RB&SPL-WT-4000

AMERICAN Ductile Iron Fastite® Joint Pipe

ANSI/AWWA C151/A21.51

Standard Dimensions

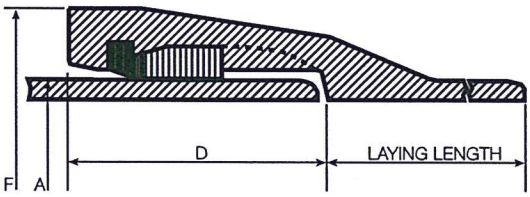
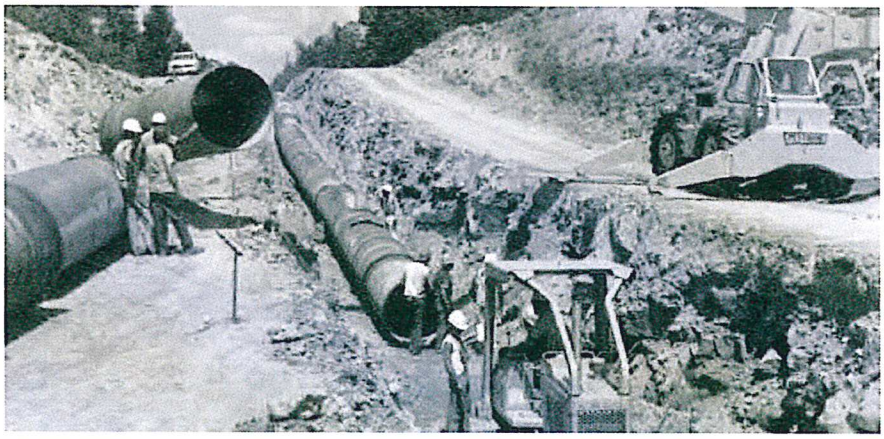


Table No. 3-3

Size in.	Nominal Laying Length ft.	Dimensions in Inches		
		A Outside Diameter	D Depth of Socket	F* Bell O.D.
4	18	4.80	3.31	6.40
6	20	6.90	3.38	8.60
8	20	9.05	3.75	11.16
10	20	11.10	3.75	13.25
12	20	13.20	3.75	15.22
14	20	15.30	5.23	17.73
16	20	17.40	5.23	19.86
18	20	19.50	5.50	22.16
20	20	21.60	5.50	24.28
24	20	25.80	5.50	28.50
30	20	32.00	6.50	34.95
36	20	38.30	6.50	41.37
42	20	44.50	7.50	48.27
48	20	50.80	8.00	54.71
54	20	57.56	8.50	61.65
60	20	61.61	8.75	65.80
64	20	65.67	9.00	70.04

*Dimensions subject to change at our option. Check AMERICAN if exact dimensions required.
For Fastite assembly instructions see Section 2.



The liberal allowable deflection in the Fastite Joint facilitates pipeline installation with sweeping horizontal or vertical curves without the use of fittings.

AMERICAN Ductile Iron Fastite® Joint Pipe

Allowable Joint Deflection

Table No. 3-4

Size in.	Nominal Laying Length ft.	Maximum Recommended Deflection	
		X Offset per Length (in.)	Y Deflection Angle (degrees)
4	18	19	5°
6	20	21	5°
8	20	21	5°
10	20	21	5°
12	20	21	5°
14	20	21	5°
16	20	21	5°
18	20	21	5°
20	20	21	5°
24	20	21	5°
30	20	21	5°
36	20	17	4°
42	20	12	3°
48	20	12	3°
54	20	12	3°
60	20	12	3°
64	20	12	3°

For optimum assembly, the joints should be assembled with the pipe in reasonably straight alignment. After joint assembly, the pipe may be deflected up to the maximum shown above. Offset distances are based on nominal lengths shown. See Section 2 Table 2-4 for maximum allowable internal separation of 24" and larger Fastite joints.

Special Fastite Deflection Bells

Special Fastite bells are available which allow greater maximum joint deflection as follows:

Table No. 3-5

Size in.	X Offset per Length in.	Y Deflection Angle
36	21	5°
42	21	5°
48	17	4°
54	17	4°
60	17	4°
64	17	4°

Offset distances are for 36"-64" Special Deflection Bells based on 20-foot lengths.

AMERICAN Ductile Iron Pipe

ANSI/AWWA C150/A21.50
and
ANSI/AWWA C151/A21.51
Standard Pressure Classes – Wall Thickness and Nominal Wall Thickness

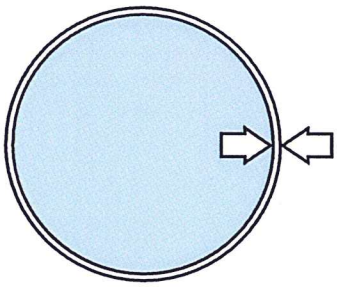


Table No. 3-8

Size in.	Outside Diameter in.	Pressure Class				
		150	200	250	300	350
		Nominal Thickness in Inches				
4	4.80	-	-	-	-	0.25
6	6.90	-	-	-	-	0.25
8	9.05	-	-	-	-	0.25
10	11.10	-	-	-	-	0.26
12	13.20	-	-	-	-	0.28
14	15.30	-	-	0.28	0.30	0.31
16	17.40	-	-	0.30	0.32	0.34
18	19.50	-	-	0.31	0.34	0.36
20	21.60	-	-	0.33	0.36	0.38
24	25.80	-	0.33	0.37	0.40	0.43
30	32.00	0.34	0.38	0.42	0.45	0.49
36	38.30	0.38	0.42	0.47	0.51	0.56
42	44.50	0.41	0.47	0.52	0.57	0.63
48	50.80	0.46	0.52	0.58	0.64	0.70
54	57.56	0.51	0.58	0.65	0.72	0.79
60	61.61	0.54	0.61	0.68	0.76	0.83
64	65.67	0.56	0.64	0.72	0.80	0.87

Pressure classes are defined as the rated water working pressure of the pipe in psi. The thicknesses shown are adequate for the rated water working pressure plus a surge allowance of 100 psi. Calculations result in net thicknesses and are based on a minimum yield strength in tension of 42,000 psi and 2.0 safety factor times the sum of working pressure and 100 psi surge allowance.

Thickness can be calculated for rated water working pressure and surges other than the above by use of equation 1 in ANSI/AWWA C150/A21.50.

AMERICAN Ductile Iron pipe is available for water working pressures greater than 350 psi. Check AMERICAN for details.

These are standard pressure classes as given in AWWA C150 and C151. AMERICAN can furnish any thickness in between these standard thicknesses if deemed economical for major projects.

AMERICAN Ductile Iron pipe is also available with thicknesses greater than Pressure Class 350. For special applications, contact AMERICAN.

AMERICAN Ductile Iron

Fastite® Joint Pipe
ANSI/AWWA C151/A21.51
Weights for Pressure Classes

Table No. 3-9

Size in.	Pressure Class	Wall Thickness in.	Weight in Pounds		
			Per Foot Plain End	Fastite Joint	
				Per Foot inc. Bell	Per Nominal* Length
4	350	0.25	10.9	11.3	206
6	350	0.25	16.0	16.7	335
8	350	0.25	21.1	22.1	445
10	350	0.26	27.1	28.4	570
12	350	0.28	34.8	36.4	730
14	250	0.28	40.4	43.2	865
	300	0.30	43.3	46.1	925
	350	0.31	44.7	47.6	955
16	250	0.30	49.3	52.5	1050
	300	0.32	52.5	55.7	1115
	350	0.34	55.8	59.0	1180
18	250	0.31	57.2	60.8	1220
	300	0.34	62.6	66.3	1330
	350	0.36	66.2	69.8	1400
20	250	0.33	67.5	71.5	1435
	300	0.36	73.5	77.5	1555
	350	0.38	77.5	81.5	1635
24	200	0.33	80.8	85.6	1715
	250	0.37	90.5	95.3	1910
	300	0.40	97.7	102.5	2055
	350	0.43	104.9	109.7	2200
30	150	0.34	103.5	111.7	2240
	200	0.38	115.5	123.7	2480
	250	0.42	127.5	135.7	2720
	300	0.45	136.5	144.7	2900
	350	0.49	148.4	156.6	3140
36	150	0.38	138.5	149.2	2990
	200	0.42	152.9	163.6	3280
	250	0.47	170.9	181.6	3640
	300	0.51	185.3	196.0	3930
	350	0.56	203.2	213.9	4285
42	150	0.41	173.8	188.3	3765
	200	0.47	198.9	213.3	4265
	250	0.52	219.9	234.3	4685
	300	0.57	240.7	255.2	5105
	350	0.63	265.7	280.2	5605
48	150	0.46	222.6	240.3	4805
	200	0.52	251.3	269.0	5380
	250	0.58	280.0	297.7	5955
	300	0.64	308.6	326.3	6525
	350	0.70	337.1	354.8	7095

* 4" Fastite pipes are furnished in 18-foot nominal lengths - weights for all other sizes are for 20-foot nominal lengths.

Dimensions, lengths, weights, etc., are subject to change at our option.

AMERICAN Ductile Iron Pipe

ANSI/AWWA C151/A21.51
Pressure Ratings and Depths of Cover
Minimum Pressure Classes

In Table No. 3-10 on the following page the relationships of Minimum Pressure Classes, rated working pressure and maximum depths of cover are tabulated. Following in Table No. 3-11 this same information is tabulated for all Pressure Classes. Information in these tables is based on the same conservative design principles as is the information shown in Table No. 14 of AWWA C150 and Table No. 51.3 of AWWA C151. The information included and the intended use of these tables are as follows:

Table No. 3-10—Working Pressure/ Maximum Depths of Cover for Minimum Pressure Classes

In Table No. 3-10 are tabulated the corresponding nominal wall thickness, maximum rated working pressure, and maximum depth of cover for the five types of laying conditions, all for Minimum Pressure Classes of ductile iron pipe.

The information in this table is taken from Table No. 3-11 and is offered as a convenience for those wanting to quickly check the capabilities of Minimum Pressure Classes of ductile iron pipe under a given set of conditions. For the majority of internal pressure and external loading conditions, Minimum Pressure Classes are more than adequate and possess substantial true safety factors.

Table No. 3-11—Working Pressure/ Maximum Depths of Cover

In Table No. 3-11 are listed the standard Pressure Classes and for each class are tabulated the corresponding nominal wall thickness, maximum rated working pressure, and maximum depths of cover for the five types of laying conditions.

For any specified standard Pressure Class the nominal wall thickness, the maximum rated working pressure, and the maximum depth of cover for each standard laying condition can be determined.

For any water working pressure of 150, 200, 250, 300 or 350 psi, the corresponding standard Pressure Class and nominal wall thickness can be determined. (Note: Although not listed in the following table, ductile iron pipe for working pressures higher than 350 psi is available. Consult AMERICAN regarding specific conditions involved.)

For any required depth of cover from 2.5' up to the maximums shown in this table the Pressure Class and the corresponding nominal wall thickness can be determined for laying conditions Type 1 through Type 5.

For other conditions not covered in these tables see AWWA C150 or consult AMERICAN for design of pipe thickness. Special thickness classes shown in Table No. 3-12 may be appropriate in such cases.