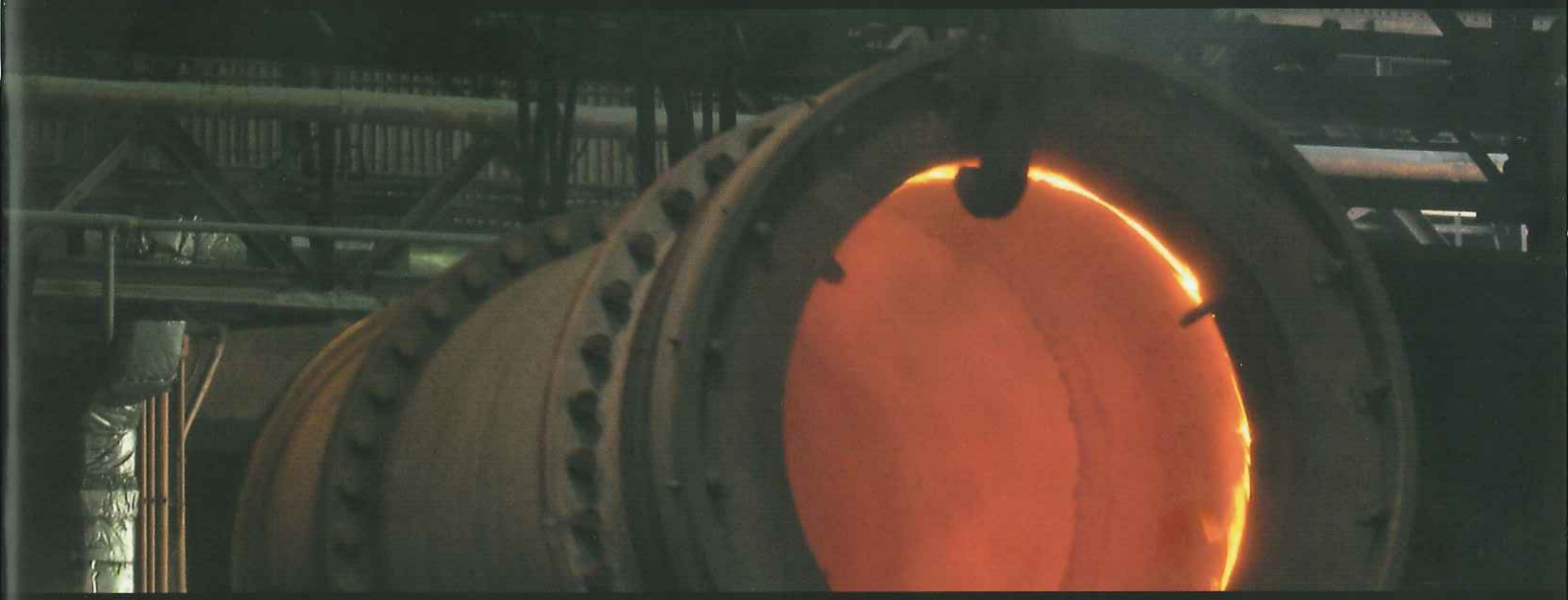
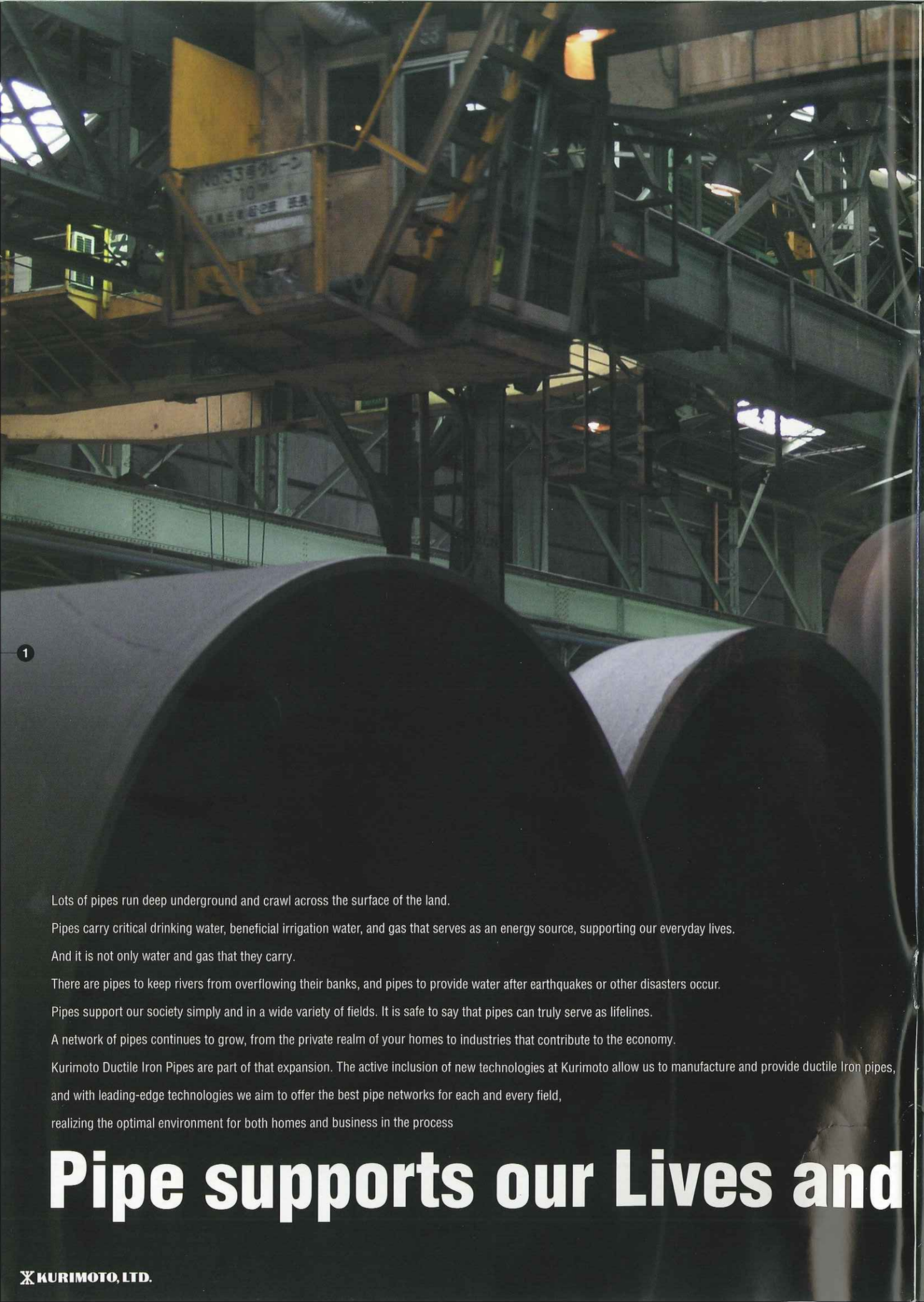


DUCTILE IRON PIPES

KURIMOTO
JAPAN



Lots of pipes run deep underground and crawl across the surface of the land.

Pipes carry critical drinking water, beneficial irrigation water, and gas that serves as an energy source, supporting our everyday lives.

And it is not only water and gas that they carry.

There are pipes to keep rivers from overflowing their banks, and pipes to provide water after earthquakes or other disasters occur.

Pipes support our society simply and in a wide variety of fields. It is safe to say that pipes can truly serve as lifelines.

A network of pipes continues to grow, from the private realm of your homes to industries that contribute to the economy.

Kurimoto Ductile Iron Pipes are part of that expansion. The active inclusion of new technologies at Kurimoto allow us to manufacture and provide ductile Iron pipes,

and with leading-edge technologies we aim to offer the best pipe networks for each and every field,

realizing the optimal environment for both homes and business in the process

Pipe supports our Lives and our Society

CONTENTS

KURIMOTO, LTD.

① Strength

The most important element of a pipe is its strength, regardless of its use.
How does the strength of Ductile Iron Pipe compare to pipes made from other materials?
Therein lies the key in pipe selection.

Strength of Ductile Iron Pipe.

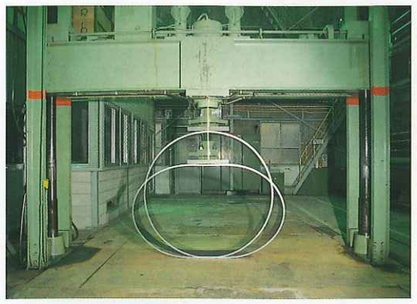
Ductile Iron Pipe far outshines other pipe materials in terms of strength; this owes to the spherical shape of the graphite in its composition. The spherical shape minimizes the surface area, maintaining the connectivity of the iron base, which yields our superior strength ratings.
Spherical graphite crystals are made by adding small amounts of magnesium and cerium during the casting process. The resulting stress on the graphite is low, even when focused, yielding remarkable improvements in mechanical properties. The chart below compares Ductile Iron Pipe to pip made from other materials.

Physical and Mechanical Properties

Physical and Mechanical Properties of Different Types of Pipe

Mechanical Properties \ Material	Ductile Iron Pipe	Steel pipe	FPRM pipe	PVC pipe
Tensile strength (kgf/mm^2)	min.42.8	min.40.8	———	min.5.0(15℃)
Bending strength(kgf/mm^2)	min61.2	min40.8	17-32(*1) 2-6(*2)	8-10
Elongation (%)	min.10	min.18	———	50-150
Elastic modulus(kgf/mm^2)	1.6×10^4	2.1×10^4	$1.5\times2.25\times10^3$	$2.7\times3\times10^2$
Hardness	max.230 HB	max.140 HB	Barcol 50-60	Rockwell 115
Poisson's ratio	0.28 - 0.29	0.3	0.3	0.37
Impact value($kgf\cdot m/cm^2$)	IZOD min.6	Sharpy 15	———	Sharpy 0.07~0.1
Specific gravity	7.15	7.85	2.0	1.43
Thermal expansion coefficient	1.0×10^{-5}	1.1×10^{-5}	1.1×10^{-5}	$6\sim8\times10^{-5}$

(*1) circum (*2) axis

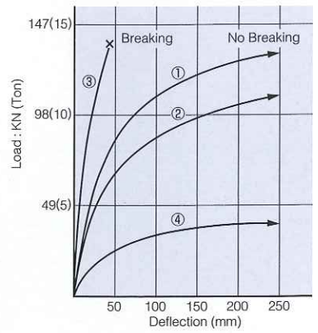


Ring Test

Ductile Iron Pipe will not break even if it is flexed as shown in the picture.

Ring Test of DN 1500 (test width 1000mm)

No.	Kind of pipe	Wall thickness
①	Ductile Iron Pipe	15.0mm
②	Ductile Iron Pipe	13.5mm
③	Gray cast iron pipe	22.0mm
④	steel pipe	9.0mm

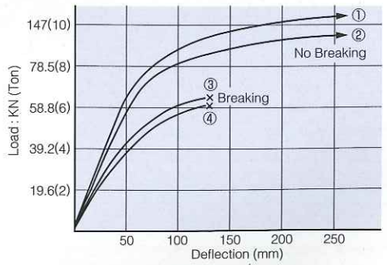


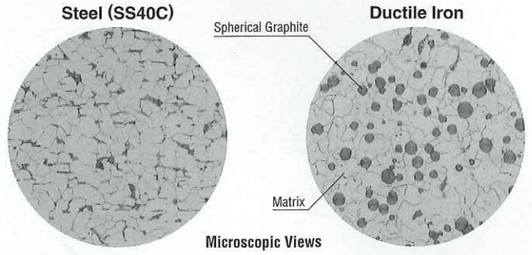
Bending Test

Ductile Iron Pipe will not break even if it is bent as shown in the picture.

DN 150×5m Bending Test

No.	Kind of pipe	Wall thickness
①	Ductile Iron Pipe	7.9mm
②	Ductile Iron Pipe	7.5mm
③	Gray cast Iron Pipe	8.5mm
④	steel pipe	8.2mm





The difference between ductile iron and steel.

Both are made primarily from iron, but ductile iron is made from austenite (a combination of gamma iron and carbon) with 2.0% carbon or higher, and steel is made from austenite with less carbon. The higher amount of carbon in ductile iron separates out as graphite. Ductile iron features spherical graphite, however. Cast iron is superior in many regards, but it is particularly vulnerable to impacts, but spherical graphite gives our Ductile Iron Pipe the strength of steel while remaining cast iron. Ductile iron, to be precise.

② Water-tightness

Critical features for pipe includes the ability to prevent the leaking of precious drinking water and the penetration of foreign matter internally. Not only do pipes need to be strong, as the network of pipes grows, they need to be water-tight and air-tight as well.

Can you completely prevent leaks and penetration of foreign matter?

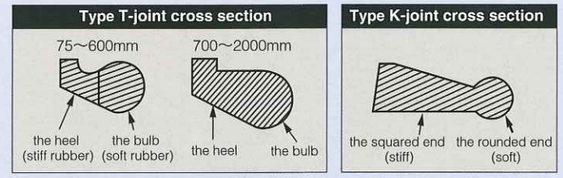
No matter how they are used, all pipe networks comprise pipes and the joints between them. As a result, to prevent the leaking of internal liquids, including water, and to prevent the penetration of external foreign matter, both pipes and joints must be extremely water-tight.
The joints used to connect Ductile Iron Pipes are constructed to withstand high levels of hydraulic stresses, and do not leak or in other ways fail.

Some Hydraulic Test Results

pipe diameter (mm)	pipe type	pipe thickness (mm)	joint type	hydraulic load (MPa)	joint status
250	type 1	7.5	type K	4.9	no leaking or other faults
600	type 3	9.0	type K	7.4	no leaking or other faults
800	type 3	11.0	type K	4.9	no leaking or other faults
1200	type 2	17.0	type K	3.9	no leaking or other faults

The Rubber Ring of the Joint lasts as Long as the Pipe Itself

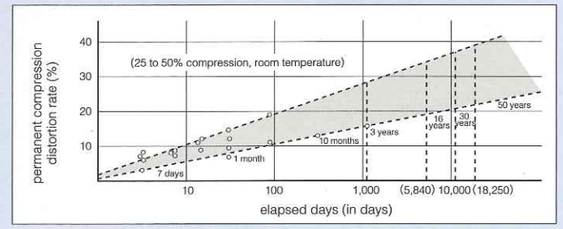
The rubber ring used in Ductile Iron Pipes directly contributes to the water-tightness of the joint. Rubber rings used in buried pipe will suffer little deterioration as a result of ultraviolet radiation or heat and can last as long as the pipe itself (although it may be necessary to change the ring material based on the content carried by the pipe).



Stress Impacts Shape in Only Minor Ways

There are cases where water-tightness is compromised when rubber loses some of its flexibility after being continually compressed for a long period of time.
In tests examining the change in rubber rings after periods of stress (permanent compression distortion), even after dozens of years, the permanent compression distortion was around thirty percent (estimated value), as indicated in the graph. As a result, we can see that the rubber ring maintains sufficient water-tightness.

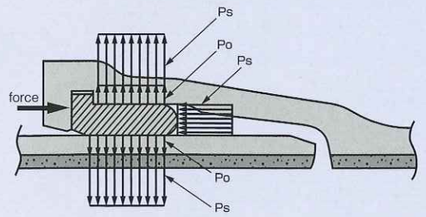
Permanent Compression Distortion and the Number of Elapsed Days in relation to the Rounded Rubber Rings used in Joints (K-joints)



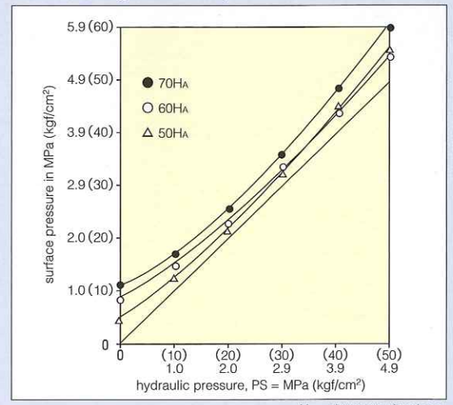
Self-sealing Action

Among the joints used in Ductile Iron Pipe, the T-joint features a rubber ring that is self-sealing when pressed up against another surface, which allows it to maintain higher levels of water-tightness.

P = surface pressure in MPa (kgf/cm^2) = Po + Ps
Po = surface pressure at connection in MPa (kgf/cm^2)
Ps = hydraulic pressure in MPa (kgf/cm^2)



The Self-sealing Action of a T-joint



HA = durometer hardness

The Strength of Kurimoto Ductile Iron Pipe

③ Corrosion Resistance

Pipes not only need to be strong and water-tight, they need to resist corrosion.
Given that much pipe is laid underground, it is critical to prevent the onset and spread of corrosion.
This leads to a longer lifecycle for pipe

●Is it possible to prevent the onset and spread of corrosion?

The electrical resistance of Ductile Iron Pipe is very high; this is one factor helping to prevent corrosion. In addition, the carbon and silicon molecules within the pipe structure form a protective layer, which serves to markedly prevent the spread of corrosion. What's more, the rubber in the joints acts as an insulator, minimizing the impact of electrical currents. When all of these elements work together, they not only prevent the onset and spread of corrosion, they allow for Ductile Iron Pipe to be used for longer periods of time. When laying pipe in corrosive soils (acidic soils), a polyethylene sleeve will further work to prevent corrosion (see the table below).

Electrical Resistance in Ductile Cast Iron and Steel

Material	Electric Resistance (μΩ-cm)
Ductile Iron Pipe	50~70
Steel pipe	10~20

Polyethylene sleeves being used to protect Ductile Iron Pipe.

What types of soils engender corrosion?

In addition to corrosion caused by electrical currents, it can arise from the soil in which pipe is laid. Ductile Iron Pipe is sufficiently corrosion resistant in ordinary soils, but in highly acidic soils or areas with high concentrations of salts, areas with large amounts of underground waste or soils with high levels of clay, corrosion can be a significant issue, and a polyethylene sleeve is required as a further defense. In addition to preventing contact between the pipe and the soil, the polyethylene sleeve will prevent corrosion from acids dissolved in any water that might penetrate the sleeve, and will last for a long time within the earth.

Pipes and Fittings

SPECIFICATION

BS EN 545 / 598:2002
ISO 2531:1998

●Tensile strength and elongation of pipes and fittings

Pipes

Tensile strength N/mm²	Elongation %	
420(minimum)	DN80 to DN1000	DN1100 to DN2000
	10(minimum)	7(minimum)

Remarks: In the case of doubt, the hardness shall be measured.
In this case, the hardness shall not exceed 230 HB.

Fittings

Tensile strength N/mm²	Elongation %
420(minimum)	DN80 to DN2000
	5(minimum)

Remarks: In the case of doubt, the hardness shall be measured.
In this case, the hardness shall not exceed 250 HB.

●Specified hydrostatic pressure and holding time

Pipes

DN mm	Hydrostatic pressure bar	Holding time s
80 to 300	50	15(minimum)
350 to 600	40	
700 to 1000	32	
1100 to 2000	25	

Fittings

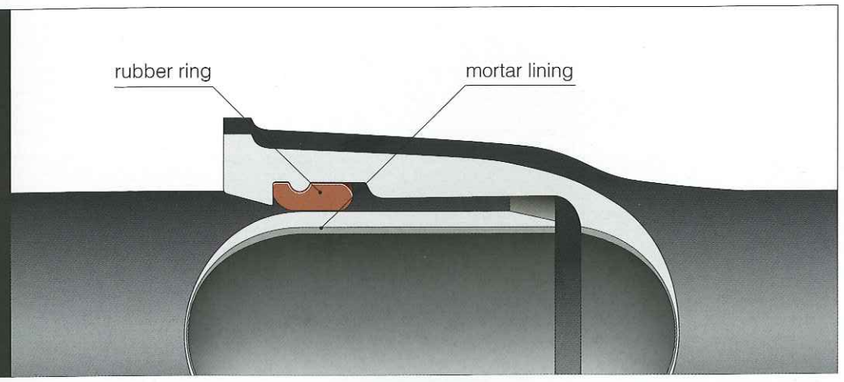
DN mm	Hydrostatic pressure bar	Holding time s
80 to 300	25	15(minimum)
350 to 600	16	
700 to 1000	10	

●Standard coating and lining

Application area	Pipes and fittings
External	Zinc with synthetic resin paint or bituminous paint
Internal	Cement mortar lining or epoxy powder coating

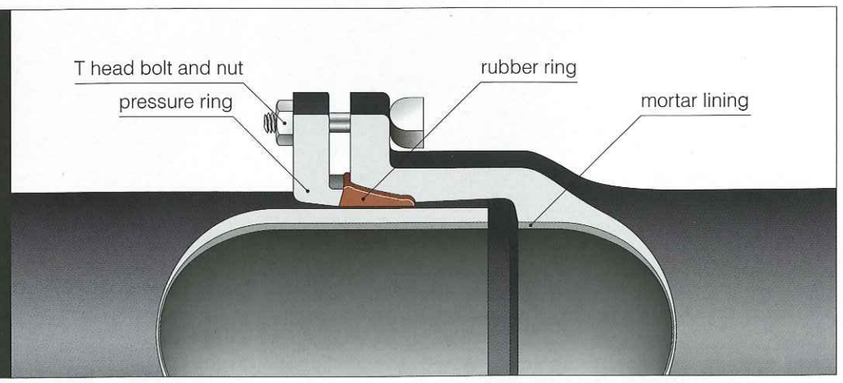
JOINT STRUCTURE

TYPE T
PUSH ON JOINT



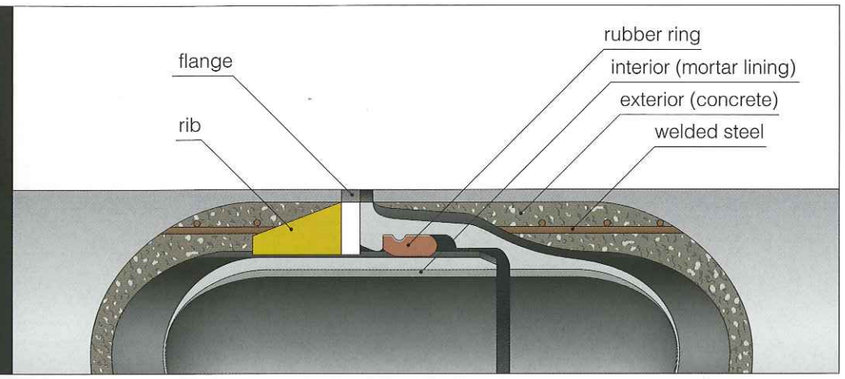
Simply by inserting the outlet pipe into an inlet pipe with a rubber ring attachment, the connection is made easily, quickly and completely.
With just a rubber ring to connect the pipes, our process is much more economical. By inserting the outlet pipe, the valve of the rubber ring is contracted, maintaining a water-tight seal. The heal portion of the ring adheres to the convex portion of the inlet pipe, which prevents the ring from coming loose. The outlet has a gradient, which makes it easy to lay pipe. If the internal pressure increases, the rubber ring becomes even stronger, blocking the water surface; it has a self-sealing functionality that allows it to respond to changes in hydraulic pressure, and aiding in its tight connection to the inlet pipe.

TYPE K
MECHANICAL JOINT

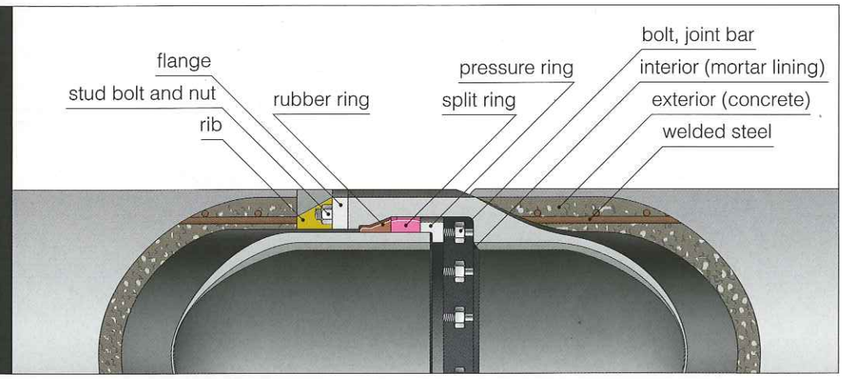


Our standard mechanical joint is extremely water-tight, making it perfect for larger diameter pipes, high-pressure pipes or situations involving high external pressure. The rubber ring, which combines square and rounded rubber components, is bolted through the insert ring, squeezing the rounded portion, and, as in the T-joint, increasing the level of water-tightness. It also provides a degree of give as well.

TYPE T
JACKING PIPE (WITHOUT EXCAVATION)



TYPE U
JACKING PIPE (WITHOUT EXCAVATION)



The exterior of T and U type joint pipes (JIS) is wrapped in reinforced concrete, with the exterior diameter of the pipe and joint made to match, smoothed, and the flange and rib welded on the circumference of the spigot have contact with the end surface of the faucet; thus transferring force.
In addition, the use of an intermediate sleeve allows us to lay long-distances of pipe without excavation.

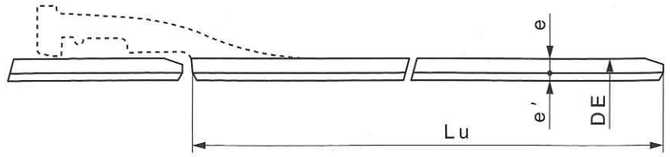
DUCTILE IRON PIPES

BS EN 545 / 598
ISO 2531

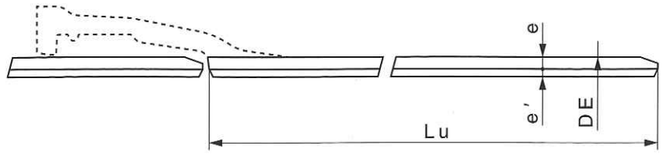
SOCKET AND SPIGOT PIPES (PUSH ON JOINT)

Type T

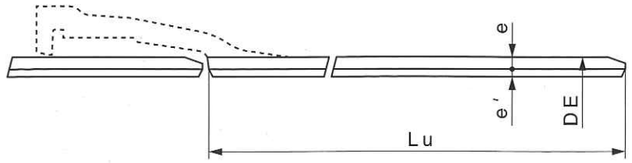
DN80 TO DN250



DN300 TO DN600



DN700 TO DN2000

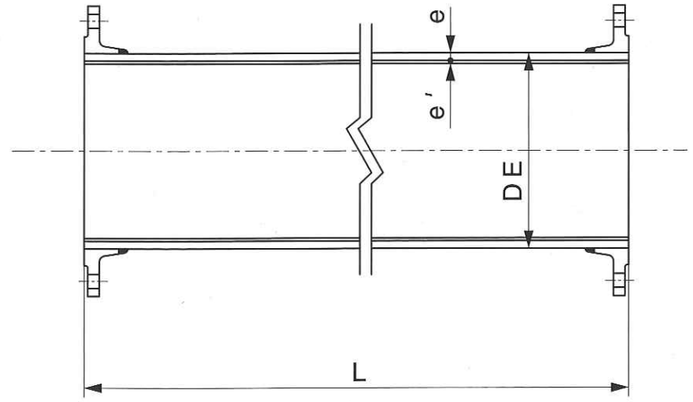


● K9,K12

Unit : mm

Nominal diameter	Thickness			External diameter	Effective length	Mass(kg)		
DN	e		e'	DE	Lu	Pipe		Cement mortar lining
	K9	K12				K9	K12	
80	6.0	7.0	3.5	98	4000	52.6	60.1	8.0
100	6.0	7.2	3.5	118	4000	64.4	75.6	9.9
					6000	94.2	111	14.9
150	6.0	7.8	3.5	170	5000	117	148	18.7
					6000	139	176	22.4
200	6.3	8.4	3.5	222	5000	163	211	24.9
					6000	193	251	29.9
250	6.8	9.0	3.5	274	5000	217	280	31.1
					6000	257	333	37.3
300	7.2	9.6	3.5	326	6000	322	421	44.7
350	7.7	10.2	5	378	6000	403	523	74.1
400	8.1	10.8	5	429	6000	480	628	84.6
450	8.6	11.4	5	480	6000	571	742	94.9
500	9.0	12.0	5	532	6000	663	867	106
600	9.9	13.2	5	635	6000	871	1139	127
700	10.8	14.4	6	738	6000	1113	1454	177
800	11.7	15.6	6	842	6000	1376	1798	202
900	12.6	16.8	6	945	6000	1665	2176	227
1000	13.5	18.0	6	1048	6000	1988	2596	253
1100	14.4	19.2	6	1152	6000	2340	3053	278
1200	15.3	20.4	6	1255	6000	2715	3542	303
1400	17.1	22.8	9	1462	6000	3569	4646	530
1500	18.0	24.0	9	1565	6000	4025	5239	567
1600	18.9	25.2	9	1668	5000	3841	4974	504
1800	20.7	27.6	9	1875	5000	4764	6160	567
2000	22.5	30.0	9	2082	5000	5791	7476	631

DOUBLE FLANGED PIPES (WELDED ON FLANGES)



● K9,K12

Unit : mm

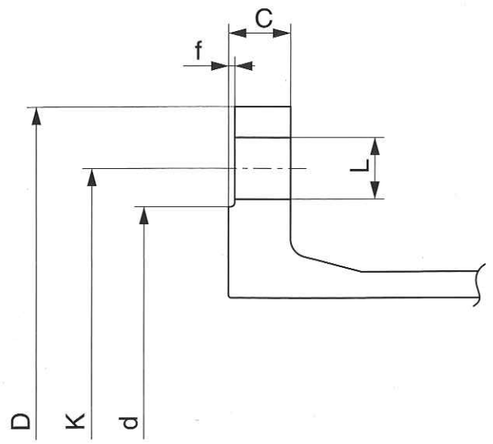
Nominal diameter	Thickness			External diameter	Length	Mass(kg)		
DN	e		e'	DE	L	Pipe PN16		Cement mortar lining
	K9	K12				K9	K12	
80	6.0	7.0	3.5	98	4000	55.7	63.2	8.0
100	6.0	7.2	3.5	118	4000	67.5	78.7	9.9
					6000	97.3	114	14.9
150	6.0	7.8	3.5	170	5000	121	152	18.7
					6000	143	180	22.4
200	6.3	8.4	3.5	222	5000	167	215	24.9
					6000	197	255	29.9
250	6.8	9.0	3.5	274	5000	225	288	31.1
					6000	265	341	37.3
300	7.2	9.6	3.5	326	6000	337	436	44.7
350	7.7	10.2	5	378	6000	423	542	74.1
400	8.1	10.8	5	429	6000	509	656	84.6
500	9.0	12.0	5	532	6000	721	925	106
600	9.9	13.2	5	635	6000	967	1235	127
700	10.8	14.4	6	738	6000	1198	1539	177
800	11.7	15.6	6	842	6000	1499	1922	202
900	12.6	16.8	6	945	6000	1816	2327	227
1000	13.5	18.0	6	1048	6000	2208	2816	253
1200	15.3	20.4	6	1255	6000	3057	3884	303

DUCTILE IRON FITTINGS

BS EN 545 / 598
ISO 2531

DIMENSIONS OF FLANGES

DN80 TO DN2000



● PN10

Unit : mm

Nominal diameter	Dimension of each portion					Hole of bolts	
DN	D	K	d	C	f	L	Number
80	200	160	132	19	3	19	8
100	220	180	156	19	3	19	8
150	285	240	211	19	3	23	8
200	340	295	266	20	3	23	8
250	400	350	319	22	3	23	12
300	455	400	370	24.5	4	23	12
350	505	460	429	24.5	4	23	16
400	565	515	480	24.5	4	28	16
450	615	565	530	25.5	4	28	20
500	670	620	582	26.5	4	28	20
600	780	725	682	30	5	31	20
700	895	840	794	32.5	5	31	24
800	1015	950	901	35	5	34	24
900	1115	1050	1001	37.5	5	34	28
1000	1230	1160	1112	40	5	37	28
1100	1340	1270	1218	42.5	5	37	32
1200	1455	1380	1328	45	5	41	32
1400	1675	1590	1530	46	5	44	36
1500	1785	1700	1640	47.5	5	44	36
1600	1915	1820	1750	49	5	50	40
1800	2115	2020	1950	52	5	50	44
2000	2325	2230	2150	55	5	50	48

● PN16

Unit : mm

Nominal diameter	Dimension of each portion					Hole of bolts	
DN	D	K	d	C	f	L	Number
80	200	160	132	19	3	19	8
100	220	180	156	19	3	19	8
150	285	240	211	19	3	23	8
200	340	295	266	20	3	23	12
250	400	355	319	22	3	28	12
300	455	410	370	24.5	4	28	12
350	520	470	429	26.5	4	28	16
400	580	525	480	28	4	31	16
450	640	585	548	30	4	31	20
500	715	650	609	31.5	4	34	20
600	840	770	720	36	5	37	20
700	910	840	794	39.5	5	37	24
800	1025	950	901	43	5	41	24
900	1125	1050	1001	46.5	5	41	28
1000	1255	1170	1112	50	5	44	28
1100	1355	1270	1218	53.5	5	44	32
1200	1485	1390	1328	57	5	50	32
1400	1685	1590	1530	60	5	50	36
1500	1820	1710	1640	62.5	5	57	36
1600	1930	1820	1750	65	5	57	40
1800	2130	2020	1950	70	5	57	44
2000	2345	2230	2150	75	5	62	48

● PN25

Unit : mm

Nominal diameter	Dimension of each portion					Hole of bolts	
DN	D	K	d	C	f	L	Number
80	200	160	132	19	3	19	8
100	235	190	156	19	3	23	8
150	300	250	211	20	3	28	8
200	360	310	274	22	3	28	12
250	425	370	330	24.5	3	31	12
300	485	430	389	27.5	4	31	16
350	555	490	448	30	4	34	16
400	620	550	503	32	4	37	16
450	670	600	548	34.5	4	37	20
500	730	660	609	36.5	4	37	20
600	845	770	720	42	5	41	20
700	960	875	820	46.5	5	44	24
800	1085	990	928	51	5	50	24
900	1185	1090	1028	55.5	5	50	28
1000	1320	1210	1140	60	5	57	28
1100	1420	1310	1240	64.5	5	57	32
1200	1530	1420	1350	69	5	57	32
1400	1755	1640	1560	74	5	62	36
1500	1865	1750	1678	77.5	5	62	36
1600	1975	1860	1780	81	5	62	40

DUCTILE IRON FITTINGS

BS EN 545 / 598
ISO 2531

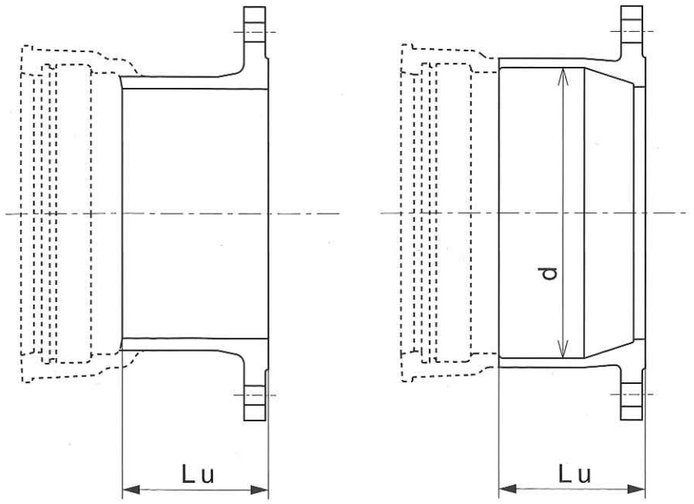
WALL THICKNESS OF FITTINGS

Unit : mm

Nominal diameter	Wall thickness	
DN	K12	K14
80	7.0	8.1
100	7.2	8.4
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
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

FLANGED SOCKETS

Type T

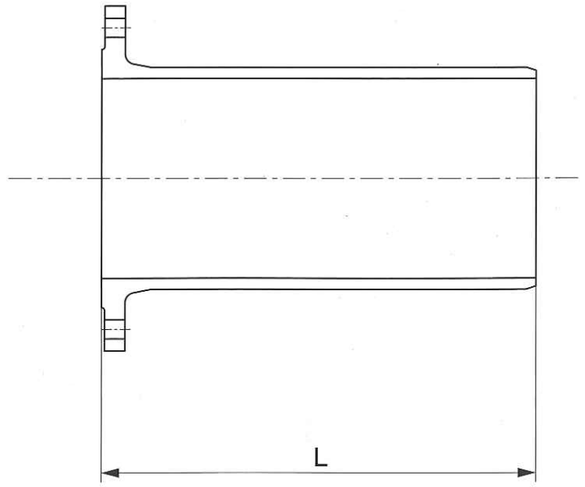


● K12

Unit : mm

Nominal diameter	Effective Length		Mass (kg)
DN	Lu	d	PN16
80	130	109	8.0
100	130	130	9.9
150	135	183	16.0
200	140	235	23.7
250	145	288	31.4
300	150	340	40.5
350	155	393	54.4
400	160	445	66.6
450	165	498	81.1
500	170	550	100
600	180	655	140
700	190	760	173
800	200	865	224
900	210	970	278
1000	220	1075	357
1100	230	1180	429
1200	240	1285	537
1400	310	1477	766
1500	330	1580	929
1600	330	1683	1063
1800	350	1889	1363
2000	370	2095	1728

FLANGED SPIGOTS



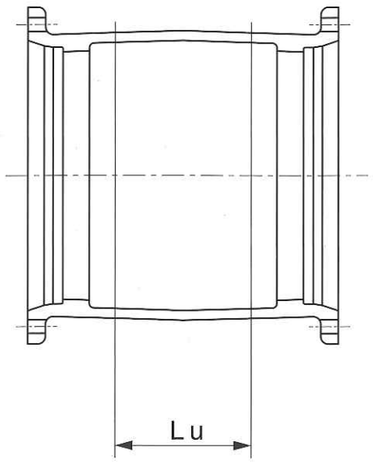
● K12

Unit : mm

Nominal diameter	Length	Mass (kg)
DN	L	PN16
80	350	7.8
100	360	9.7
150	380	15.7
200	400	22.8
250	420	31.8
300	440	42.2
350	460	55.6
400	480	70.2
450	500	87.3
500	520	110
600	560	159
700	600	196
800	600	248
900	600	299
1000	600	374
1100	600	437
1200	600	528
1400	710	748
1500	750	904
1600	780	1046
1800	850	1354
2000	920	1729

COLLARS

Type K



● K12

Unit : mm

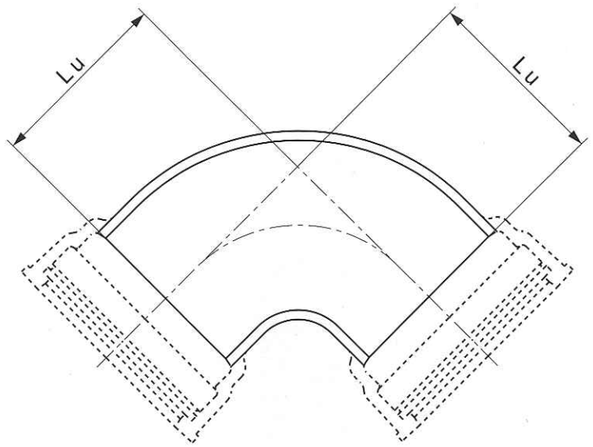
Nominal diameter	Effective Length	Mass (kg)
DN	Lu	
80	160	12.9
100	160	15.8
150	165	23.5
200	170	30.0
250	175	38.5
300	180	54.0
350	185	67.5
400	190	81.0
450	195	96.0
500	200	109
600	210	140
700	220	185
800	230	225
900	240	278
1000	250	348
1100	260	407
1200	270	472
1400	340	701
1500	350	783
1600	360	920
1800	380	1172
2000	400	1461

DUCTILE IRON FITTINGS

BS EN 545 / 598
ISO 2531

DOUBLE SOCKET 90° BENDS

Type T

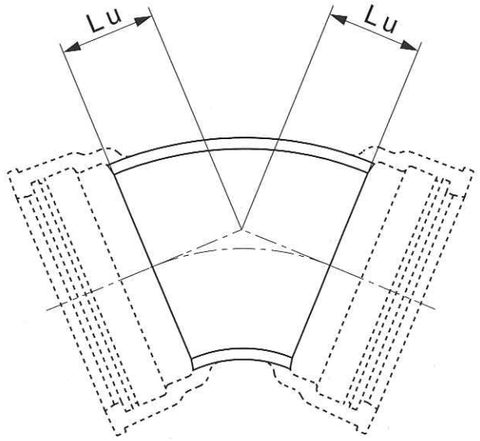


● K12 Unit : mm

Nominal diameter	Effective Length	Mass (kg)
DN	Lu	
80	100	9.0
100	120	12.1
150	170	22.0
200	220	36.6
250	270	51.3
300	320	70.3
350	370	83.0
400	420	113
450	470	143
500	520	183
600	620	273
700	720	455
800	820	605
900	920	813
1000	1020	1045
1100	1120	1358
1200	1220	1663

DOUBLE SOCKET 45° BENDS

Type T

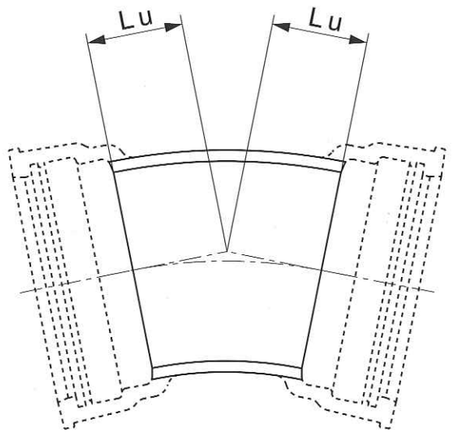


● K12 Unit : mm

Nominal diameter	Effective Length	Mass (kg)
DN	Lu	
80	55	8.1
100	65	10.8
150	85	18.8
200	110	30.8
250	130	41.4
300	155	54.9
350	175	76.1
400	200	94.1
450	220	117
500	240	141
600	285	199
700	330	288
800	370	382
900	415	501
1000	460	640
1100	510	805
1200	550	1007
1400	515	1333
1500	540	1583
1600	565	1848
1800	610	2464
2000	660	3216

DOUBLE SOCKET 22° 30′ BENDS

Type T

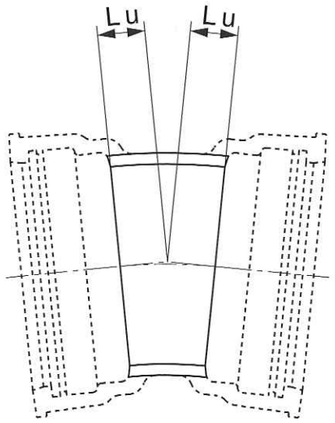


● K12 Unit : mm

Nominal diameter	Effective Length	Mass (kg)
DN	Lu	
80	40	7.7
100	45	10.0
150	55	17.3
200	65	27.5
250	75	36.1
300	90	46.9
350	100	63.8
400	110	78.6
450	120	95.1
500	135	113
600	155	154
700	175	223
800	195	291
900	220	377
1000	240	474
1100	270	588
1200	285	736
1400	260	992
1500	270	1177
1600	280	1367
1800	305	1831
2000	330	2390

DOUBLE SOCKET 11° 15′ BENDS

Type T



● K12 Unit : mm

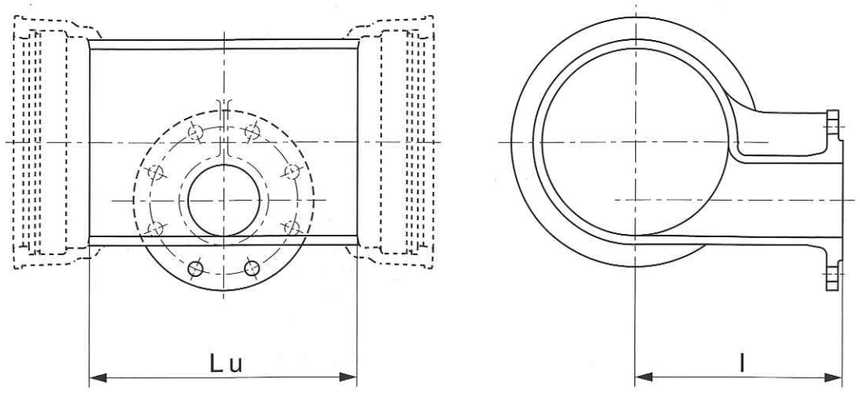
Nominal diameter	Effective Length	Mass (kg)
DN	Lu	
80	30	7.4
100	35	9.7
150	40	16.2
200	45	25.6
250	50	33.5
300	60	43.0
350	65	58.2
400	70	69.8
450	75	83.5
500	85	98.5
600	95	131
700	95	186
800	110	243
900	120	309
1000	130	386
1100	140	475
1200	150	588
1400	130	806
1500	140	968
1600	140	1115
1800	155	1498
2000	165	1948

DUCTILE IRON FITTINGS

BS EN 545 / 598
ISO 2531

DOUBLE SOCKET LEVEL INVERT TEES WITH FLANGED BRANCH

Type T



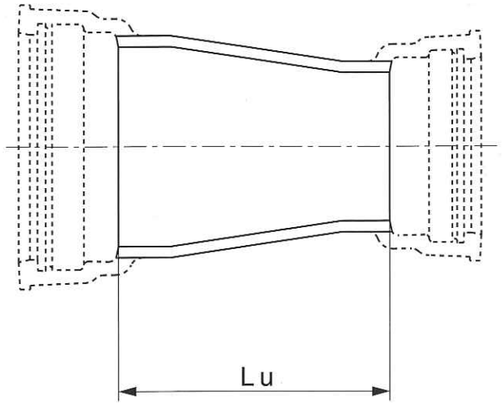
● K14

Unit : mm

Nominal diameter		Dimension of each portion		Mass (kg)
DN	dn	Lu	l	PN16
200	80	245	250	39.5
250	80	250	275	49.5
300	80	255	300	62.0
350	100	280	325	83.0
400	100	280	350	97.5
450	100	285	375	115
500	100	290	400	134
600	100	295	450	173
700	150	360	500	255
800	150	365	550	320
900	150	370	600	396
1000	200	435	650	514
1100	200	440	700	617
1200	200	445	750	744
1400	200	460	850	1048
1500	200	465	900	1228
1600	400	700	950	1677
1800	400	715	1050	2174
2000	400	725	1150	2750

DOUBLE SOCKET TAPERS

Type T



● K12

Unit : mm

Nominal diameter		Effective Length	Mass (kg)
DN	dn	Lu	
100	80	90	6.6
150	80	190	10.9
150	100	150	10.8
200	100	250	17.0
200	150	150	16.4
250	150	250	24.5
250	200	150	23.5
300	150	350	35.5
300	200	250	34.5
300	250	150	33.0
350	200	360	45.5
350	250	260	44.0
350	300	160	43.0
400	200	460	61.5
400	250	360	59.5
400	300	260	58.0
400	350	160	53.0
450	250	460	76.0
450	300	360	75.0
450	350	260	69.5
450	400	160	66.0

● K12

Unit : mm

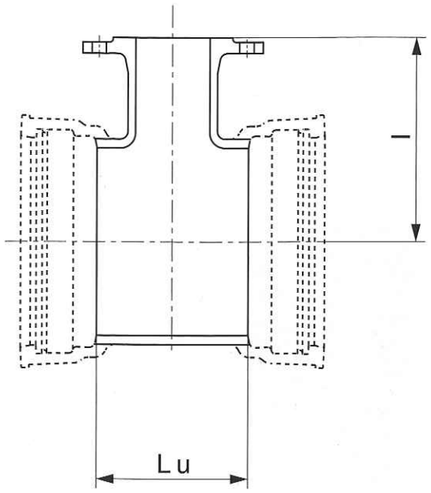
Nominal diameter		Effective Length	Mass (kg)
DN	dn	Lu	
500	250	560	96.5
500	300	460	95.5
500	350	360	90.5
500	400	260	86.5
500	450	160	80.5
600	300	660	144
600	350	560	138
600	400	460	133
600	450	360	127
600	500	260	121
700	350	800	235
700	400	700	231
700	450	600	224
700	500	480	215
700	600	280	196
800	400	870	303
800	450	770	295
800	500	670	288
800	600	480	270
800	700	280	280
900	450	940	396
900	500	840	388
900	600	640	365
900	700	480	384
900	800	280	355
1000	500	1040	504
1000	600	840	480
1000	700	680	498
1000	800	480	468
1000	900	280	446
1100	600	1020	631
1100	700	870	651
1100	800	670	619
1100	900	480	599
1100	1000	300	570
1200	600	1220	784
1200	700	1020	783
1200	800	870	768
1200	900	670	743
1200	1000	480	708
1200	1100	300	694
1400	1000	560	910
1400	1100	460	942
1400	1200	360	938
1600	1000	760	1228
1600	1100	660	1255
1600	1200	560	1252
1600	1400	360	1272

DUCTILE IRON FITTINGS

BS EN 545 / 598
ISO 2531

DOUBLE SOCKET TEES WITH FLANGED BRANCH

Type T



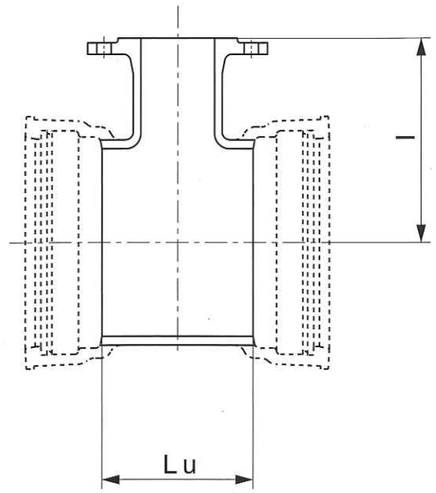
● K12

Unit : mm

Nominal diameter		Dimension of each portion		Mass (kg)
DN	dn	Lu	l	PN16
80	80	170	165	12.8
100	80	170	175	15.1
100	100	190	180	16.1
150	80	170	205	22.2
150	100	195	210	23.5
150	150	255	220	27.2
200	80	175	235	30.4
200	100	200	240	32.0
200	150	255	250	36.2
200	200	315	260	40.8
250	80	180	265	40.4
250	100	200	270	42.0
250	150	260	280	47.0
250	200	315	290	52.1
250	250	375	300	58.3
300	80	180	295	51.4
300	100	205	300	53.5
300	150	260	310	59.0
300	200	320	320	65.0
300	250	380	330	72.0
300	300	435	340	79.4
350	80	185	325	64.3
350	100	205	330	66.4
350	150	265	340	73.0
350	200	325	350	79.9
350	250	380	360	87.3
350	300	440	370	95.8
350	350	495	380	106
400	80	185	355	78.1
400	100	210	360	80.9
400	150	270	370	88.5
400	200	325	380	95.7
400	250	385	390	104
400	300	440	400	113
400	350	500	410	124
400	400	560	420	135
450	80	190	385	93.3
450	100	215	390	96.5
450	150	270	400	104
450	200	330	410	113
450	250	385	420	122
450	300	445	430	133
450	350	505	440	145
450	400	560	450	156
450	450	620	460	168

DOUBLE SOCKET TEES WITH FLANGED BRANCH

Type T



● K12

Unit : mm

Nominal diameter		Dimension of each portion		Mass (kg)
DN	dn	Lu	l	PN16
500	80	195	415	112
500	100	215	420	115
500	150	275	430	125
500	200	330	440	134
500	250	390	450	145
500	300	450	460	156
500	350	505	470	168
500	400	565	480	181
500	450	620	490	194
500	500	680	500	212
600	80	200	475	153
600	100	220	480	157
600	150	280	490	169
600	200	340	500	180
600	250	395	510	193
600	300	455	520	206
600	350	510	530	221
600	400	570	540	236
600	450	630	550	251
600	500	685	560	272
600	600	800	580	313
700	150	285	520	220
700	200	345	525	234
700	250	400	535	248
700	300	460	540	263
700	350	520	550	281
700	400	575	555	296
700	450	635	565	314
700	500	690	570	335
700	600	810	585	379
700	700	925	600	400
800	150	290	580	281
800	200	350	585	298
800	250	410	595	316
800	300	465	600	333
800	350	525	610	353
800	400	580	615	371
800	450	640	625	391
800	500	700	630	416
800	600	1045	645	519
800	700	1045	660	519
800	800	1045	675	538

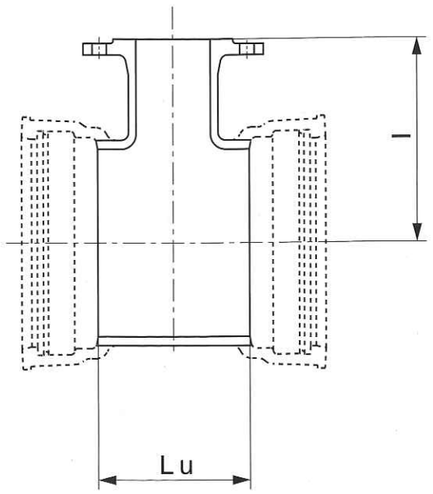
KURIMOTO, LTD.

DUCTILE IRON FITTINGS

BS EN 545 / 598
ISO 2531

DOUBLE SOCKET TEES WITH FLANGED BRANCH

Type T

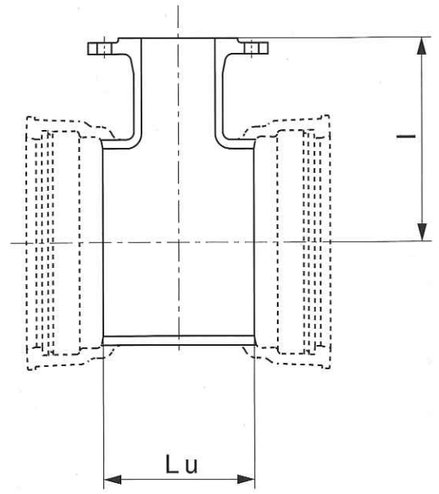


● K12 Unit : mm

Nominal diameter		Dimension of each portion		Mass (kg)
DN	dn	Lu	l	PN16
900	150	300	640	353
900	200	355	645	371
900	250	415	655	392
900	300	470	660	412
900	350	530	670	435
900	400	590	675	458
900	450	645	685	480
900	500	705	690	508
900	600	1170	705	662
900	700	1170	720	662
900	800	1170	735	681
900	900	1170	750	696
1000	150	305	700	434
1000	200	360	705	455
1000	250	420	715	479
1000	300	480	720	504
1000	350	535	730	529
1000	400	595	735	555
1000	450	650	745	580
1000	500	710	750	611
1000	600	1290	765	830
1000	700	1290	780	830
1000	800	1290	795	849
1000	900	1290	810	864
1000	1000	1290	725	899
1100	150	310	760	522
1100	200	370	765	549
1100	250	425	770	574
1100	300	485	780	603
1100	350	540	790	631
1100	400	600	795	660
1100	450	660	805	691
1100	500	715	810	724
1100	600	830	825	792
1100	700	950	840	840
1100	800	1065	855	906
1100	900	1180	870	967
1100	1000	1295	885	1047
1100	1100	1410	900	1111

DOUBLE SOCKET TEES WITH FLANGED BRANCH

Type T



● K12 Unit : mm

Nominal diameter		Dimension of each portion		Mass (kg)
DN	dn	Lu	l	PN16
1200	150	315	820	628
1200	200	375	825	659
1200	250	430	835	688
1200	300	490	840	720
1200	350	550	850	754
1200	400	605	855	786
1200	450	665	865	820
1200	500	720	870	856
1200	600	840	885	934
1200	700	955	900	988
1200	800	1070	915	1061
1200	900	1185	930	1130
1200	1000	1300	945	1218
1200	1100	1420	960	1291
1200	1200	1535	975	1388