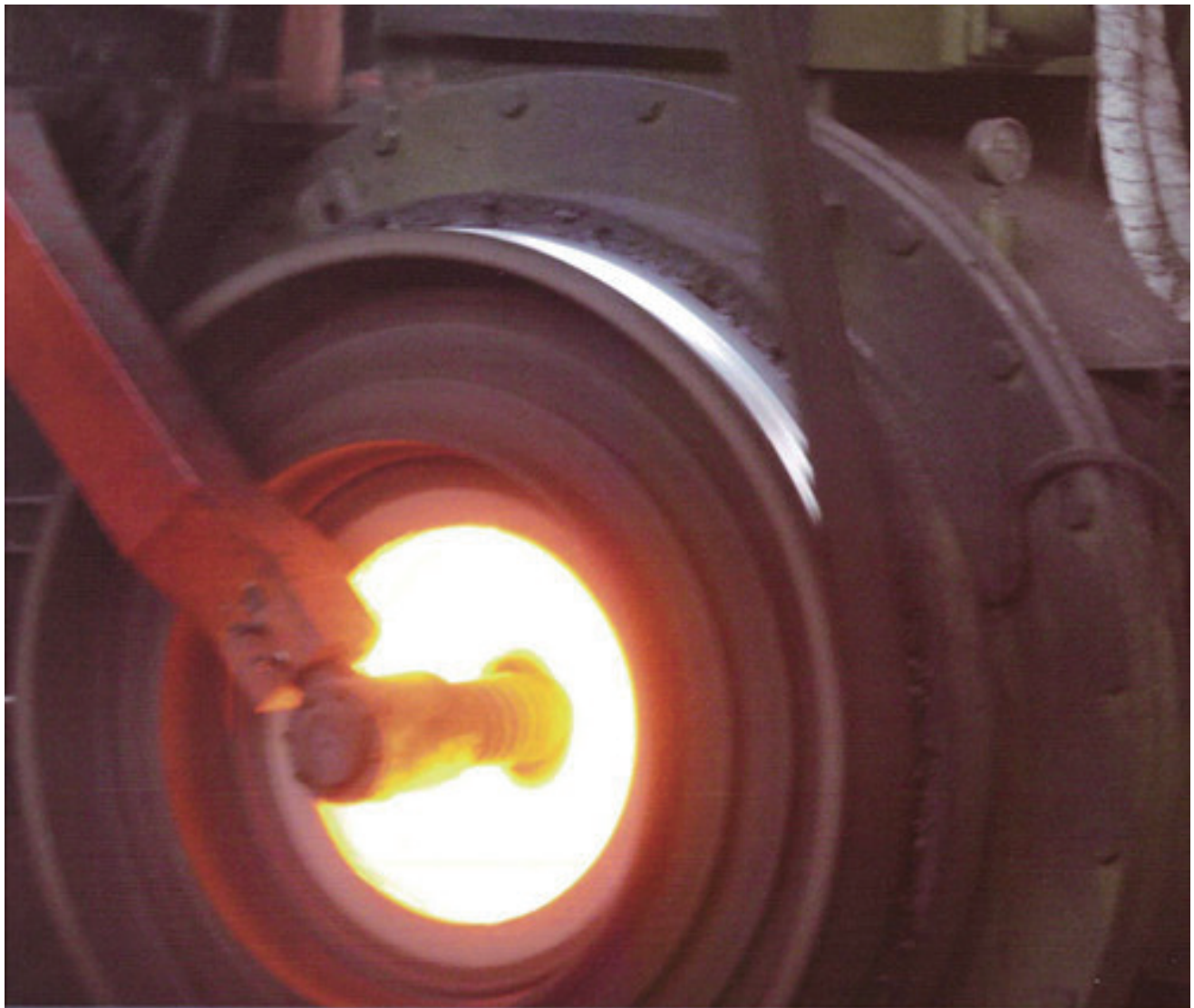


DUCTILE IRON PIPE EN545 EN598



ISO2531 **SGS** CERTIFIED



MANUFACTURE

——制造

TAIYUAN WATER INDUSTRIAL CO.,LTD

NO.186 PINGYANG ROAD

TAIYUAN SHANXI

CHINA 030006

email:info@tawilinc.com

Tel:0086 351 7239569 Fax:0086 351 5698354

PRODUCE PROCESS

SGS ISO9001 CERTIFIED

QUALITY MANAGEMENT SYSTEM



Pellet shaft furnace



Blast furnace



Sinter machine



Induction furnace



Pig iron machine

PRODUCE PROCESS

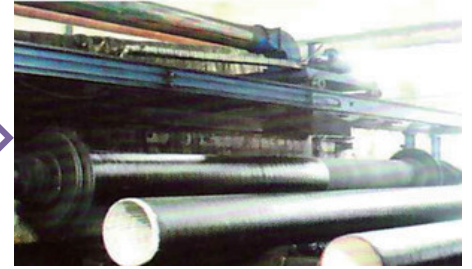
SGS ISO9001 CERTIFIED



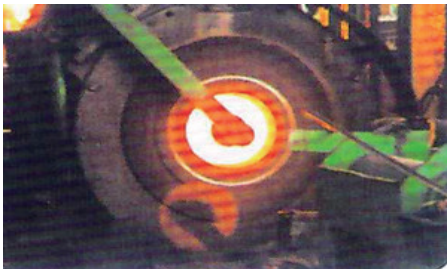
Spheroidising



Cement lining grinding



External bitumen coating



Centrifugal casting



Steam curing



Marking



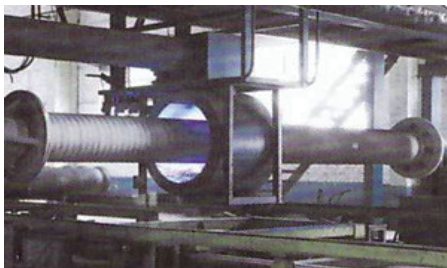
Annealing



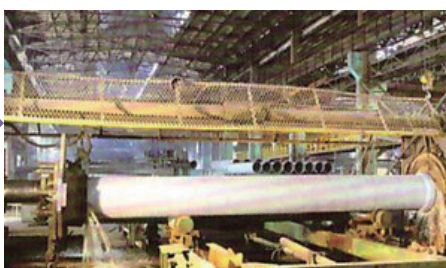
Internal cement mortar lining



Packing



External zinc coating



Hydraulic testing



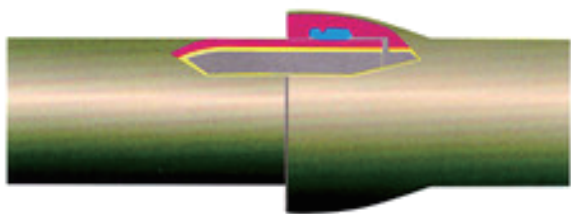
Delivery

MECHANICAL PROPERTIES

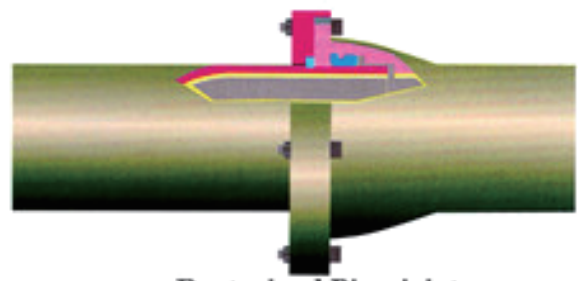
Mechanical Properties

Standard	Product	Nominal Diameter DN mm	Tensile strength N/mm ²	Yield strength N/mm ²	Elongation %	Hardness HB
ISO2531 EN545:2010 EN598	Ductile iron pipes	DN100~1000mm	≥420	≥300	10	≤ 230
		DN1100~2600mm		≥300	7	

Joint structure >>>



T-type joint



Restrained Pipe joint

Internal & External Protections >>>

Internal Protection	External Protection
Cement mortar lining complying with ISO4179 EN545:2010.	Metallic zinc coating + Bitumen complying with ISO8179 EN545:2010.

Note: Other internal and external protections can be done as per customer's requirements.

SPECIFICATION

CLASS C

C-class Pipe Specifications and Parameters >>>

Nominal Diameter mm	Outside Diameter mm	Pressure Standard	Wall Thickness mm
40	56	C40	4.4
50	66	C40	4.4
60	77	C40	4.4
65	82	C40	4.4
80	98	C40	4.4
100	118	C40	4.4
125	144	C40	4.5
150	170	C40	4.5
200	222	C40	4.7
250	274	C40	5.5
300	326	C40	6.2
350	378	C30	6.3
400	429	C30	6.5
450	480	C30	6.9
500	532	C30	7.5
600	635	C30	8.7
700	738	C25	8.8
800	842	C25	9.6
900	945	C25	10.6
1000	1048	C25	11.6
1100	1152	C25	12.6
1200	1255	C25	13.6
1400	1462	C25	15.7
1500	1565	C25	16.7
1600	1668	C25	17.7
1800	1875	C25	19.7
2000	2082	C25	21.8
2200	2288	C25	23.8
2400	2495	C25	25.8
2600	2702	C25	27.9

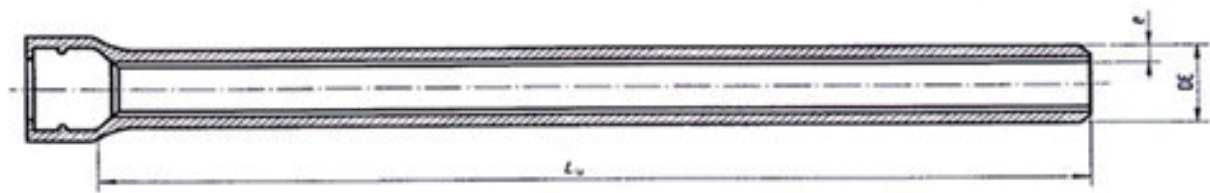
Product Specifications and Parameters >>>

Pressure standard C	Allowable working pressure (PFA)	Allowable Maximum Working Pressure (PMA)	Allowable Testing pressure (PEA)
	bar	bar	bar
25	25	30	35
30	30	36	41
40	40	48	53

SPECIFICATION

CLASS K9

Technique parameter ISO2531/BS4772/EN545:2010>>>



Nominal Diameter DN	Outside Diameter OD	Wall Thickness	Weight of Socket	Weight of Barrel	Unit Weight (working length =6M)	Unit weight (working length =5.7M)	Unit VOL
mm	mm	mm	kg	kg/m	kg	kg	M ³ /6m
80	98	6	3.4	12.2	77	73	0.091
100	118	6	4.3	15.1	95	91	0.124
125	144	6	5.7	18.9	119	115	0.212
150	170	6	7.1	22.8	144	138	0.232
200	222	6.3	10.3	30.6	194	185	0.385
250	274	6.8	14.2	40.2	255	244	0.574
300	326	7.2	18.6	50.8	323	309	0.797
350	378	7.7	23.7	63.2	403	384	1.05
400	429	8.1	29.3	75.5	482	460	1.326
450	480	8.6	38.3	89.3	577	550	1.651
500	532	9	42.8	104.3	669	638	1.983
600	635	9.9	59.3	137.3	882	842	2.724
700	738	10.8	79.1	173.9	1123	1071	3.763
800	842	11.7	102.6	215.2	1394	1330	4.923
900	945	12.6	129.6	260.2	1690	1613	6.174
1000	1048	13.5	161.3	309.3	2017	1925	7.87
1200	1255	15.3	237.7	420.1	2758	2632	11.03

SPECIFICATION

(DN80---1400mm,L=6000mm) Permission Deflection Angles

Nominal Diameter DN(mm)	Allowable Angles of Deflection at Installation Work	Nominal Diameter DN(mm)	Allowable Angles of Deflection at Installation Work
80	5° 00'	500	3° 00'
100	5° 00'	600	3° 00'
125	5° 00'	700	2° 00'
150	5° 00'	800	2° 00'
200	4° 00'	900	2° 00'
250	4° 00'	1000	1° 50'
300	4° 00'	1100	1° 40'
350	3° 00'	1200	1° 30'
400	3° 00'	1400	1° 30'
450	3° 00'		

Pressure gauge for hydrostatic testing standard (Class K9 Standard ISO2531 EN545:2010)

Product	Nominal Diameter DN(mm)	Tensile strength N/mm ²	Yield strength N/mm ²
Ductile iron pipe	100~300	50	≥ 10
	350~600	40	
	700~1000	32	
	1100~2000	25	
	2200~2600	18	

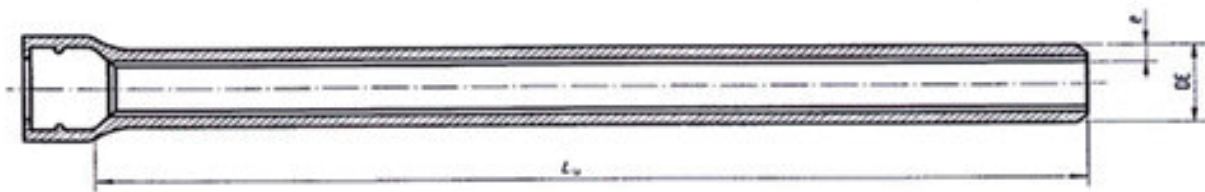
Comparisons of iron THK laying length between ductile iron pipes and ordinary gray iron pipes (T-Type) >>>

Specification mm	ductile iron pipes K9		gray pipes A		Ration of A/B
	wall thickness	Laying Length Per Ton	wall thickness	Laying Length Per Ton	
100	6	63.8	9	42.6	1.49
150	6	41.67	9.2	28.41	1.47
200	6.3	30.93	10.1	19.7	1.57
250	6.8	23.53	11	14.56	1.62
300	7.2	18.58	11.9	11.3	1.64
350	7.7	14.89	12.8	9.06	1.64
400	8.1	12.45	13.8	7.38	1.69
450	8.6	10.43	14.7	6.17	1.69
500	9	8.97	15.6	5.24	1.72
600	9.9	6.8	17.4	3.92	1.73
700	10.8	5.34	19.3	3.03	1.76
800	11.7	4.3	21.1	2.43	1.77
900	12.6	3.55	22.9	1.99	1.78
1000	13.5	2.97	24.8	1.65	1.8
1100	14.4	2.59	27.9	1.43	1.8
1200	15.3	2.2	31	1.2	1.8

SPECIFICATION

CLASS K8

Technique parameters of Class K8 "T-Type" joint Centrifugal Ductile iron Pipes

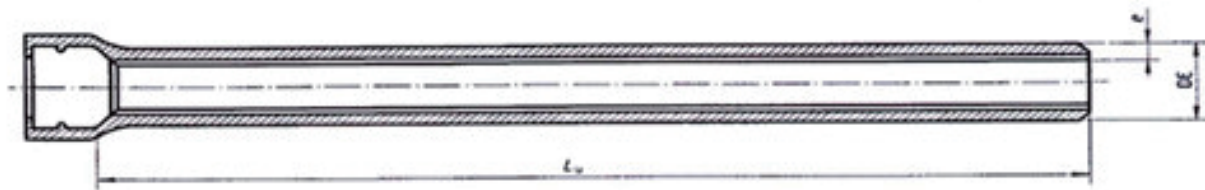


Nominal Diameter DN	Outside Diameter OD	Wall Thickness	Weight of Socket	Weight of Barrel	Unit Weight (working length =6M)	Unit weight (working length =5.7M)	Unit VOL
mm	mm	mm	kg	kg/m	kg	kg	M ³ /6m
80	98	6	3.4	12.2	77	73	0.091
100	118	6	4.3	14.9	94	90	0.124
125	144	6	5.7	18.3	119	115	0.212
150	170	6	7.1	21.8	138	132	0.232
200	222	6	10.3	28.7	183	174	0.385
250	274	6	14.2	35.6	228	218	0.574
300	326	6.4	18.6	45.3	290	278	0.797
350	378	6.8	23.7	55.9	359	343	1.05
400	429	7.2	29.3	67.3	433	414	1.326
450	480	7.6	38.3	80	515	492	1.651
500	532	8	42.8	92.8	600	572	1.983
600	635	8.8	59.3	122	791	755	2.724
700	738	9.6	79.1	155	1009	963	3.763
800	842	10.4	102.6	192	1255	1197	4.923
900	945	11.2	129.6	232	1521	1452	6.174
1000	1048	12	161.3	275	1811	1729	7.87
1200	1255	13.6	237.7	374	2482	2370	11.03

SPECIFICATION

CLASS K7

Technique parameters of Class K7 "T-Type" joint Centrifugal Ductile Cast iron Pipes

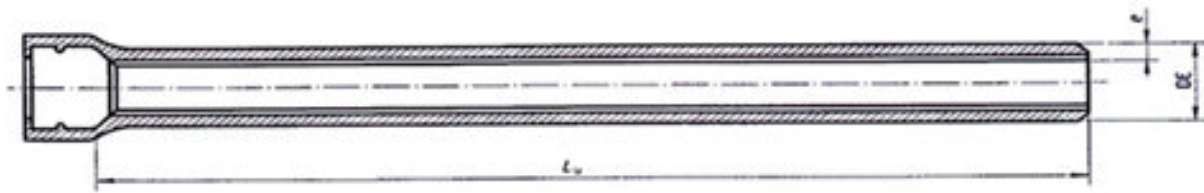


Nominal Diameter DN	Outside Diameter OD	Wall Thickness	Weight of Socket	Weight of Barrel	Unit Weight (working length =6M)	Unit weight (working length =5.7M)	Unit VOL
mm	mm	mm	kg	kg/m	kg	kg	M ³ /6m
80	98	4.1	3.4	12.2	54		0.091
100	118	4.2	4.3	14.9	68		0.124
125	144	4.4	5.7	18.3	87		0.212
150	170	4.6	7.1	21.8	107		0.232
200	222	4.9	10.3	28.7	152		0.385
250	274	5.3	14.2	35.6	202		0.574
300	326	5.6	18.6	45.3	257		0.797
350	378	6	23.7	55.9	318		1.05
400	429	6.3	29.3	67.3	383		1.326
450	480	6.65	38.3	80	456		1.651
500	532	7	42.8	92.8	531		1.983
600	635	7.7	59.3	122	701		2.724
700	738	8.4	79.1	155	893		3.763
800	842	9.1	102.6	192	1109		4.923
900	945	9.8	129.6	232	1347		6.174
1000	1048	10.5	161.3	275	1608		7.87
1200	1255	11.9	237.7	374	2203		11.03

SPECIFICATION

CLASS C

Technique parameters of Class C "T-Type" joint Centrifugal Ductile Cast iron Pipes



Nominal Diameter DN	Outside Diameter OD	Pressure Standard	Wall Thickness s	Weight of Socket	Weight of Barrel	Unit Weight (working length =6M)	Unit weight (working length =5.7M)	Unit Volume
mm	mm		mm	kg	kg/m	kg	kg	M ³ /6m
80	98	C40	4.4	3.4	9.1	58	55	0.091
100	118	C40	4.4	4.3	11.12	71	68	0.124
125	144	C40	4.5	5.7	14.05	90	86	0.212
150	170	C40	4.5	7.1	16.48	106	101	0.232
200	222	C40	4.7	10.3	22.62	146	139	0.385
250	274	C40	5.5	14.2	32.63	210	200	0.574
300	326	C40	6.2	18.6	43.9	282	269	0.797
350	378	C30	6.3	23.7	51.88	335	319	1.05
400	429	C30	6.5	29.3	60.78	394	376	1.326
450	480	C30	6.9	38.3	73.3	472	450	1.651
500	532	C30	7.5	42.8	87.2	566	540	1.983
600	635	C30	8.7	59.3	120.62	783	747	2.724
700	738	C25	8.8	79.1	142.15	932	889	3.763
800	842	C25	9.6	102.6	177.07	1165	1112	4.923
900	945	C25	10.6	129.6	197.68	1446	1257	6.174
1000	1048	C25	11.6	161.3	266.28	1759	1679	7.87
1200	1255	C25	13.6	237.7	373.88	2481	2369	11.03

ASSEMBLY GUIDE

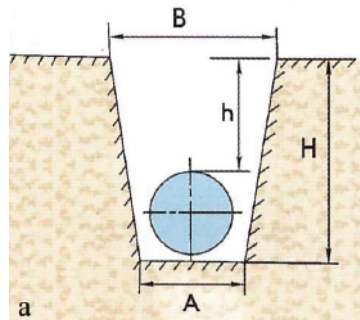
Assembly of ductile cast iron pipe >>>

1. Before the ditch is dug, obstacles on the digging area should be cleared away.

Ensuring that the soil can be backfilled sufficiently to the area below the pipes for the future backfill should be taken into account. More space of the ditch should be kept at pipe joints in order to operate easily.

Except for special situation, the verge of the ditch should be a straight line and the bed should be on the same level. When dug by mechanical method, 0.2-0.3m soil layer should be remained for manual operating.

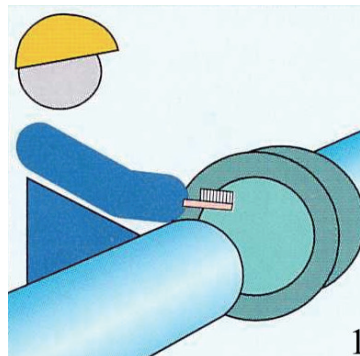
2. Dimensions of the ditch (without steel plate stage). (see figure a and the corresponding table)



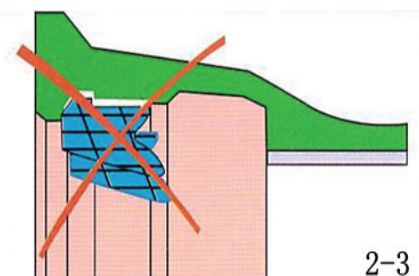
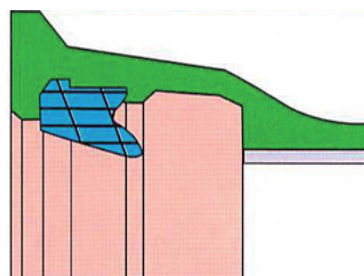
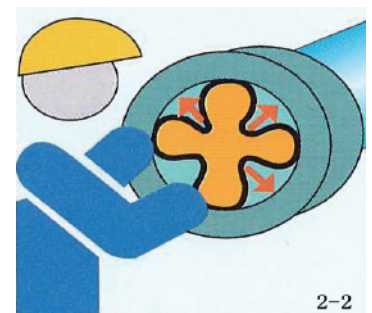
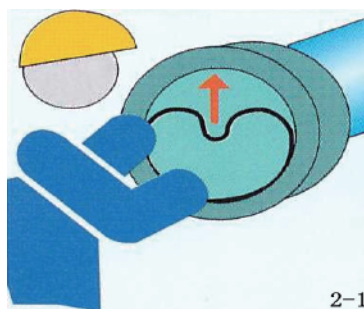
Dimension table of the ditch

DN mm	A (m)	B (m)	h (m)	H (m)
75	0.50	0.76	1.20	1.29
100	0.50	0.76	1.20	1.32
150	0.50	0.76	1.20	1.37
200	0.60	0.88	1.20	1.42
250	0.60	0.89	1.20	1.47
300	0.60	0.90	1.20	1.52

3. Using a wire brush and a clean rag, carefully clean the inside of the socket particularly the gasket recesses. In particular, remove any deposits of earth, sand, etc. also clean the spigot of the pipe to be jointed and the gasket itself, get smooth edge. (See figure 1)

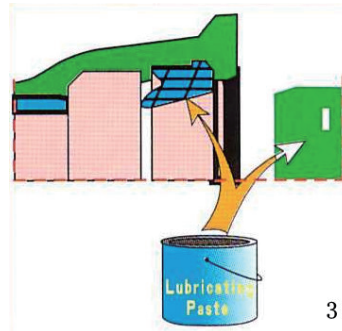


4. For ductile cast iron pipe typed DN100~300mm, insert folded gasket into the socket end to make brake facing block embed tightly in the base. Press the protrude of gasket till the gasket fixed evenly in the socket. For pipe typed above DN400mm, bend two ends of the gasket, then press two protrudes outwards one by one, thus more easily insert the gasket into the base. The internal face of brack facing block can't be extend from the brack of the socket. Check the gasket proper or not in respect of the right figure. (See fig2-1, fig2-2, fig 2-3)

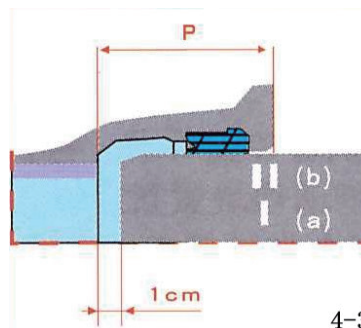
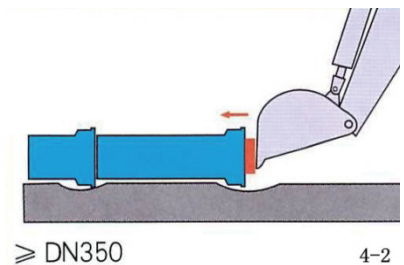
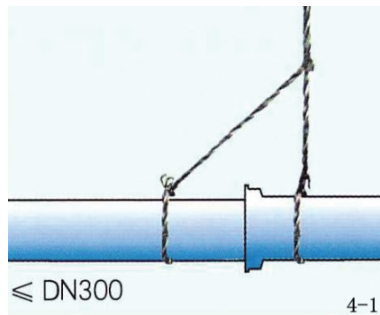


ASSEMBLY GUIDE

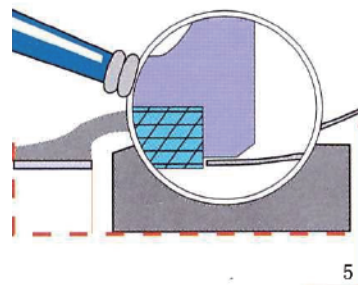
5. Lubricate interface of gasket and spigot end. Lubrication could be soap water or nonpoisonous alkaline lubrication.(See figure 3)



6. Insert spigot into socket till touch gasket at the same axle. It must be straightened properly to make the central axle of pipe or fittings coincide. While connecting pipe, different pipe adopts different tools. Insert pipe carefully and continuously, if existing larger resistance force, pipe connection should be stopped immediately then draw out the pipe and check the position of rubber gasket and socket and spigot end. After removing troubles, insert again. The insert depth required should be between two white lines(See fig4-1,fig4-2,fig4-3).

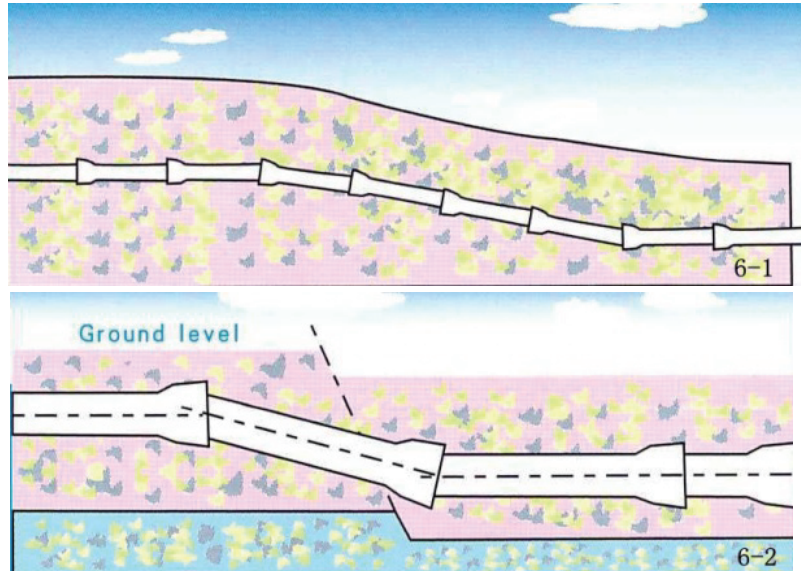


7. Insert straight scale into the circular space between socket and pipe wall till touch the rubber gasket and measure the depth even or not along pipe's cycle. Check the pipes connected with each other whether along the same axle, otherwise the ditch bottom should be adjusted to make irregularity even.(See fig.5)



ASSEMBLY GUIDE

8. After finish assembling joint, in respect of diameter adjust angular deflection which should satisfy the requirements mentioned in the right list. (See fig.6-1.6-2)



9. Backfill: Generally, pipeline needed testing should be tested water pressure after all backfilled, in particular, the joints could be not backfilled, but the middle part of pipe should be backfilled completely for avoiding pipe.0.8s movement prior to testing. It is not essential to select earth for backfilling, whereas the part touching with the pipe directly had better select sand or fine earth while excavating. Attention that at the both sides of pipeline should all be filled with sand, same as the pipeline bottom, in particular try to exhaust groundwater and avoid the pipeline subsiding after installation.

DN mm	Permissible angular deflection while laying
80-150	5°00'
200-300	4°00'
350-600	3°00'
700-800	2°00'
900-2600	1°30'