- 700
- 700
- 700
- 800
- 800
- 800
- 800

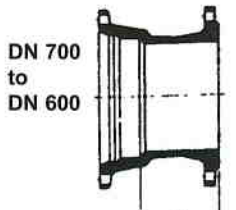
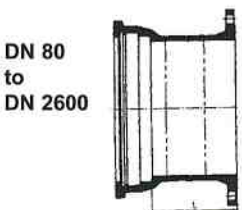
**Flanged Spigot**

**"T" Type**

**"K" Type**



**"RT" Type**



**K=12 Dimension in millimeters**

NOMINAL DIAMETER DN	L	MASS (kg)								
		T Type			K Type			RT Type		
		PN 10	PN 16	PN 25	PN 10	PN 16	PN 25	PN 10	PN 16	PN 25
80	130	7.4	7.4	7.4	9.3	9.3	9.3	9.0	9.0	9.0
100	130	9.0	9.0	9.5	11.3	11.3	12.5	11.2	11.2	11.7
125	135	11.5	11.5	12.1	14.3	14.3	14.9	13.9	13.9	14.5
150	135	14.2	14.2	15.2	18.0	18.0	19.0	16.8	16.8	17.8
200	140	20.5	20.0	-	24.5	24.0	26.0	24.1	23.6	25.6
250	145	28.0	27.5	22.0	32.5	32.0	35.5	30.6	30.1	34.1
300	150	37.0	36.5	31.5	44.5	44.0	49.5	40.2	39.7	45.2
350	155	45.0	48.0	42.0	53.0	55.5	63.0	47.1	50.1	58.1
400	160	55.0	60.0	56.0	64.0	68.0	78.5	59.0	64.0	75.0
450	165	70.5	78.0	71.0	74.5	82.5	92.5	76.9	84.4	94.9
500	170	78.0	93.0	88.5	87.0	100.0	110.0	82.3	97.3	108
600	180	108.0	135.0	104.0	115.0	138.0	149.0	112	139	153
700	190	144.0	159.0	149.0	162.0	174.0	-	150	165	-
800	200	189.0	208.0	-	205.0	220.0	-	198	217	-
900	210	235.0	258.0	-	252.0	271.0	-	251	274	-
1000	220	293.0	324.0	-	317.0	351.0	-	307	338	-
1100	230	-	413.0	-	377.0	412.0	-	474	509	-
1200	240	456.0	521.0	-	450.0	505.0	-	600	655	-
1400	310	654.0	723.0	-	654.0	711.0	-	866	923	-
1500	320	-	857.0	-	750.0	838.0	-	1001	1089	-
1600	330	887.0	989.0	-	873.0	963.0	-	1134	1224	-
1800	350	1125.0	1251.0	-	1103.0	1214.0	-	1599	1710	-
2000	370	1414.0	1567.0	-	1378.0	1516.0	-	1899	2037	-
2100	380	-	-	-	1546.0	1710.0	-	-	-	-
2200	390	1767.0	1934.0	-	1708.0	1878.0	-	-	-	-
2400	410	2150.0	2352.0	-	2098.0	2326.0	-	-	-	-
2600	480	2563.0	2798.0	-	2533.0	2786.0	-	-	-	-



**BSEN 545 /BSEN 598**

**BS 4772/ISO 2531**

**ISO 10804-1**

**Ductile Iron Fittings**

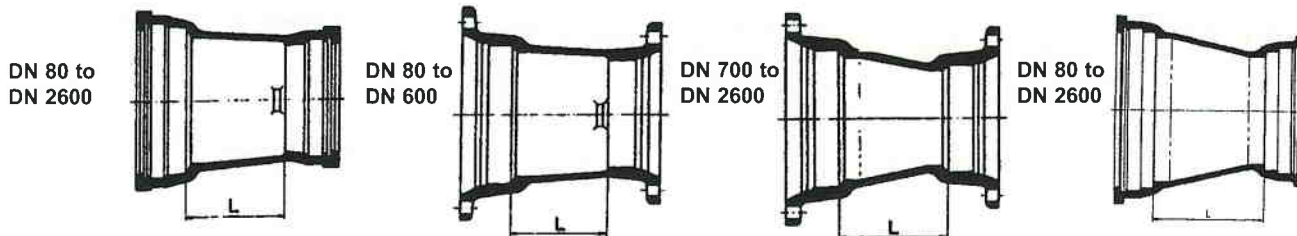
**Ductile Iron Fittings Restrained Joint**

**Double Socket Taper**

“T” Type

“K” Type

“RT” Type



**K=12 Dimension in millimeters**

NOMINAL DIAMETER		L	MASS (kg)		
DN	dn		T Type	K Type	RT Type
100	80	90	8.5	11.9	12.3
125	80	140	10.8	16.3	14.8
125	100	100	11.1	16.8	15.7
150	80	190	13.5	18.6	17.7
150	100	150	13.8	19.1	18.6
150	125	100	14.1	19.8	19.1
200	80	300	18.5	22.3	22.4
200	100	250	20.5	26.0	26.3
200	125	200	20.5	26.8	26.5
200	150	150	21.0	27.0	27.2
250	100	300	26.0	32.0	31.5
250	125	300	29.0	36.2	34.0
250	150	250	29.0	36.0	34.2
250	200	150	29.0	35.0	35.2
300	100	400	31.0	42.0	39.2
300	150	350	39.5	50.0	45.3
300	200	250	39.5	49.0	46.3
300	250	150	38.5	47.5	44.3
350	200	360	52.0	62.5	57.7
350	250	260	51.0	61.0	55.7
350	300	160	49.5	61.5	54.8
400	200	460	61.5	80.3	69.1
400	250	360	66.0	76.5	72.6
400	300	260	64.0	77.0	71.2
400	350	160	62.0	73.0	68.1
450	250	460	76.0	99.8	85.0
450	300	360	75.0	90.3	84.6
450	350	260	69.5	88.3	78.0
450	400	160	66.0	85.6	76.4
500	300	460	96.5	121.2	104
500	350	360	98.0	110.0	104
500	400	260	94.0	106.0	102
500	450	160	80.5	112.0	91.2
600	350	560	138.0	172.0	144
600	400	460	142.0	152.0	150
600	450	360	127.0	165.0	137
600	500	260	131.0	137.0	139
700	400	680	-	241.0	247
700	450	580	-	237.0	245
700	500	480	194.0	203.0	205
700	600	280	178.0	184.0	188
800	450	770	-	325.0	346
800	500	670	-	319.5	341
800	600	480	252.0	279.3	265
800	700	280	229.0	230.0	245

**K=12 Dimension in millimeters**

NOMINAL DIAMETER		L	MASS (kg)		
DN	dn		T Type	K Type	RT Type
900	500	840	840	416.6	408
900	600	640	640	401.9	385
900	700	480	480	353.1	340
900	800	280	280	326.9	313
1000	600	840	840	535.6	569
1000	700	680	680	516.4	561
1000	800	480	480	450.7	415
1000	900	280	280	416.4	384
1100	700	870	870	534.0	601
1100	800	670	670	544.6	623
1100	900	480	480	519.0	610
1100	1000	300	300	494.1	586
1200	700	1020	-	677	759
1200	800	870	648	688	792
1200	900	670	-	591	708
1200	1000	480	570	637	754
1200	1100	300	-	525	664
1400	800	760	-	716	851
1400	900	660	-	710	857
1400	1000	560	-	704	852
1400	1100	460	-	685	854
1400	1200	360	711	663	858
1500	900	760	-	828	998
1500	1000	660	-	822	992
1500	1100	560	-	803	995
1500	1200	460	-	781	998
1500	1400	260	-	742	990
1600	1000	760	-	960	1135
1600	1100	660	-	941	1138
1600	1200	560	-	919	1141
1600	1400	360	951	879	1132
1600	1500	260	-	841	1116
1800	1100	860	-	1261	1581
1800	1200	760	-	1238	1583
1800	1400	560	-	1198	1574
1800	1500	460	-	1160	1558
1800	1600	360	1235	1123	1526
2000	1200	960	-	1620	1979
2000	1400	760	-	1579	1968
2000	1500	660	-	1540	1951
2000	1600	560	-	1503	1919
2000	1800	360	1566	1411	1950





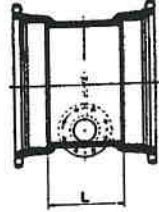
# BS 4772/ISO 2531 /BSEN 545 /BSEN 598 ISO 10804-1

## Double Socket Level Invert Tee with Flanged Branch

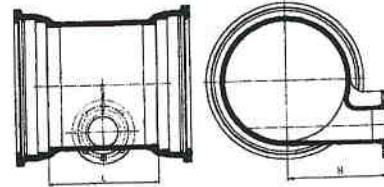
"T" Type



"K" Type



"RT" Type



K=12

Dimension in millimeters

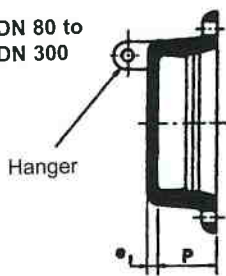
NOMINAL DIAMETER		L	H	MASS (kg)								
DN	dn			T Type			K Type			RT Type		
				PN 10	PN 16	PN 25	PN 10	PN 16	PN 25	PN 10	PN 16	PN 25
200	80	245	250	39.5	39.5	39.5	43.0	43.0	43.0	46.7	46.7	46.7
250	80	250	275	49.5	49.5	49.5	54.0	54.0	54.0	54.7	54.7	54.7
300	80	255	300	62.0	62.0	62.0	73.5	73.5	73.5	68.4	68.4	68.4
350	100	280	325	83.0	83.0	83.0	90.5	90.5	91.0	87.2	87.2	87.7
400	100	280	350	97.5	97.5	97.5	107	107	108	106	106	106
450	100	285	375	115	115	115	125	125	126	128	128	129
500	100	290	400	134	134	134	143	143	144	143	143	143
600	100	295	450	173	173	173	183	183	183	181	181	181
700	150	360	500	-	296	-	255	255	256	275	309	276
800	150	365	550	-	360	-	310	310	311	354	379	355
900	150	370	600	-	467	-	382	382	383	451	498	452
1000	200	435	650	-	569	-	501	501	503	571	597	537
1100	200	440	700	-	725	-	584	584	586	718	718	720
1200	200	445	750	-	840	-	679	679	681	877	877	879
1400	200	460	850	-	-	-	939	939	940	1304	1304	1305
1500	200	465	900	-	-	-	1062	1062	1064	1492	1492	1494
1600	400	700	950	-	-	-	1472	1476	1487	1906	1910	1921
1800	400	715	1050	-	-	-	1872	1876	1887	2586	2590	2601
2000	400	725	1150	-	-	-	2320	2325	2336	3152	3157	3168

Dimension in millimeters

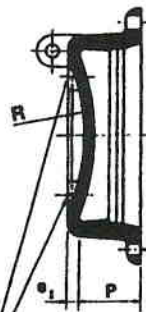
Cap

"K" Type

DN 80 to  
DN 300



DN 350 to  
DN 1200



BOSSSES MAY BE DEILLED  
AND TAPPED IF REQUIRED

NOMINAL DIAMETER DN	DIMENSIONS			MASS (kg)
	e <sub>1</sub>	P	R	
80	9.5	80	-	5.0
100	10.5	80	-	6.5
150	14.5	90	-	12.0
200	18.0	90	-	17.5
250	19.5	90	-	24.5
300	23.0	110	-	38.0
350	24.0	110	388	50.0
400	25.0	110	443	62.5
450	26.0	110	489	76.5
500	27.0	110	536	91.0
600	29.5	110	630	128
700	31.0	120	733	175
800	33.0	120	835	228
900	35.0	120	935	296
1000	37.0	130	1037	380
1100	39.0	130	1139	467
1200	41.0	130	1241	568

Note: DN300 and above shall be provided with a hanger for lifting purpose.



# BS 4772/ISO 2531 /BSEN 545 /BSEN 598 ISO 10804-1

## All Socket Tee

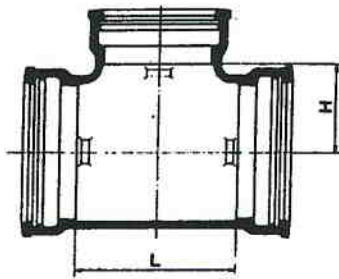
K=12

Dimension in millimeters

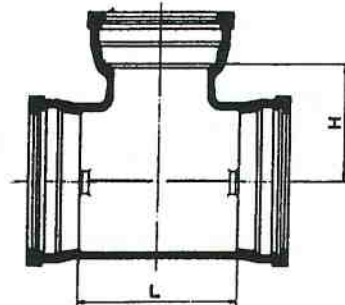
NOMINAL DIAMETER		DIMENSIONS		MASS (kg)		
DN	dn	L	H	T Type	K Type	RT Type
80	80	170	85	12.4	16.8	17.2
100	80	170	95	14.8	19.8	20.8
100	100	190	95	16.1	21.5	22.7
125	125	225	110	22.0	30.4	29.2
150	80	170	120	21.5	28.5	28.3
150	100	195	120	23.5	30.5	30.9
150	150	255	125	28.0	36.5	35.8
200	80	175	145	30.0	36.0	38.8
200	100	200	145	32.0	38.5	41.4
200	150	255	150	37.0	45.0	46.8
200	200	315	155	43.0	50.5	53.8
250	100	200	210	47.5	49.0	54.9
250	150	315	220	59.0	61.0	66.8
250	200	315	220	63.5	63.5	72.3
250	250	375	230	71.5	71.5	79.3
300	100	205	235	54.5	66.5	63.1
300	150	320	245	68.0	80.5	77.0
300	200	320	245	72.0	84.0	82.0
300	300	435	260	90.5	106.0	100
350	100	205	260	70.5	78.0	76.9
350	150	325	270	86.5	95.0	93.3
350	200	325	270	90.5	98.0	98.3
350	300	440	285	111.0	122.0	118
350	350	495	290	124.0	133.0	130
400	100	210	285	83.0	92.0	93
400	150	325	295	101.0	111.0	112
400	200	325	295	105.0	114.0	117
400	300	440	310	127.0	140.0	138
400	400	560	320	155.0	168.0	167
450	150	330	320	117.0	128.0	132
450	200	330	320	121.0	131.0	137
450	300	445	335	146.0	160.0	152
450	400	560	345	175.0	188.0	192
450	450	620	350	190.0	203.0	209
500	150	330	345	135.0	145.0	146
500	200	330	345	139.0	148.0	151
500	300	450	360	167.0	179.0	179
500	400	565	370	198.0	210.0	211
500	500	680	380	231.0	242.0	244
600	150	340	395	175.0	184.0	186
600	200	340	395	178.0	187.0	190
600	300	455	410	211.0	223.0	222
600	400	570	420	248.0	259.0	200
600	600	800	440	325.0	337.0	337
700	200	345	445	289.0	250.0	305
700	300	460	460	326.0	292.0	342
700	400	575	470	361.0	333.0	378
700	600	810	490	461.0	422.0	478
700	700	925	500	536.0	475.0	555
800	200	350	495	353.0	301.0	375
800	300	465	510	399.0	350.0	421
800	400	580	520	439.0	398.0	462
800	600	1045	540	629.0	576.0	652
800	800	1045	565	701.0	618.0	729
900	200	355	545	458.0	370.0	493
900	400	590	570	556.0	484.0	591
900	600	1170	590	833.0	739.0	868
900	800	1170	615	903.0	777.0	944
900	900	1170	625	944.0	806.0	991
1000	200	360	595	557.0	453.0	689
1000	400	595	620	672.0	584.0	704
1000	600	1290	640	1008.0	936.0	1040
1000	800	1290	665	1129.0	971.0	1166
1000	1000	1290	685	1209.0	1033.0	1261

### "T" Type

DN 80 to DN 250

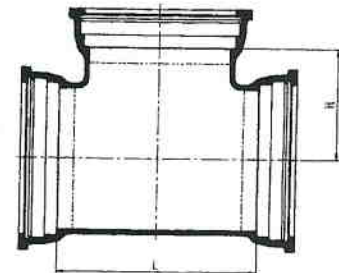


DN 300 to DN 1200



### "RT" Type

DN 300 to DN 1200





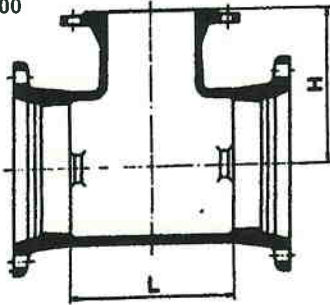
# BS 4772/ISO 2531 /BSEN 545 /BSEN 598 ISO 10804-1

K=12

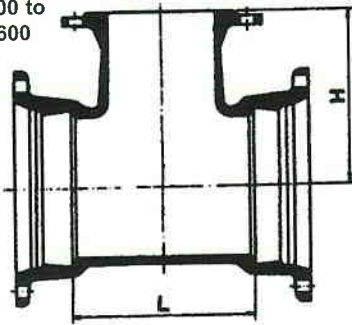
Dimension in millimeters

"T" Type

DN 80 to  
DN 600



DN 700 to  
DN 2600



NOMINAL DIAMETER		DIMENSIONS		MASS (kg)								
				T Type			K Type			RT Type		
DN	dn	L	H	PN 10	PN 16	PN 25	PN 10	PN 16	PN 25	PN 10	PN 16	PN 25
900	150	355	645	-	475	-	368	368	369	437	506	438
900	200	355	645	379	379	-	371	371	373	440	410	442
900	400	590	675	490	495	-	484	488	499	553	526	568
900	600	1170	705	748	774	-	745	769	780	814	805	849
900	800	1170	735	-	936	-	795	810	-	864	967	-
900	900	1170	750	814	838	-	822	841	-	891	869	-
1000	150	360	705	-	560	-	451	451	452	521	588	522
1000	200	360	705	462	462	-	455	455	457	525	490	527
1000	400	595	735	591	596	-	586	591	602	656	624	672
1000	600	1290	765	947	973	-	946	970	981	4061	1001	1051
1000	800	1290	795	-	1178	-	994	1009	-	1064	1206	-
1000	1000	1290	825	1044	1086	-	1059	1094	-	1129	1114	-
1100	200	370	765	-	781	-	531	531	533	644	644	646
1100	400	600	795	-	933.8	-	680	684	695	793	797	808
1100	600	830	825	-	1102.8	-	836	860	871	949	973	984
1100	800	1065	855	-	1334.8	-	1015	1029	-	1128	1142	-
1100	1000	1295	885	-	1594.8	-	1205	1240	-	1318	1353	-
1100	1100	1410	900	-	1713.8	-	1313	1348	-	1426	1461	-
1200	200	375	825	-	841	-	618	618	620	783	783	785
1200	400	605	855	1000	1010	-	787	792	803	952	957	968
1200	600	840	885	1190	1027	-	967	991	1003	1132	1156	1168
1200	800	1070	915	1406	1210	-	1162	1177	-	1327	1342	-
1200	1000	1300	945	-	1448	-	1372	1406	-	1537	1571	-
1200	1200	1535	975	-	2018	-	1617	1672	-	1782	1837	-
1400	400	800	950	1478	-	-	1221	1226	1237	1446	1451	-
1400	600	1030	980	1709	1505	-	1441	1464	1467	1666	1689	-
1400	800	1260	1010	1955	1728	-	1677	1692	-	1902	1917	-
1400	1000	1495	1040	-	1996	-	1929	1964	-	2154	2189	-
1400	1200	1725	1070	-	-	-	2205	2260	-	2430	2485	-
1400	1400	1960	1100	-	-	-	2501	2557	-	2726	2782	-
1500	400	805	1005	-	-	-	1378	1382	1393	1684	1652	1663
1500	600	1035	1035	-	-	-	1622	1645	1657	1892	1915	1927
1500	800	1270	1065	-	-	-	1887	1901	-	2157	2171	-
1500	1000	1500	1095	-	-	-	2157	2192	-	2472	2462	-
1500	1200	1730	1125	-	-	-	2455	2510	-	2725	2780	-
1500	1400	1965	1155	-	-	-	2769	2825	-	3039	3095	-
1500	1500	2080	1170	-	-	-	2943	3031	-	3213	3301	-
1600	400	810	1060	-	-	-	1561	1565	1576	1841	1845	1856
1600	600	1040	1090	1908	1934	-	1831	1854	1866	2111	2134	2146
1600	800	1275	1120	2192	2211	-	2121	2136	-	2401	5416	-
1600	1000	1505	1150	2480	2522	-	2416	2451	-	2696	2731	-
1600	1200	1740	1180	2799	2863	-	2743	2798	-	3023	3078	-
1600	1400	1970	1210	-	-	-	3073	3130	-	3353	3410	-
1600	1600	2200	1240	-	-	-	2461	3551	-	3741	3831	-
1800	600	1055	1200	2414	2440	-	2302	3236	2337	2828	2852	2863
1800	800	1285	1230	2748	2767	-	2642	3657	-	3168	3183	-
1800	1000	1520	1260	3095	3137	-	2998	3032	-	3524	3558	-
1800	1200	1750	1290	3460	2524	-	3371	3426	-	3897	3952	-
1800	1400	1980	1320	-	-	-	3750	3807	-	4276	4333	-
1800	1600	2215	1350	-	-	-	4188	4277	-	4714	4803	-
1800	1800	2445	1380	-	-	-	4627	4735	-	5150	5261	-
2000	600	1065	1310	2988	3015	-	2830	2853	2865	3383	3406	3418
2000	800	1300	1340	-	-	-	3239	3254	-	3792	3807	-
2000	1000	1530	1370	3790	3832	-	3648	3682	-	4201	4235	-
2000	1200	1760	1400	-	-	-	4079	4134	-	4632	4687	-
2000	1400	1995	1430	4645	4712	-	4523	4580	-	5076	5133	-
2000	1600	2225	1460	-	-	-	5007	5097	-	5560	5650	-
2000	1800	2460	1490	-	-	-	5497	5609	-	6050	6162	-
2000	2000	2690	1520	-	-	-	6030	6168	-	6583	6721	-

\* For any other sizes up to 2600mm, please contact us further





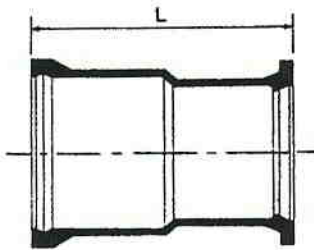
# BS 4772/ISO 2531 /BSEN 545 /BSEN 598

## Change fittings and inch size fittings

### Change Collars



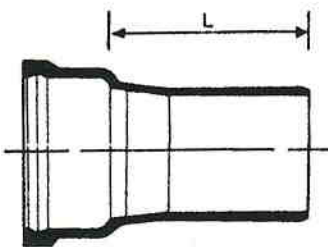
Inch size end with Bolted gland joint



Inch size end with lead caulked joint

Nominal size			L	Mass	
Inch size end		Metric size end		Metric size end with Stanlock joint	
Size	Class			Inch size end with bolted gland joint	Inch size end with lead caulked joint
in		mm	mm	kg	kg
3	B, C & D	80	320	10.4	9.9
3	B, C & D	100	325	11.8	11.3
4	B, C & D	100	325	13.6	12.7
5	B, C & D	150	325	-	18.1
6	B, C & D	150	325	20.5	19.4
7	B, C & D	200	345	-	24.5
8	B, C & D	200	345	28.5	28.0
9	B, C & D	250	355	36.5	36.0
10	B, C & D	250	355	37.0	38.5
12	B	300	360	44.5	43.5
12	C & D	300	360	52.0	49.0
14	B	350	380	60.0	58.0
16	B	400	400	73.0	70.5
18	B	450	410	88.0	86.0
24	B	600	450	139.0	127.0

### Change Pieces



Nominal size			L	Mass		Extra mass for cement mortar lining
Inch size end		Metric size end		Metric size spigot end		
Size	Class			Inch size end with bolted gland joint	Inch size end with lead caulked joint	
in		mm	mm	kg	kg	kg
14	B	350	530	64.0	65.0	7
14	C & D	350	530	67.5	66.5	7
15	B	400	545	75.0	76.0	8
15	C & D	400	545	79.0	78.0	8
16	B	400	545	78.0	79.0	8
16	C & D	400	545	82.0	80.0	8
18	B	450	560	95.0	95.0	9
18	C & D	450	560	100.0	97.0	9
20	B	500	580	115.0	114.0	11
20	C & D	500	580	121.0	117.0	11
21	B	500	580	125.0	122.0	11
21	C & D	500	580	133.0	123.0	11
24	B	600	610	159.0	160.0	14
24	C & D	600	610	167.0	161.0	14
27	B	700	650	-	218.0	20
27	C & D	700	650	-	223.0	20
30	B*	700	655	-	234.0	20
30	B, C & D †	700	655	-	238.0	20
30	B*	800	695	-	268.0	24
30	B, C & D †	800	695	-	271.0	24
33	B*	800	695	-	290.0	25
33	B, C & D †	800	695	-	304.0	25
36	B*	900	730	-	369.0	29
36	B, C & D †	900	730	-	378.0	29
42	B*	1000	835	-	485.0	37
42	B, C & D †	1000	835	-	498.0	37
42	B*	1100	865	-	559.0	42
42	B, C & D †	1100	865	-	572.0	42
48	B*	1200	895	-	713.0	50
48	B, C & D †	1200	895	-	724.0	50

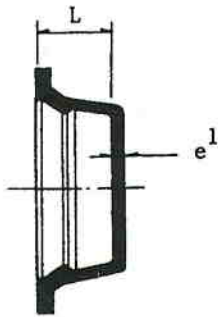
\* To suit pipes having Class B 'non-preferred' external diameters specified in BS 78 Part 2 1965.

† To suit pipes having Classes B, C and D preferred external diameters specified in BS 78 Part 2 1965.

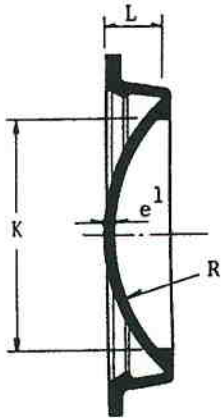


# BS 4772/ISO 2531 /BSEN 545 /BSEN 598

## Caps



Sizes 80 to 300mm



Sizes 350 to 1200mm

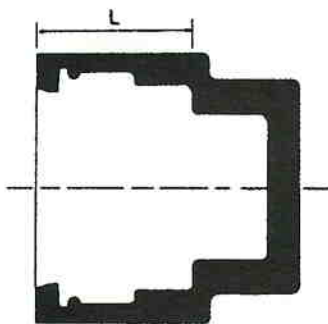
Dimension in millimeters

NOMINAL Size DN	e'	K and R	L	Mass (kg)
80	18.0*	-	90	6.2
100	18.0*	-	90	7.0
150	18.0*	-	90	11.3
200	18.0	-	103	16.1
250	19.5	-	106	22.5
300	23.0	-	115	38.0
350	24.0	315	125	54.0
400	25.0	370	130	68.5
450	26.0	420	135	83.5
500	27.0	460	113	96.0
600	29.5	565	120	117.0
700	31.0	665	125	170.0
800	33.0	760	125	225.0
900	35.0	860	140	300.0
1000	37.0	960	140	370.0
1100	39.0	1060	150	470.0
1200	41.0	1160	150	580.0

\* Thickness 18mm for dimension e' 1 facilitates drilling and tapping of end face up to 1 1/2 nominal size in accordance with BS 21.

NOTE. Two 80mm diameter bosses shall be provided on caps DN 350 and larger, to facilitate drilling and tapping up to 1-3/4 nominal size in accordance with BS 21. Additionally for DN 350 and above a boss and eyebolt shall be provided for lifting purposes.

## Tyton-Anchor Caps



NOMINAL size DN	L	Mass
mm	mm	kg
80	124	5.4
100	124	6.8
150	129	12.3
200	139	19.7
250	147	29.1
300	154	40.9